

Goodwill Accounting Under the IFRS Impairment-only Approach?

An Asia-Pacific Study

By

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Abstract

The purpose of this thesis is to examine how the International Financial Reporting Standards (IFRS)-based goodwill impairment approach is implemented, and to evaluate the role of national enforcement arrangements in this implementation. The sample for the study is drawn from a selection of Asia-Pacific countries that have a variety of institutional settings for enforcing accounting standards.

In particular, this thesis has three separate but related empirical studies. The first study, entitled “Goodwill accounting with amortisation or with impairment?”, investigates the comparative value relevance to investors of goodwill measures. This study reports that goodwill information is more value-relevant in countries that have adopted the IFRS-based impairment approach than those that have not adopted the IFRS-based impairment approach. In addition, the study finds that the value relevance of goodwill numbers is greater in stronger enforcement countries than in weaker enforcement countries.

The second study, entitled “Is goodwill impairment under IFRS timely?”, investigates the timeliness of goodwill impairments under the IFRS-based impairment approach. I find that goodwill impairment is associated with lagged market indicators and with both contemporaneous and lagged financial accounting indicators. This finding suggests that firms respond to poor economic performance, but not entirely on a timely basis. Alternatively, firms may engage in earnings management activities to manage accounting indicators so as to delay the goodwill write-offs. These findings hold up in countries with strong enforcement. In contrast, the likelihood of goodwill impairments by firms in countries with weak enforcement is solely attributable to lagged accounting indicators and “big-bath” incentives.

In the third study, entitled “Do firms manipulate cash flows to delay goodwill impairment losses?”, I find that those firms that are vulnerable to recognition of impairment for two to three years but have not impaired their goodwill exhibit significantly higher abnormal cash flow levels relative to the impairing firms. Additionally, firms continue to implement cash flow management after the delay in goodwill impairment, even though their capacity to do so diminishes within two years. The sub-optimal operational decisions by non-impairers to delay goodwill impairment are found to be detrimental to their future performance. The degree of real activities engagement to manipulate cash flows and its unfavourable effect are higher in firms in stronger enforcement countries. The likely reason for this inconsistency is the risks of regulatory scrutiny created by the more stringent regulatory arrangement of accounting practices in these countries.

Overall, this thesis documents that the benefits derived from the IFRS-based goodwill impairment approach have not yet been realised in countries with weak enforcement arrangements. The study also finds an unintended consequence of stronger enforcement is that it motivates cash flow manipulation, namely, firms resort to the more costly real operations to manipulate cash flows to provide stronger justification for the lack of impairments. The results are of potential interest to the standard setters and call for the attention of the enforcement bodies to improve the reporting regulations for financial reporting that limit different forms of accounting manipulation including real activities management.

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List of Abbreviations

AASB	-	Australian Accounting Standard Board
ACC	-	Accruals
ADJBVE	-	Book value of equity less goodwill
ADJEARN	-	Earnings before goodwill charges
AEM	-	Accrual-based earnings management
ASBJ	-	Accounting Standard Board of Japan
BATH	-	Big-bath incentive
BTM	-	Book-to-market
CAPEX	-	Capital expenditures
CGUs	-	Cash Generating Unit(s)
CFO	-	Cash flows from operations
COGS	-	Cost of goods sold
CONCENTR	-	Concentration
DCF	-	Discounted cash flows
D_ISSUE	-	Debt issuance
DIFRS	-	Goodwill treatment method
DISX	-	Discretionary expenditures
EFRAG	-	European Financial Reporting Advisory Group
e.g	-	for example
E_ISSUE	-	Equity issuance
ENF	-	Enforcement index
ENFQ	-	Enforcement quality index
ESMA	-	European Securities and Market Authority
EU	-	European Union
FASB	-	Financial Accounting Standards Board
FVLCD	-	Fair value less costs of disposal
GAAP	-	Generally Accepted Accounting Principles

GDP	-	Gross Domestic Product
GICS	-	Global Industrial Classification Standards
GW	-	Goodwill
GWC	-	Goodwill charges
HKFRS	-	Hong Kong Financial Reporting Standards
IAS	-	International Accounting Standards
IASB	-	International Accounting Standards Board
IASC	-	International Accounting Standards Committee
IFRS	-	International Financial Reporting Standards
IMP	-	Impairment of goodwill
IMPD	-	Goodwill impairment incidence
IOS	-	Investment opportunities set
JMIS	-	Japan's Modified International Accounting Standards
K-IFRS	-	Korean-IFRS
LEV	-	Leverage
MFRS	-	Malaysia Financial Reporting Standards
p.	-	page
para.	-	paragraph
PAS	-	Philippines Accounting Standards
PCA	-	Principal Component Analysis
PCAOB	-	Protecting Investors through Audit Oversight
PIFRS	-	Philippines Financial Reporting Standards
PIR	-	Post-implementation Review
PR	-	Market stock price
PROD	-	Production costs
Q	-	Tobin-Q
RCAPEX	-	Abnormal capital expenditures
RCFO	-	Abnormal operating cash flows
REM	-	Real activities earnings management

RET	-	Stock market return
REVG	-	Revenue growth
RFCF	-	Abnormal free cash flows
ROA	-	Return on assets
RPD	-	Abnormal production and discretionary expenditures
SAFS	-	Statement of Financial Accounting Standards
SFRS	-	Singaporean Financial Reporting Standard
SHARES	-	Firm's outstanding shares
SIZE	-	Firm size
SMOOTH	-	Income smoothing incentive
T_GDP	-	Market liquidity
T-IFRS	-	Taiwanese IFRS
TAS	-	Thai Accounting Standards
UK	-	United Kingdom
US	-	United States
VAS	-	Vietnamese Accounting Standards
VIU	-	Value-in-use
WGI	-	World Governance Index

Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any degree or diploma of a university or other institution of higher learning.

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Date: 28/02/2019

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Dedication

To my daughter, Mia

CHAPTER 1

INTRODUCTION

1.1 Motivations and Research Questions

In 2004, the International Accounting Standards Board (IASB) introduced a set of accounting standards for business combinations and the impairment testing of goodwill. Consistent with the standards issued by its counterpart, the US Financial Accounting Standard Board (FASB) in 2001, the International Financial Reporting Standard (IFRS) 3, Business Combinations and International Accounting Standard (IAS) 36, Impairment of Assets (rev. 2004) eliminated the two-component approach to goodwill (i.e. goodwill amortisation plus impairment). Rather, goodwill is required to be tested periodically for impairment based on estimates of its current value-in-use or fair value.

The standard setters claim that if a “rigorous and operational impairment test could be devised”, the set of accounting standards allows firms greater opportunity to reflect their inside knowledge of the firm’s underlying economic attributes and circumstances, and thus, provides a better measure of goodwill relative to the straight-line amortisation approach (IAS 36, para. BC 131). However, significant controversy has surrounded the adoption of the impairment-only approach. The impairment test based on fair-value or value-in-use estimation requires professional judgement and discretion to be exercised by the preparers. Such judgement and discretion are hard to verify and audit. Critics, therefore, are concerned about potential agency conflicts which suggest management exploits the unverifiable discretions underlying goodwill accounting rules to manage financial reports opportunistically in line with their own private incentives.

The presence of potential agency issues raises the question as to whether goodwill and its impairment reported under the IFRS-based impairment-only approach, vis-à-vis the amortisation-based approach, is actually more useful accounting information that influences decision makers in capital markets. Watts (2003a) argue that “assessing (goodwill) impairments requires valuation of future cash flows. Because those future cash flows are unlikely to be verifiable and contractible, they, and valuation based on them, are likely to be manipulated” (p. 217). Massoud and Raiborn (2003) express similar views and questioned whether, without appropriate verification checks, managers’ specific accounting choices are accurate and timely reflections of economic circumstances or driven by managerial opportunisms. Roychowdhury and Martin (2013) further assert that if market values of firms remain depressed over extended periods of time while no goodwill write-offs are warranted, it is more likely that managers are exercising earnings management. Of particular importance in these cases is the role of auditors and other institutional governance mechanisms that are supposed to ensure accounting standard compliance and restrain firms from reporting opportunistically (Roychowdhury and Martin 2013). Enforcement and oversight bodies have also raised concerns about the reliability of the implementation of goodwill impairment tests. Chairman Hoogervorst of the IASB admitted that the treatment of goodwill is vulnerable to manipulation due to its subjectivity and questioned whether the current rules provide sufficient rigour for the impairment decisions (Hoogervorst 2012). The European Financial Reporting Advisory Group (EFRAG, 2017)¹ raised a number of issues relating to possible delays in the recognition of goodwill impairment

¹ EFRAG. Goodwill Impairment test: Can it be improved? EFRAG Discussion Paper. June 2017. Retrieved at December 2018: <https://www.efrag.org/Assets/Download?assetUrl=%2Fsites%2Fwebpublishing%2FSiteAssets%2FGoodwill%2520Impairment%2520Test%2520Can%2520it%2520be%2520improved.pdf>

losses and thus the overstatement of goodwill as well as the complexity and cost of impairment testing and the judgements and estimates involved.

The empirical literature motivated by this debate includes a number of studies that show an improvement in value relevance and predictive ability of goodwill numbers under the impairment-only approach relative to the previous amortisation-based system (Lee 2011; Godfrey and Koh 2009; Chalmers et al. 2011; Aharony et al. 2010; AbuGhazaleh et al. 2011; Chalmers et al. 2008), while others argue the contrary (Sahut et al. 2011; Hulzen et al. 2011; Hamberg and Beisland 2014). There is also evidence that managers use the discretion in the accounting standards to opportunistically manage goodwill impairments (Ramanna and Watts 2012; Beatty and Weber 2006) and indications of a lack of timeliness in impairment recognition (André et al. 2015; Li and Sloan 2017; Filip et al. 2015). Managers' opportunism could lead to lower-quality accounting information and value relevance and reduce positive outcomes from adopting the impairment-only approach. These effects may vary due to considerable variance in the institutional enforcement settings for financial reporting in different countries (Ball 2006). A few studies have pointed to the role of the institutional enforcement settings for accounting standards of goodwill affecting the quality of goodwill numbers (Aharony et al. 2010; Knauer and Wöhrmann 2016; Amiraslani et al. 2013; Glaum et al. 2018). However, these studies are limited in number and mostly relate to relatively developed settings, such as European (EU) countries, (d'Arcy and Tarca 2018; Boennen and Glaum 2014), thus raising many questions about the comparability and generalisability in other IFRS followers. This also suggests the need for evidence of whether the application of IFRS-based impairment approach in less rigorous enforcement settings is also as intended by standard setters and regulators (d'Arcy and Tarca 2018).

The empirical analyses in this thesis are motivated by the controversy about evidence in support of current accounting rules for goodwill recognition and impairment. Specifically, the thesis follows the accounting choice framework proposed by d'Arcy and Tarca (2018) to raise the first research question on the value relevance of goodwill numbers under the IFRS-based impairment-only approach vis-à-vis the amortisation-based approach. This is necessary condition that sets pathway for the next set of research questions, including whether managers' write-off decisions are timely reflections of economic events, and whether firms are able to manipulate cash flows to justify the delay in booking goodwill write-offs. This thesis also seeks for evidence of the effects of country-level enforcement on these accounting choices. The focus is on a range of Asia-Pacific countries for which stark contrasts in goodwill reporting landscapes and variance in enforcement levels are observable. While most Asia-Pacific countries have their own national accounting standards on goodwill that are broadly identical or comparable with IFRS 3/ IAS 36, Japan and Vietnam still follow the amortisation-based system. This unique setting provides the opportunity to investigate the impact of alternative regulatory rules pertaining to goodwill accounting. Relating to the enforcement level, Brown et al. (2014) report that the institutional setting for financial reporting, specifically the auditing and the enforcement of compliance with accounting standards, range as high as 52 in Australia and Hong Kong, respectively, and as low as 18 in Taiwan in 2008. The World Bank's governance indicators also show a very strong rule of law index for Australia (1.92) and Singapore (1.89) and a very weak rule of law index for the Philippines (-0.33) and Vietnam (-0.31) in 2014. The existence of substantial differences between institutional environments raises the crucial question of whether the impairment-only regime can be applied rigorously and lead to higher quality goodwill accounting in these settings.

Based on the above arguments, the following research questions are stated:

1. Are goodwill numbers under different accounting treatment choices value relevant to investors?
2. Are goodwill impairment decisions by firms timely with declines in economic values of goodwill balances?
3. Are firms able to manipulate cash flow to postpone the recognition of goodwill impairment?
4. To what extent are the relevance of goodwill, the timeliness of impairment decisions and the association of goodwill recognition postponement with cash flow management explained by the country-level enforcement environments?

Figure 1.1. depicts an overview of the institutional issues and research problems to be addressed in this thesis.

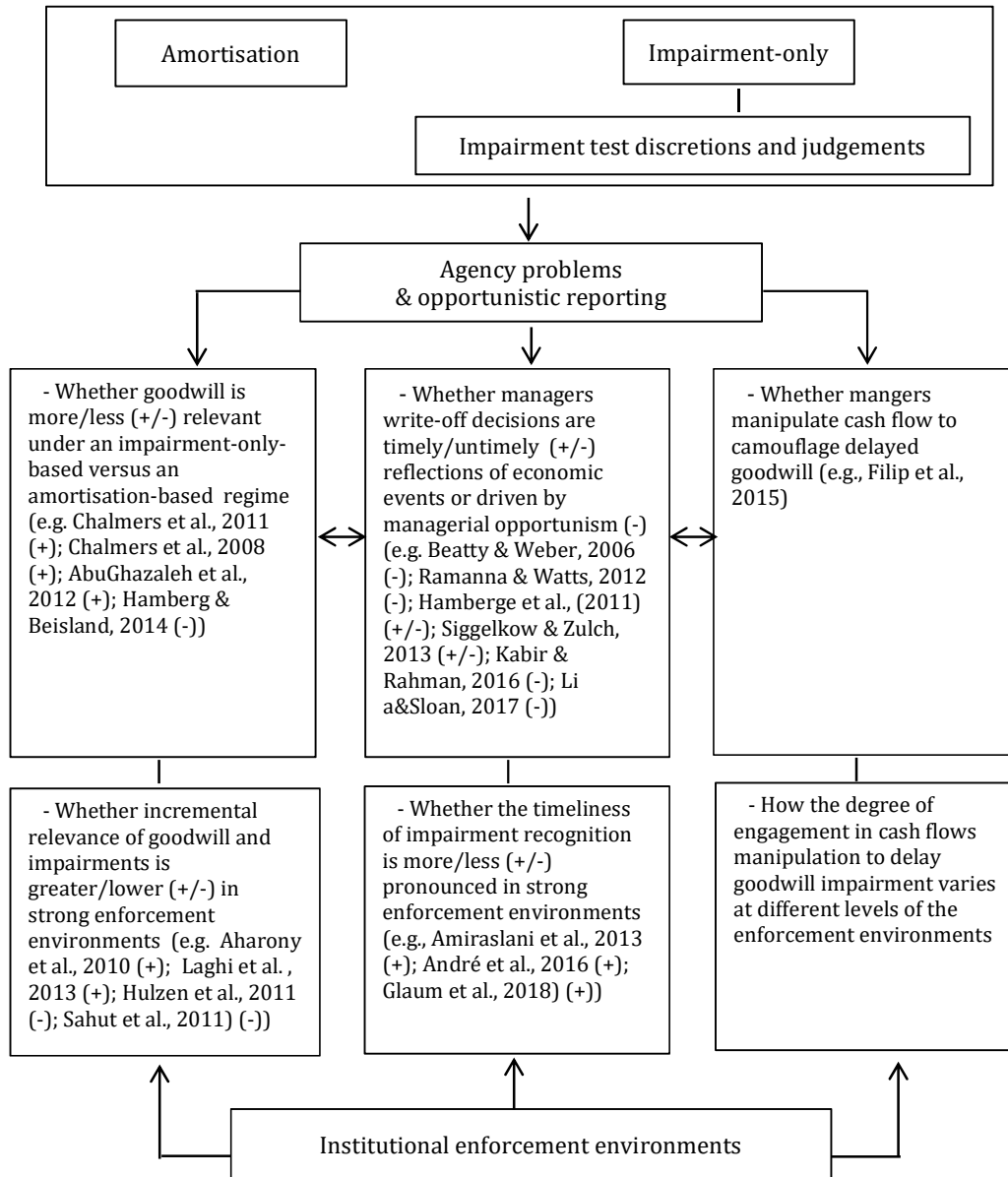


Figure 1. Research framework

1.2 Main Research Findings

This thesis addresses the aforementioned research questions by having three separate but related empirical studies, which are presented in Chapter 4 to Chapter 6. The test sample comprises Asia-Pacific countries that have adopted the IFRS-based impairment-only regime² (hereafter, the impairment-group) and countries that have not adopted the IFRS-based impairment-only regime³ (hereafter, the amortisation-group). In addition, sub-sample analyses for strong- and weak- enforcement environments based on the median of an enforcement proxy are conducted to capture the impact country-level enforcement would have on the reporting practices of goodwill and impairments. The enforcement proxy is based on (i) the World Bank's indicators of institutional strength and (ii) Brown et al. (2014)'s audit accounting enforcement index. Figure 1.2 depicts an overview of the thesis structure with research questions and hypotheses being empirically tested.

The first research question is presented in Chapter 4. The study in this chapter, entitled "Goodwill with impairment or with amortisation?", empirically tests whether the impairment-only regime could provide more value-relevant information on goodwill than the amortisation-based approach in Asia-Pacific countries, and if so, to what extent, the differential value relevance of goodwill under alternative accounting rules is driven by the disparity in country enforcement levels. Following prior literature, I utilise a value relevance test based on a modified Ohlson (1995)'s model where goodwill and its interaction term with goodwill accounting treatment approach are

² The country selection rule is as follows: Among 18 Asia-Pacific countries that embrace the IFRS-based impairment-only approach, I have excluded countries that have no/small stock exchanges and South Asia countries due to significant differences in their institutional settings. The impairment group therefore comprises: Australia, Hong Kong, Korea (South), Malaysia, the Philippines, Singapore, Taiwan and Thailand. I refer to both Hong Kong and Taiwan as "a country" for simplicity. A more appropriate term might be "region" for Hong Kong and "territory" for Taiwan due to their status quo with mainland China (the PRC).

³ The amortisation group comprises Japan and Vietnam

regressed against firms' equity market values. The test sample includes firms in the "impairment" group and the "amortisation" group. The findings show that goodwill under the impairment-only approach, rather than the "mechanical" amortisation approach, provides more useful information to investors. Also, the value relevance of goodwill numbers is greater in relatively stronger enforcement countries. In contrast, the adoption of the impairment approach has a trivial impact on goodwill relevance in firms in weak enforcement countries.

The second research question is addressed in Chapter 5. The study in this chapter, entitled "Is goodwill impairment under IFRS timely?", investigates whether firms' impairment decisions are timely associated with declines in economic values of goodwill balances and vary conditionally with the strength of enforcement. The empirical tests are based on multivariate logistic regression analyses against an indicator variable for whether goodwill is impaired in a given firm-year, whereas the independent variables are contemporaneous and prior year market-based and accounting-based performance indicators. The study includes listed firms in the "impairment-group". On the one hand, I find that the likelihood of booking an impairment loss for goodwill is not associated with contemporaneous market indicators, but with contemporaneous accounting-based indicators, consistent with the argument that firms tend to use the value-in-use method in impairment testing. On the other hand, I find that goodwill impairment incidence is associated with lagged market indicator, providing evidence on price leads accounting information. Taken together, these findings indicate that firms respond to poor economic performance, but they do not do so entirely on a timely basis. An alternative explanation for this result is that firms may engage in financial accounts manipulation to manage the accounting indicators and delay the booking of impairments. Additional tests further indicate that the likelihood of goodwill impairment is likely to be more predictable if market

indicator book-to-market (BTM) ratio is greater than one for more than two consecutive years. These results hold up in countries with strong enforcement. However, in countries with weak enforcement, the likelihood of impairment recognition by firms is solely attributable to lagged accounting-based indicators and “big-bath” incentives.

The third research question is presented in Chapter 6. Arguably, the impairment test for recognising an impairment loss requires estimations of the fair value or value-in-use of goodwill based on the projection of current cash flows in the discounted cash flow model prepared by the managers of the firms. This creates incentives for managers to manipulate cash flows upward through real earnings management activities (REM) to convince auditors and other monitors that non-impairment of goodwill is justifiable. The study in this chapter, entitled “Do firms manipulate cash flows to delay goodwill impairment losses?”, investigates this prediction and considers the impact of country-level enforcement on the association between cash flow management and lack of timely impairment by these firms. The test sample is from Asia-Pacific countries in the “impairment-group”. I find that those firms that are vulnerable to recognition of impairment for two to three years but have not impaired their goodwill exhibit significantly higher abnormal cash flow levels relative to the impairing firms. Additionally, firms continue to implement cash flow management after the delay in goodwill impairment, even though their capacity to do so diminishes in the subsequent (second) years. The sub-optimal operational decisions by non-impairers to delay goodwill impairment are found to be detrimental to their future performance. Findings from separate estimations reveal that the degree of engagement in REM to manage cash flow is higher in relatively stronger enforcement countries. I interpret this as the result of risks created by more stringent regulatory scrutiny that leads firms to engage in financial accounts manipulations to support the absence of goodwill impairment

options. The detrimental effects on future performance are also more severe for firms in strong enforcement countries.

In sum, this thesis reports greater relevance of goodwill information as a result of the adoption of the IFRS-based impairment approach vis-à-vis the amortisation-based approach in Asia-Pacific countries. However, it raises a number of concerns about the rigour and reliability of the application of impairment tests, including the lack of timely recognition of impairments and the tendency to manipulate cash flow level through REM to camouflage non-impairments. The adoption of the IFRS-based impairment regime in Asia-Pacific therefore results in an unintended consequence where firms are diverted to business practices that are found to be detrimental to their future economic well-being. Nonetheless, firms in countries with strong enforcement are more responsive to economic performance and provide more relevant goodwill information under the impairment approach relative to the amortisation approach. On the other hand, the benefits of IFRS-impairment adoption have not occurred in countries where regulatory enforcement mechanisms have not yet been strengthened to guarantee actual implementation. Firms in weak enforcement countries are more likely to utilise the discretion afforded them to report goodwill opportunistically and provide less value-relevant goodwill information. Yet, there is also the unintended consequence of strong enforcement on the adoption of the impairment approach when firms under strict regulatory monitoring resort to even more costly REM if they have to delay goodwill impairment recognition. Overall, these findings suggest that the notable variations in enforcement levels considerably influence the impact of the adoption of the IFRS-based impairment approach on the accounting quality of firms in Asia-Pacific countries.

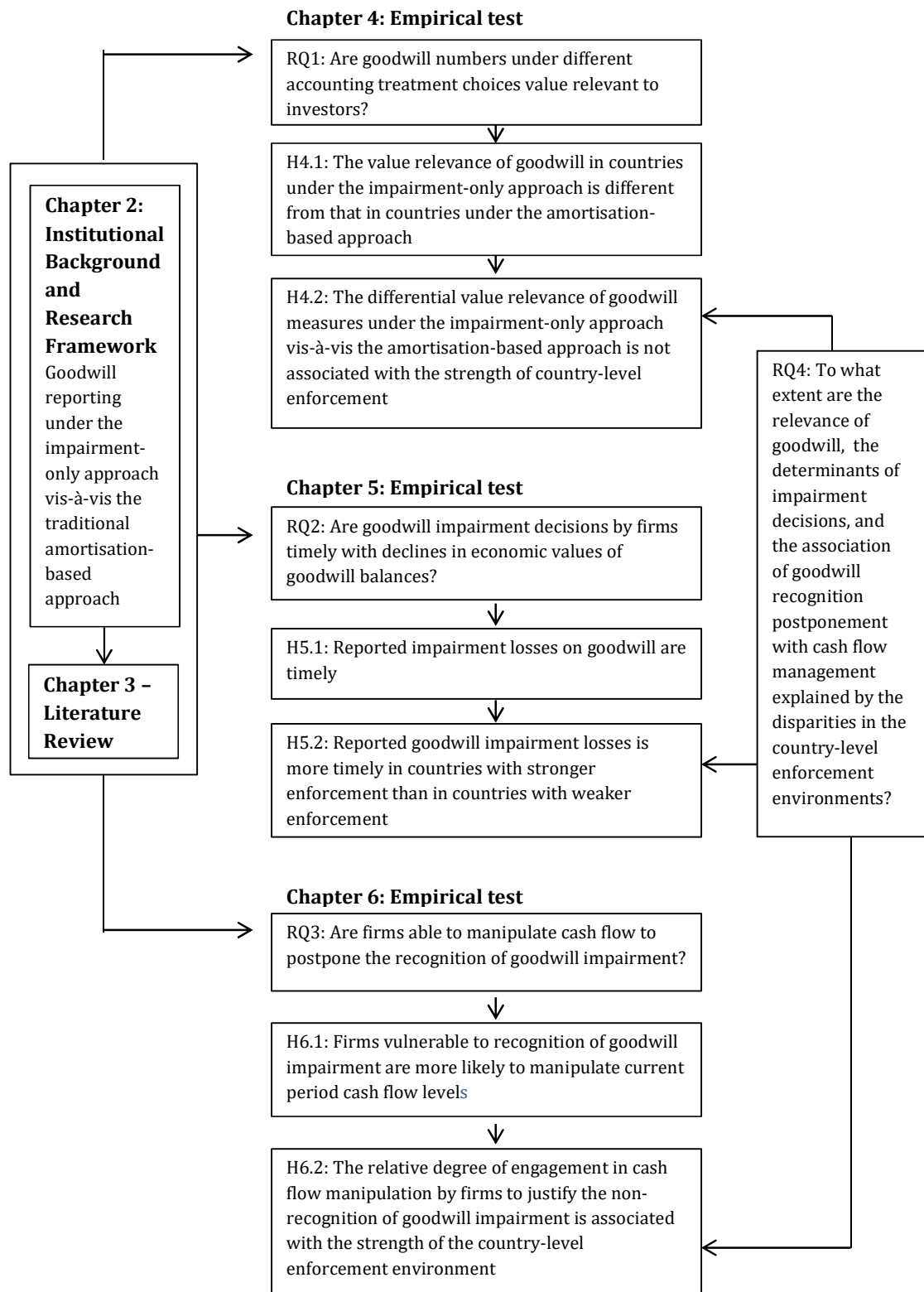


Figure 2. Thesis structure

1.3 Contributions

This thesis contributes to the existing goodwill accounting and the accounting enforcement literature and practice in several ways.

First, the accounting enforcement literature emphasises and documents the importance of rigorous enforcement for accounting quality (Holthausen 2009; SEC 2000; FEE 2001). The empirical studies have examined the impact of enforcement on accrual quality under the IFRS in general (Kabir and Laswad 2015), earnings management (Cai et al. 2014), market liquidity (Christensen et al. 2013) and cost of equity (Li 2010). This thesis focuses on a single accounting standard, the implementation of which requires subjective estimates and judgements, and in the process extends the accounting enforcement literature.

Second, the existing evidence on the debate regarding the pros and cons of the impairment-only approach for financial reporting quality vis-à-vis the amortisation-based approach mostly relates to US-Generally Accepted Accounting Principles (GAAP) as the basis of accounting or to the Europe (EU) with IFRS as the basis of accounting (to name some, Ramanna and Watts (2012); Li and Sloan (2017); Aharony et al. (2010); (Amiraslani et al. 2013); Glaum et al. (2018)) . Such evidence is not necessarily transferable into the rest of the IFRS world (d'Arcy and Tarca 2018). Arguably then, it seems not to be a sound practice for the standard setters to make decisions about (or any modifications to) the standards on business combination and goodwill that are solely based on the empirical findings from studies in countries with developed institutions and assume that the results of these studies can be generalised equally in other settings. This thesis draws on data from countries in the Asia-Pacific region which has been known for the significant variance in institutional enforcement environments (Brown et al. 2014; Houqe et al. 2012; Cai et al. 2014) and therefore fills the gap in the empirical literature and contributes to the ongoing debate on goodwill accounting.

Findings from these studies are also of interest to standard setters as they provide an opportunity to carry out an international comparison of the benefits of IFRS-based impairment adoption and guide the assessment of potential revisions of existing standards relating to goodwill or other similar accounting issues, especially pertaining to fair value accounting.

1.4 Organisation of the Thesis

The remainder of this thesis is as follows. Chapter 2 reviews the institutional background to goodwill and its impairments based on IFRS and in Asia-Pacific countries. The current debate on the implementation of the impairment test and thesis research issues are also presented. Chapter 3 reviews the literature on the selected empirical research streams relating to the research issues and identified research questions.

Chapter 4 to Chapter 6 present three empirical studies. Chapter 4 reports an examination of whether the impairment-led testing regime could provide more value-relevant information on goodwill and to what extent the differential value relevance of goodwill under these alternative regulatory regimes is driven by the enforcement level of the country. Chapter 5 contains the investigation into the timeliness of goodwill impairments and into whether the decision to recognise impairment depends on the level of enforcement of the country. Chapter 6 includes the investigation into whether firms are able to delay the recognition of goodwill impairment losses by managing cash flow levels through various real activities strategies and considers the impact of country-level enforcement on the degree of cash flow management by these firms.

Chapter 7 summarises the thesis and concludes with the aggregate findings and implications of the three research papers. The limitations and suggestions for future research are also presented.

CHAPTER 2

INSTITUTIONAL BACKGROUND AND RESEARCH FRAMEWORK

This chapter provides the institutional background to the research investigations in this thesis. Specifically, it introduces international accounting standards on goodwill from business combinations. The focus is placed on the IFRS standards that deal with goodwill and its subsequent treatment in financial accounting. This emphasis is chosen because of the to-be-analysed research sample countries and the apparent domination of IFRS application in the Asia-Pacific region as well as in other parts of the world. This chapter also discusses the current financial reporting landscape on goodwill in Asia-Pacific countries. Research issues are specified in this chapter following critical debates on the standards of goodwill impairment.

2.1 IFRS Accounting for Business Combinations and Goodwill

2.1.1 Overview of relevant standards

Prior to the release of IFRS 3 in 2004, the accounting for business combinations and goodwill was governed by the International Accounting Standard (IAS) 22 – Accounting for Business Combinations. This standard was introduced in 1983 (revised 1993). It allowed the uniting-of-interest⁴ method and the purchase method to account for business combinations. Also, IAS 22 required goodwill, which refers to as any excess of cost over the fair value of net assets acquired, to be initially capitalised⁵ and then amortised to profit and loss on a systematic basis over its useful life. The amortisation period should not exceed five years unless the firm justifies in the financial statements a longer useful life; and the maximum useful life should not exceed 20 years (IAS 22, para. 44). Additionally, goodwill is subject to the general impairment requirements of IAS 36 if there is indication that it is impaired, or if the amortisation period is greater than 20 years (IAS 22, para 55).

The capitalisation and amortisation of goodwill approach under IAS 22 was supported by the argument that goodwill represents the value of unrecognised, but conceivable identifiable intangible assets.⁶ Therefore, goodwill amortisation is considered mainly for satisfying the primary accounting function of matching, where amortised goodwill charges were seen as matched costs to secure the actual income (ED 22, IASC⁷ 1991). Further, over time, goodwill arising from a business combination is consumed and replaced by internally generated goodwill. Accordingly, an amortisation

⁴ This method was called the pooling-of-interest method under the US Financial Accounting Standard (SFAS) 121.

⁵ By this, the standard eliminated the immediate adjustment of (or write-off to) shareholders' interest approach.

⁶ Or, a sort of "purchase premium" (Higson 1998).

⁷ International Accounting Standard Committee, the precedent of IASB.

over an arbitrary period would reflect the consumption of goodwill in a more appropriate manner in the Profit and loss accounts.

IAS 22 was, however, criticised by analysts and financial statement users. The existence of two methods to account for business combinations increased the opportunity to structure transactions to achieve desired earnings targets (IFRS 3, BC38, 2004).⁸ Opponents are also concerned that the amortisation plus impairment approach was not able to capture the “real” decrease in the underlying economic value of goodwill (Hulzen et al. 2011). As long as goodwill generates perpetual cash inflows and no apparent decline in value is observed, then greater value relevance and representational faithfulness might be achieved when goodwill is capitalised and periodically reviewed for impairment, instead of being subject to annual arbitrary amortisation. Further, the amortisation approach may result in “double accounting” as firms incur amortisation, thus reducing profits, at the same time as factors that give rise to new, internal goodwill are also being expensed (Hitz and Kuhner 2002; Bloom 2009). Such issues can considerably diminish the usefulness and comparability premises of financial statements.

In 2001, the FASB issued SFAS 141 – Business Combinations and SFAS 142 – Goodwill and other Intangible Assets, which removed the pooling-of-interest method and replaced the amortisation of goodwill with the goodwill impairment test. In response to criticism of the accounting practices, and to make a radical movement towards international convergence in accounting standards, especially with the US-GAAP, the IASB added a business combination project to review IAS 22 to its agenda in 2001. The project was undertaken in cooperation with the FASB under the Norwalk

⁸ For example, firms tend to structure acquisitions to qualify for pooling treatment, thus avoiding the purchase method and the adverse effect of amortisation on earnings (see Lys and Vincent (1995)).

Agreement⁹ in 2002 and other members of the “Group of 4” standard setters.¹⁰ In 2004, the IASB issued IFRS 3 - Business Combinations (IASB, 2004b) for the periods commencing or contracts entered into on or after 31 March 2004. These standards largely mirrored the accounting rules for goodwill and subsequent treatment under US GAAP and superseded the previous IAS 22. In 2008, IFRS 3 was revised to achieve a higher degree of convergence with SFAS 141. Throughout the process, IAS 36 – Impairment of Assets and IAS 38 – Intangible Assets were gradually revised in 2004 and 2008 to facilitate IFRS 3.

The main standard-setting decisions made by the IASB in IFRS 3 (2004; 2008) and the revised version of IAS 36 and IAS 38 are as follows. First, the acquisition method (the “purchase method” in the 2004 version of IFRS 3) is the only method of accounting for business combinations. Second, intangible assets are recognised separately from goodwill. Third, the traditional amortisation approach to goodwill is abandoned. Rather, goodwill is subject to an annual impairment test based on its fair value or value-in-use estimates embodied in IAS 36. Also, firms are required to perform the impairment tests between regular annual examinations if there are indications that goodwill might be impaired (IAS 36, para. 96). Fourth, negative goodwill is recognised by the acquirer in profit and loss. Finally, the recognition of internally generated goodwill and the reversal of goodwill write-offs are prohibited.

⁹ In 2002, the FASB and IASB signed the Norwalk Agreements which aimed at converging IFRS and US-GAAP into one set of high quality and compatible standards.

¹⁰ The “Group of 4” (G4) standard setters consisted of the British Accounting Standard Board (UK ASB), the Canadian Accounting Standard Board (AcSB), the Australian Accounting Standard Board (AASB), and the New Zealand Financial Accounting Standard Board (FRSB).

2.1.2 Goodwill impairment test under IAS 36¹¹

IAS 36 requires that an asset be tested for impairment by comparing its carrying amount with its recoverable amount, which is calculated on the basis of the higher of its fair value less cost of disposal (FVLCD) and its value-in-use (VIU) (IAS 36, para. 6). This is to ensure that assets, including goodwill, are not carried at more than the amount that could be recovered by either using them in the firm's operations or selling them to a third party (IAS 36, para.1). Nonetheless, goodwill cannot be segregated from the firm and sold to a third party, neither does it generate cash inflows independently of the firm's other assets. In this regard, it is impossible to identify and measure the fair value, or value-in-use of goodwill in isolation. Therefore, at the acquisition date, goodwill must be allocated to one or more "cash generating units" (CGUs)¹² that are supposed to benefit from the effects subsumed in acquired goodwill (IAS 36, para. 80). A CGU is defined as "the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets" (IAS 36, para. 6). The acquiring firm has discretion in defining CGUs or group of CGUs (hereafter, CGUs) according to its subjective proposition on which business unit will benefit from the expected synergies of the business combination, and to what extent (Amiraslani et al. 2013).

The impairment test that performs at the level of CGUs includes the comparison between the carrying amount of CGUs to which goodwill has been allocated and the

¹¹ Revision 2004.

¹² The CGU is equivalent to the US GAAP reporting unit.

recoverable amounts as the higher of its FVLCD¹³ and VIU.¹⁴ If the CGU's carrying value is less than the recoverable amount (i.e., the impairment test has positive headroom), no impairment recognition on the goodwill allocated to the CGU is required. On the other hand, if the CGU's carrying value exceeds the recoverable amount (i.e., the impairment test has negative headroom), the firm is required to recognise an impairment loss on the goodwill allocated to the CGU. The loss initially reduces the carrying value of goodwill allocated to the CGU. In case the difference between the CGU's carrying amount and its recoverable amount exceeds the carrying amount of goodwill, the remaining loss is allocated to the CGU's other assets on a pro rata basis (IAS 36, para. 104). Note that the reversal of goodwill write-offs in subsequent periods is prohibited even if the value is found to be recovered (IAS 36, para 124). The write-off on goodwill balance is therefore considered a one-time write-off, given that any increase in the recoverable amount in a subsequent period is more likely due to an increase in internally generated goodwill than to a reversal of the acquired goodwill's impairment (IAS 36, para. 124-125).

¹³ IAS 36 defines FVLCD as the amount that can be obtained from the sale of an asset or a CGU in an orderly transaction between knowledgeable and willing parties at the assessment date, less the cost of disposal (IAS 36, para. 6; IFRS 13, para. 9). IAS 36 refers to IFRS 13 – Fair Value Measurement for additional detailed guidance on the fair value estimation. This requires the firm to identify the principal (or most advantageous) market for the CGU as well as the most appropriate valuation techniques on the fair value hierarchy basis (IFRS 13, para. B2). The costs of disposal represent incremental costs that would incur to a firm due to the sale of the CGU (IAS 36, para. 6), such as legal fees and incremental costs to remove or to bring the CGU into its sale condition (IAS 36, para. 28).

¹⁴ IAS 36 defines VIU as “the present value of the future cash flows expected to be derived from an asset or cash generating unit” (IAS 36, para. 6). This approach relates to the construction of the future cash flows that can be generated from the CGU's continuing operation, and if applicable, through its terminal value (IAS 36, para. 31), discounted at an appropriate discount rate. Therefore, it reflects the firm-specific internal valuation framework derived from the unique characteristics of the CGU as well as its current usage in a firm. This is different from the FVLCD, which is to establish the value of CGUs on the basis of third-party evaluation (IAS 36, para. 33)

2.2 Critical Debate on the Impairment-only Approach

2.2.1 The impairment-only approach vis-à-vis the amortisation-based approach

The switch from the amortisation-based approach to the impairment-only approach evokes a strong reaction from analysts and other financial statements users. Wines et al. (2007) argue that “any recognition of a loss as a result of a write-down in the valuation of goodwill will be more closely aligned to the real economic decline in value than an arbitrary amortisation calculation” (p.868). It was also found that investors, financial analysts, and firms themselves tend to neglect goodwill amortisation charges when valuing the firm’s value or their operational performance (Jennings et al. 2001). This is possibly due to the difficulty in estimating the diminishment of competitive advantages as well as their association with suitability that influence the value of goodwill. The IASB claims that a rigorously and operationally devised impairment test¹⁵ under the impairment-only regime provides managers with more opportunity to reflect their inside knowledge of their firms’ economic attributes and circumstances, and thus, allows more representational faithful and relevant goodwill information to market participants.

Nonetheless, whether the impairment test mandated by IAS 36 is, in practice, sufficiently “rigorous” to provide more useful information is conceptually unclear. Firstly, acquired goodwill allocated to a CGU is generally mixed up with unrecognised internally generated goodwill over time. This furnishes an effective “cushion” against future goodwill impairments (IAS 36, BC Z44, BC 135, BC 191).¹⁶ The matter has been well-identified by the IASB staff in their series of research papers.¹⁷ In order to mitigate

¹⁵ See IAS 36, BC 131; IFRS 3, para. 141.

¹⁶ Also, see SFAS 142, para. B99-B98.

¹⁷ For example, see

www.ifrs.org/-/media/feature/meetings/2018/march/cmac/ap4-goodwill-and-impairment.pdf

the cushion effects against impairment, the IASB requires the CGU to which goodwill has been allocated to be tested at the lowest level at which it is monitored for internal management purposes (IAS 36, para. 6). Arguably, the firm's monitoring process might not always be sufficiently disaggregated to test goodwill at the lowest level as defined by the IASB. Many participants in the post-implementation review¹⁸ stated that it is not conceptually clear what represents the lowest level of monitoring. In addition, firms may be able to further reduce the tendency toward impairment losses in future years if they intentionally allocate goodwill to CGUs with a greater degree of unrecognised internally generated goodwill.

Secondly, the provisions of the IAS 36 impairment test also allow firms a wide range of discretionary options. The estimation procedure for CGUs' recoverable amounts based on FVLCD or VIU generally requires pervasive and materially influential assumptions about the firm-specific forward-looking information, such as expected future cash flows of investment plans, long-term growth expectations, or a discounted rate used to transform the estimated future cash flows into their present value equivalents. In a certain sense, these factors reflect a degree of managerial subjectivity and are by nature hard to verify and audit (KPMG 2014). Not surprisingly, this has been a subject of debate by academics and practitioners. Watts (2003b) characterise the standard setters' decision to opt for the impairment-only approach testing regime as a failure in judgement likely to leave pathway to aggressive earnings management and systematically overstated asset values. In particular, managers may use the new discretion to report goodwill impairment opportunistically by either impeding goodwill

¹⁸ See: www.ifrs.org/-/media/project/pir-ifs-3/published-documents/pir-ifs-3-report-feedback-statement.pdf

impairment or managing the impairment amounts¹⁹ and this, therefore, may lead to financial account distortion whereby goodwill is initially capitalised and only written off in the face of excessive evidence of impairments. Massoud and Raiborn (2003) express similar view and question the quality of a reporting framework so reliant on subjective judgements without appropriate verification checks and balances. Also, such an aggressive accounting practice would be reflected in large goodwill impairment losses on the later day given that they “represent cumulative losses that should have been recognised in prior period and/or include the effect of big-bath” (Roychowdhury and Martin 2013), p. 141). Regulators have also expressed concerns about the possible delayed goodwill impairments and thus dubious financial outcomes due to the lack of sufficient information to verify managerial discretions (Hoogervorst 2012; ESMA 2013) (EFRAG 2017).

It is also argued that the discipline imposed by the institutional infrastructure of the capital markets limits managers’ capacity to exploit discretion in the implementation of the impairment test (Roychowdhury and Martin 2013). For example, auditors have an important role given their fiduciary duty to assure that managers, when making accounting choices, conform to not just the main objectives but also the spirit of accounting standards. Roychowdhury and Martin (2013) document that auditors assess the appropriateness of managers’ accounting choices, even those relating to asset write-offs. Nonetheless, Chairman Doty of Protecting Investors through Audit Oversight (PCAOB) expressed the concern that auditors tend to more probably

¹⁹ For example, firms using a discounted cash flow (DCF)-based model in the FVLCD approach can estimate discount rates utilising a peer-group asset beta that is lower than its own beta, thus can obtain a higher value for recoverable amounts and avoid impairment losses (KPMG Reports, 2009, 2013).

rely on the subjective estimates provided by managers assume relevance in this regard (PCAOB, 2013).²⁰

2.2.2 Costs and benefits of delayed impairments.

Roychowdhury and Martin (2013) argue that goodwill write-offs are eventually evidence of a failure to obtain value from previous acquisition transactions, and thus, act as signals of overpayment to market participants. Managers are likely to exercise delayed impairments to protect their reputation and obtain greater benefits in the form of financial compensations. Muller et al. (2012) illustrate that managers even tend to trade their own firms' shares prior to the formal announcement of goodwill impairments. The decision to delay the write-off would also allow managers to manage debt covenant violations (Ramanna and Watts 2012; Beatty and Weber 2006) and grant them flexibility to enter a "waiting period" until receiving tenacious indications that goodwill is permanently impaired (Hayn and Hughes 2006). Nevertheless, the delay in recognition of goodwill impairments can result in an increase in future impairments booked at a single time to cover any accumulated economic impairment losses in prior periods and significant decrease in the earnings number (Roychowdhury and Martin 2013). The reputation of managers could also be exposed to greater levels of risk if the impairment write-offs are substantially delayed.

Regarding shareholders and potential investors, delayed goodwill impairments appear to exaggerate the matter of information asymmetries. Outsiders, such as shareholders and potential investors, may not be able to monitor the fair value or value-in-use estimation procedures that govern managers' goodwill impairment decisions

²⁰ PCAOB (2013). Keynote Address by James R. Doty at Rice University Director-to-Director Exchange, on March 27, 2013: https://pcaobus.org/News/Speech/Pages/03272013_Rice.aspx

(Roychowdhury and Martin 2013), and therefore, are at information disadvantages relative to insiders about the “real” economic value of goodwill - a non-isolated asset representing expected benefits from the operational efficacy of a number of assets. Singh (2014) argue that timely goodwill write-off “are of interest in terms of the signals they send about the value of the company’s intangible assets, the company’s future earnings prospects, and an assessment of the amount paid for acquisition”. The delay of goodwill impairments is therefore destructive to investors given that a crucial informative signal has been distorted. It is argued that existing shareholders may benefit from delayed write-offs given that the violation of debt covenants is precluded. The benefit, however, is at the cost of debt-holders. Nonetheless, in the case of equity offering and as long as the market does not recognise that goodwill is economically impaired, the decision to delay goodwill write-offs may allow the firm to offer new share issuances at a higher rate and mitigate any dilution effect on existing shareholders.

In light of the above arguments, debt-holders appear to be net losers of delayed goodwill write-offs. The delayed recognition of impairments weakens the cushion against inappropriate and imprudent investment decisions. In addition, firms have a greater tendency to delay impairments if they are subject to debt covenant constraints (Ramanna and Watts 2012; Beatty and Weber 2006). Such behaviour significantly mitigates the effectiveness of debt covenants and provide firms with more opportunity to allocate wealth to shareholders as a result of inflated earnings.

2.2.3 Goodwill accounting practice in Asia-Pacific countries.

The potential impact of the impairment-only framework embodied in IFRS 3 and IAS 36 (rev. 2004) is widespread. According to the IASB, as of 2018, 144 jurisdictions required IFRS standards for all or most domestic publicly listed reporting entities in

their capital markets.²¹ In Asia-Pacific countries²², the application of IFRS 3 and IAS 36 became mandatory for public firms in Singapore on 1 July 2004 (Carlin et al. 2010); and in Australia, Hong Kong and the Philippines on 1 January 2005 (Chalmers et al. 2011; Tran 2011). Taiwan adopted the impairment-only approach to goodwill by the same year.²³ Malaysia and Singapore converged their national accounting rules on goodwill and its subsequent treatment to IFRS 3 and IAS 36 in 2006 (Carlin et al. 2010; Carlin et al. 2009). Thai accounting standards have required its reporting entities to report goodwill based on the IFRS impairment-only approach since 2008.²⁴ Korea fully adopted the IFRS, including the set of standards on goodwill treatment, in 2011 (Jang et al. 2016).

In this thesis, countries belong to the “impairment-group” for testing purpose comprise Australia, Hong Kong, Korea (South), Malaysia, the Philippines, Singapore, Taiwan, and Thailand.²⁵ It should be noted that I consider these countries “impairment-only” countries since their national accounting rules have consistently been patterned after the IAS/IFRS, and thus have embraced the impairment-only framework embodied in IFRS 3/IAS 36 for goodwill from business combinations during the sample period (i.e. 2011-2014). This does not necessarily mean that all these countries have fully adopted

²¹ According to the IASB, the 144 jurisdictions requiring IFRS for their publicly accountable entities make up 87% of the total profiled jurisdictions and nearly 50% of the world GDP. Regarding Asia-Oceania, the number of jurisdictions requiring the application of IFRS makes up 74% (25/34) of the total jurisdictions in the region. (<http://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/>; retrieved on October, 2018).

²² The focus in this thesis is Asia-Pacific countries. This is to differentiate from the Asia-Oceania region defined by the IASB that also comprises Oceania and countries on the American continent bordering the Pacific

²³ Refer to: www.iasplus.com/en/jurisdictions/asia/taiwan. Specifically, in 2005, Taiwanese Financial Accounting Standard Committee (FASC) revised its Statement of Financial Accounting Standard (SFAS) 25 – Business Combinations to accommodate IFRS 3, and issued SFAS 35 – Accounting for Impairment of Assets that precisely dictated IAS 36 (rev. 2004).

²⁴ Thai Accounting Standard TAS 43 was revised in 2007 to accommodate IFRS 3 under Notification No. 62/2550 and 38/2550 issued by the Federation of Accounting Professions.

²⁵ Again, the country selection rule is specified as follows: among 18 Asia-Pacific countries that embrace the IFRS-based impairment-only approach, I have excluded countries that have no/small stock exchanges (like Brunei Darussalam, Cambodia, Mongolia, Myanmar, New Zealand, Papua New Guinea) and South Asian countries due to significant differences in their institutional settings (like Afghanistan, Bangladesh, Nepal and Sri Lanka).

or converged to the set of IFRS/IAS. For example, Singapore has substantially adopted all the IFRS issued by the IASB since 2006. Malaysia sealed its plan to fully converge with the IFRS since 2012. Both Singapore and Malaysia currently have their sets of accounting standards almost identical to the prevailing set of IAS/IFRS²⁶ and announce their commitment to fully converge with IFRSs in 2018. Thailand is currently in the process of adopting IFRS in full and all Thai accounting standards are substantially converged with the IFRS.²⁷ The others have announced the completion of IFRS full adoption or full convergence, namely: Australia, Hong Kong and the Philippines in 2005, Korea in 2011, and Taiwan in 2013.²⁸ Nonetheless, these countries have their national accounting standards on business combinations and goodwill to be identical or comparable with IFRS 3 / IAS 36. Table 2.1 summarises the IFRS adoption status as well as the accounting treatment approaches for goodwill balance in these countries. A summary of chronological development in the accounting regulatory systems and financial reporting standards on goodwill in these Asia-Pacific countries is provided in Appendix C. It is also noted that the IAS 36 impairment test allows either the FVLCD or VIU methodology for estimation of CGUs' recoverable amounts. However, in practice, a range of considerations including the absence of suitable benchmark data have resulted in a higher frequency application of the VIU technique (Carlin and Finch 2011). Table 2.2 presents the basis for recoverable amount estimations among countries that adopt the IFRS-based impairment testing system in Asia-Pacific countries. The table indicates that the majority of firms in these countries apply VIU for goodwill impairment testing purposes. It is also observed (untabulated) that where the FVLCD approach is adopted

²⁶ Even though some IAS/IFRS have been amended to be more relevant in the Singaporean contexts, these amendments are not significant and the essence of each IFRS/IAS statement has been retained.

²⁷ www.iasplus.com/en/jurisdictions/asia/thailand

²⁸ www.iasplus.com/en/jurisdictions

the calculation is based on the discounted free cash flow method. The revealed pattern is similar to that across firms in European countries (Amiraslani et al. 2013).

However, amidst the widespread adoption of the IFRS-based impairment approach, Japan and Vietnam are the two opponents of non-amortisation of goodwill. Japan consistently raises concerns about the efficacy and basis of the principles of this framework. This country argues based on the viewpoint of appropriately recognising the income and the corresponding investment cost in each period, and further asserts that if goodwill represents excess earning power then the value of such power normally diminishes due to the competitive environment.²⁹ On the other hand, Vietnam has developed its accounting rules on goodwill following the IAS 22 amortisation-based system³⁰ and has shown little intention of further moving in line with the impairment-only test regime inherent in the IFRS set (Sarikas et al. 2009).

The stark contrast in the financial reporting landscape on goodwill treatment potentially impacts the comparability of financial information in the region. Besides, these countries show significant variance in the institutional settings that may challenge the usefulness of accounting numbers, including goodwill, on the capital markets. For instance, Ball et al. (2003) find that in East Asian countries, especially Hong Kong, Malaysia, Singapore and Thailand, a strong common-law influence from the early British colonial influence has coexisted with the more recent influence of IAS/IFRS and strong political influence on financial reporting practices. Further, the information asymmetries are generally resolved through channels of private communication, rather than through available public information. On the other hand, the Taiwanese and the

²⁹ Japan's Modified International Accounting Standard (JMIS) 1 - Accounting for Goodwill, Base for Conclusion (BC15).

³⁰ In 2006, VAS 11 – Business Combinations (2005) and Circular 21 – Implementation Guidance for VAS 11 (2006), were issued by the Ministry of Finance (MOF). These standards were based on the 2003 version of the IAS 22 that consistently mandated the application of the straight-line amortisation approach.

Philippines reporting practices were under the strong impact of US-GAAP prior to their shift to IAS/IFRS. Regardless of the impact, these countries are regarded as having relatively low institutional oversight systems. Among the sample countries, the Philippines has the lowest rule of law index while Taiwan reports the lowest score in auditing and accounting enforcement (Brown et al. 2014). Table 2.3 depicts the variation in institutional indices in the Asia-Pacific countries. Also, most of the countries in this region have been characterised by a lack of institutional involvement (Carney and Child 2013) and substantial engagement of government agencies in the formal standard-setting process. The idiosyncrasies in these countries challenge the IASB's claim of enhancement of representational faithfulness and relevance of goodwill information following the adoption of the impairment-only standard that allows discretion and requires managers to make various judgement and estimates.

Table 2.1.
Summary of Sample Countries

Panel A. IFRS adoption/convergence status

Country	IFRS adoption / convergence	Date of effective	National accounting standards
Australia	Full convergence with IFRS	01/01/2005	AASB
Hong Kong, SAR	Full convergence with IFRS	01/01/2005	HKFRS
South Korea	Full adoption of IFRS	01/01/2011	K-IFRS
Malaysia ^(a)	Adoption of IFRS	01/01/2006	MFRS
Philippines	Full adoption of IFRS	01/01/2005	PAS/PFRS
Singapore ^(b)	Adoption of IFRS	01/01/2006	SFRS
Taiwan ^(c)	Full convergence with IFRS	01/01/2013	T-IFRS
Thailand	Full adoption of IFRS	Expected 2018	TAS
Japan ^(d)	National accounting standards	NA	JGAAP (ASBJ) / JMIS
Vietnam	National accounting standards	NA	VAS

Panel B. The accounting treatment approaches for goodwill from business combinations

Current related accounting standards		Date of effective	Comparison with IAS/IFRS and other remarks
Impairment-only approach			
Australia	AASB 3 - Business Combinations / AASB 136 - Impairment of Assets	01/01/2005	Equivalent to IFRS 3 / IAS 36
Hong Kong, SAR	HKFRS 3- Business Combinations / HKAS 36 - Impairment of Assets	01/01/2005	Equivalent to IFRS 3 / IAS 36
Korea (South)	KIFRS 3 - Business Combinations / KAS 36 - Impairment of Assets	01/01/2011	Equivalent to IFRS 3 / IAS 36
Taiwan ^(e)	SFAS 25 - Business Combinations / SFAS 35 - Impairment of Assets	01/01/2006	Equivalent to IFRS 3 / IAS 36
Malaysia	MFRS 3 - Business Combinations / MFRS 136 - Impairment of Assets	01/01/2006	Equivalent to IFRS 3 / IAS 36
Philippines	PFRS 3 - Business Combinations / PFRS 36 - Impairment of Assets	01/01/2005	Equivalent to IFRS 3 / IAS 36
Singapore	FRS 103 - Business Combinations / FRS 36 - Impairment of Assets	01/07/2004	Equivalent to IFRS 3 / IAS 36
Thailand ^(f)	TAS 43 - Business Combinations / TAS 36 - Impairment of Assets	01/01/2008	Equivalent to IFRS 3 / IAS 36
Amortisation and impairment approach			
Japan	ASBJ 21 or JMIS 1	01/01/2007	Voluntary adoption of either IFRS or US-GAAP conditional upon receipt of regulatory approval
Vietnam	VAS 11 - Business Combinations	01/01/-2006	NA

Note: Information in this table is obtained from the following source: www.iasplus.com/en/jurisdictions and www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/#profiles and websites of the standard setting board of each country. AASB is Australian Accounting Standard Board, HKFRS is Hong Kong Financial Reporting Standards, K-IFRS is Korean-IFRS, MFRS is Malaysia Financial Reporting Standards, PAS/PFRS is Philippines Accounting Standards/Financial Reporting Standard, SFRS is Singaporean Financial Reporting Standards, T-IFRS is Taiwanese IFRS, TAS is Thai Accounting Standards, ASBJ is Accounting Standard Board of Japan, JMIS is Japan's Modified International Accounting Standards, VAS is Vietnam Accounting Standards.

(a) and (b) Malaysia and Singapore have announced their commitments to fully converge with IFRS in 2018.

(c) Taiwan started its convergence to IFRSs since 2006 and completed the convergence process in 2013.

(d) IFRS standards are one of two permitted international financial reporting frameworks in Japan. The others are US-GAAP. As of October 2018, there are 179 Japanese firms that meet ASBJ's specific criteria and are endorsed by the JSG to adopt IFRS, including IFRS 3 and IAS 36, on a voluntary basis. Retrieved on October 2018 at: <https://www.jpix.co.jp/english/listing/others/ifrs/index.html>

(e) and (f): Taiwan has required IFRS for its publicly listed firms since 2013. Thailand is in the process of adopting IFRS in full. Nevertheless, both Taiwanese and Thai accounting standards are substantially converged with the IFRS, and firms in these countries have been required to report goodwill based on the IFRS impairment-only approach since 2005 (for Taiwan) and 2008 (for Thailand).

Table 2.2.
Basis for Recoverable Amount Estimations

Country	Sample Firms	Firms with available AR		VIU		FVLCD		VIU / FVLCD conditional upon specific goodwill		Unspecified	
		No. of firms	No. of firms %	No. of firms	%	No. of firms	%	No. of firms	%	No. of firms	%
Australia	369	319	100%	258	80.88%	18	5.64%	20	6.27%	23	7.21%
Hong Kong	60	41	100%	29	70.73%	2	4.88%	4	9.76%	6	14.63%
S. Korea	327	148	100%	113	76.35%	7	4.73%	6	4.05%	22	14.86%
Malaysia	398	327	100%	278	85.02%	6	1.83%	12	3.67%	31	9.48%
Philippines	79	62	100%	44	70.97%	2	3.23%	0	0.00%	16	25.81%
Singapore	195	194	100%	148	76.29%	4	2.06%	11	5.67%	31	15.98%
Taiwan	261	78	100%	40	51.28%	6	7.69%	3	3.85%	29	37.18%
Thailand	92	63	100%	44	69.84%	2	3.17%	4	6.35%	13	20.63%
Total	1781	1232	100%	954	77.44%	47	3.81%	60	4.87%	171	13.88%

Note: The data in this table is hand-collected by the author based on the companies' annual reports.

Table 2.3*Variations in Institutional Indices in Asia-Pacific Countries*

Panel A. World Governance Indicators

Country	VA				PO				GO			
	2011	2012	2013	2014	2011	2012	2013	2014	2011	2012	2013	2014
Australia	1.478	1.515	1.449	1.375	0.927	0.995	1.017	1.022	1.699	1.624	1.637	1.591
Hong Kong	0.566	0.628	0.711	0.503	0.916	0.977	0.884	1.115	1.668	1.837	1.746	1.839
Korea (South)	0.707	0.711	0.696	0.671	0.387	0.238	0.249	0.092	1.259	1.210	1.133	1.177
Malaysia	-0.443	-0.315	-0.304	-0.323	0.080	-0.007	0.051	0.243	1.031	0.926	1.011	1.140
Philippines	-0.042	-0.050	-0.007	0.147	-1.382	-1.164	-1.057	-0.773	0.085	0.107	0.119	0.193
Singapore	-0.073	0.082	0.067	-0.106	1.176	1.341	1.344	1.164	2.168	2.165	2.087	2.194
Taiwan	0.842	0.846	0.890	0.881	0.936	0.887	0.866	0.745	1.155	1.151	1.204	1.374
Thailand	-0.424	-0.343	-0.431	-0.840	-1.123	-1.209	-1.310	-0.913	0.206	0.222	0.242	0.339
Japan	1.070	1.096	1.109	1.045	0.981	0.924	0.993	0.949	1.470	1.409	1.607	1.819
Vietnam	-1.427	-0.389	-1.338	-1.347	0.165	0.235	0.220	-0.049	-0.232	-0.273	-0.269	-0.062

Country	RE				RL				COR			
	2011	2012	2013	2014	2011	2012	2013	2014	2011	2012	2013	2014
Australia	1.853	1.779	1.797	1.870	1.742	1.757	1.765	1.927	2.044	2.008	1.773	1.870
Hong Kong	1.801	1.957	1.939	2.054	1.550	1.567	1.554	1.854	1.961	1.723	1.643	1.643
Korea (South)	0.990	0.897	0.994	1.109	0.023	0.979	0.947	0.980	0.461	0.469	0.552	0.491
Malaysia	0.590	0.580	0.646	0.837	0.523	0.504	0.471	0.640	0.051	0.274	0.386	0.477
Philippines	-0.208	-0.047	-0.058	-0.014	-0.539	-0.538	-0.419	-0.328	-0.696	-0.580	-0.369	-0.442
Singapore	1.798	1.973	1.976	2.231	1.726	1.783	1.754	1.894	2.123	2.167	2.094	2.117
Taiwan	1.141	1.201	1.153	1.297	1.046	1.052	1.054	1.196	0.865	0.730	0.689	0.844
Thailand	0.217	0.246	0.231	0.266	-0.211	-0.337	-0.126	-0.151	-0.290	-0.337	-0.327	-0.400
Japan	1.096	1.137	1.115	1.137	1.296	1.333	1.420	1.599	1.568	1.624	1.659	1.730
Vietnam	-0.594	-0.667	-0.639	-0.591	-0.484	-0.496	-0.481	-0.311	-0.614	-0.558	-0.535	-0.499

Note: World Governance indicators: <http://info.worldbank.org/governance/WGI/#home>. VA is Voice and Accountability; PO is Political Stability and Absence of Violence; GO is Government Effectiveness; RE is Regulation Quality; RL is Rule of Law; COR is corruption. These values are used for the classification of strong and weak enforcement countries chapter 4 of this thesis. Details of definition of the index are provided in Appendix A.

Panel B. Audit and accounting enforcement index

Country	Audit index			Accounting enforcement index			Audit and accounting enforcement index (ENF)		
	2005	2008	avg. 2005-08	2005	2008	avg. 2005-08	2005	2008	avg. 2005-08
Australia	30.000	30	30	22	22	22	52	52	52
Hong Kong	22.000	30	26	8	22	15	30	52	41
Korea (South)	14.000	18	16	10	10	10	24	28	26
Malaysia	9.000	21	15	8	19	13.5	17	40	28.5
the Philippines	8.000	11	9.5	16	16	16	24	27	25.5
Singapore	20	20	20	12	12	12	32	32	32
Taiwan	10	10	10	8	8	8	18	18	18
Thailand	11	11	11	15	12	13.5	26	23	24.5
Median	12.500	19.000	15.500	11.000	14.000	13.500	25.000	30.000	27.250

Note: The audit and accounting enforcement index is developed by Brown et al (2014)'s study. These values are used for the classification of strong and weak enforcement countries in chapter 5 and 6 of this thesis. Details of components of the index are provided in Appendix B.

2.3 Identification of Research Problems

The impairment-only approach was introduced for the purpose of improving the representative faithfulness and value relevance of goodwill information relative to the previous amortisation system. However, there are many concerns about the accounting rules under IFRS 3 and IAS 36. Accounting for goodwill and impairment now involves substantial judgements and discretions that are hard to verify, and is therefore very challenging. Managers may use discretion in the accounting standards to opportunistically manage reporting numbers or provide incomplete information about the decision to impair goodwill. Such opportunism lowers the financial reporting quality and possibly offsets the putative advantages that the impairment-only approach could offer (Watts 2003a, 2003b). A concern has therefore been raised about whether the impairment-only approach would provide more relevant information to investors vis-à-vis the previous amortisation one. This is the necessary condition that leads to other research issues related to the implementation of the impairment test underpin IAS 36, including the possible delay in recording goodwill impairments due to the lack of sufficient information on the impairment test procedures to unravel managerial discretion and judgements. Of particular importance in these cases is the role of auditors and other monitors of the firm's financial reporting process to restrain managers from reporting opportunistically. Thus, the next research issue is how managers convince the gatekeepers that a recognition of impairment losses is not required even though it seems to be economically justified. Arguably, because the accounting standards require managers to forecast future cash flows to justify the recoverable amount and impairment decision, managers may use various real earnings management strategies to manage cash flows upward in order to enhance the creditability for their cash flow projections, and therefore explain the absence of goodwill impairments to auditors and other monitors.

Another concern is the role of institutional enforcement environments in the adoption of the IFRS-based impairment approach affecting the quality of goodwill reporting. Ball (2006) regards “implementation [as] the Achilles heel of IFRS” (p.22) and cautions that the use of IFRS across countries would be affected by a range of country-level institutional factors. The academic, regulatory and professional literature has also pointed to the critical role of enforcement for financial reporting quality, especially after the adoption of the principles-based IFRS standards (Kvaal and Nobes 2012; Christensen et al. 2013; Nobes 2013; Européens 2001, 2002; Brown 2011). Arguably, the impairment test underlying IAS 36 allows accounting discretions and requires managers to make various judgements and estimates, thus requires rigorous enforcement mechanisms to warrant compliance with standards as intended by the standard setters and regulators. Based on these arguments, the last and important research issue is how and to what extent the institutional enforcement environments for the adoption of the IFRS-based impairment framework affect the relevance of goodwill numbers, the timeliness of impairment recognition, and its possible association with cash flow management. The issue is critical for Asia-Pacific countries given the significant variance in institutional settings and enforcement levels and the stark contrast in reporting rules on business combination and goodwill.

The IASB launched a Post-implementation Review of IFRS 3 (IFRS 3 PIR) in 2014, and has then added research projects for goodwill accounting on its calendar since 2015. The project included consideration of whether changes should be made to the existing impairment test for goodwill; and whether subsequent accounting for goodwill should be based on an impairment-only approach or an amortisation-based approach.³¹

³¹ IFRS Staff Paper, Goodwill and Impairment Research Project, May 2017, available online at: www.ifrs.org/-/media/feature/meetings/2017/july/iasb/ap18b-goodwill-and-impairment.pdf and IFRS Staff Paper, Goodwill and Impairment Research Project, March 2018, available online at: www.ifrs.org/-/media/feature/meetings/2018/march/cmac/ap4-goodwill-and-impairment.pdf

In 2018, the Board has decided not to consider a reintroduction of amortisation of goodwill. The decision, however, is tentative (d'Arcy and Tarca 2018). Thus, understanding the evidence on goodwill reporting in various contexts is crucial for sound decision making by standard setters.

2.4 Chapter Summary

The switch to the impairment-only approach evokes a strong reaction from analysts and other users of financial statements. This chapter reviews the IASB's introduction of IFRS 3 and IAS 36 relating to accounting for goodwill from business combinations. Proponents point to a range of putative benefits associated with the adoption of the impairment testing-based method for goodwill accounting and reporting. The standards allow firms to consider underlying economic and business conditions when testing for goodwill impairment, and thus provide more relevant and faithfully representative measures of goodwill. However, critics have argued strongly against the subjectivity and un-verifiability of the impairment test, as well as against the possibility that managers may use reporting discretions to delay impairment and achieve desired earnings targets. Enforcement and oversight bodies have consistently raised concerns about the practical implementation of goodwill impairment tests. Research projects have also been carried out by the IASB since 2014 regarding the subsequent accounting treatment of goodwill balance.

This thesis draws on the current and contentious debates on the pros and cons of the adoption of the IFRS-based impairment approach and raises four research issues: (i) unverifiable discretions and measurement uncertainties embedded in the impairment test may eliminate the value relevance of goodwill information; (ii) firms possibly exploit discretionary options to opportunistically delay or impede goodwill

impairment recognition; (iii) firms may engage in manipulation of cash flow levels in order to camouflage the delay in goodwill impairment recognitions; and (iv) the disparity in institutional settings in Asia-Pacific countries that have recently made the move to IAS/IFRS may hamper their efforts to enhance financial reporting quality by adopting the IFRS-based impairment approach.

CHAPTER 3

LITERATURE REVIEW

This chapter provides a literature review to introduce the empirical research studies in the subsequent chapters. Two streams of accounting literature on goodwill reporting are presented. The first stream debates the pros and cons of the adoption of the impairment-only testing regime. The second stream argues about the possible impact of institutional enforcement on the adoption of the impairment-only testing regime. Each section ends with the identification of the research questions to be addressed in the subsequent empirical studies.

3.1 Goodwill Reporting under the Impairment-only Testing Regime

The following section reviews the fierce controversy on goodwill accounting and the implementation of the impairment-only testing framework. The review is organised in line with the research issues identified in the prior chapter.

3.1.1 Value relevance of goodwill information.

With the issuance of the IFRS-based impairment framework (and its analogues in the US-GAAP), the standard setters argued that the amortisation of goodwill is arbitrary and hence does not provide useful information. Conversely, the impairment approach provides more useful information to financial statement users than the amortisation regime (IAS 36, BC131). These arguments implicitly suggest that investors will likely assign more weight to the goodwill information set once the impairment-only approach comes into effect. However, the challenge in verifying VIU or FVLCD estimates and estimation procedures underlying the impairment test may result in exploitation of the discretion by managers and lower the accounting quality. Therefore, the first research problem is whether the embracement of the impairment regime has actually resulted in more value-relevant goodwill information to the market.

A growing body of literature has been conducted to test the value relevance of goodwill information under the impairment-only approach vis-à-vis the amortisation-based approach. Most studies employ the modified Ohlson (1995) valuation model that provides direct explanation of market values of equity (prices or returns) based on book values of the firm's assets and earnings. These studies also refer to studies by Barth and Clinch (1996) and Barth and Clinch (1998) that separate the book value of assets and earnings from their goodwill components to statistically test the value relevance of these accounting numbers against market values of firms.

Chalmers et al. (2008) investigate 599 Australian listed firms during the pre- (i.e., 2004) and post-adoption of IFRS (i.e., 2006) and present significantly positive coefficients on Australian IFRS goodwill against share price, and insignificant coefficients on local GAPP goodwill. The authors take the results as evidence that, relative to the local GAAP, the IFRS impairment testing regime results in more decision-useful information about goodwill to Australian market participants. In a later study, Chalmers et al. (2012) further analyse the accuracy of analysts' forecast and find that, relative to the Australian GAAP goodwill measures, the IFRS goodwill measures are more relevant to market participants. Abughazaleh et al. (2012) investigate goodwill impairment losses reported by the largest UK firms in the first two years of IFRS adoption in 2005 and 2006 (n=528) and find a significant negative association between goodwill impairment losses and market value. Also in the UK, Amel-Zadeh et al. (2013) investigate 507 listed firms during 1997 to 2011 and find that goodwill impairment losses under IFRS 3 are negatively associated with market value while goodwill amortisation expenses under prior UK-GAAP are not. The authors also report a significant negative association between current market returns and subsequent-year impairment losses, and conclude that goodwill impairment information is relevant to investors as it is associated with economic fundamentals. Nonetheless, in their study, the coefficient of impairment losses is found to be reduced in the subsequent years. Oliveira et al. (2010) investigate 354 Portuguese firm-year observations from 1998 to 2008 and find that the local-GAAP goodwill is relevant for the years prior to IFRS adoption (that is, 2005). Yet the association between goodwill and share prices is greater (with a significantly higher coefficient) in the years after 2005 following the impairment-only approach. Baboukardos and Rimmel (2014) analyse 76 firms in Greece from 2008 and find that goodwill is relevant information for investors. The authors also add a disclosure measure of firm's level of compliance to IFRS 3/IAS 36

disclosure requirements and find its interaction with goodwill to be statistically significant. This suggests that a higher level of disclosure compliance enables investors with better goodwill information in their market valuation. In contrast, firms with lower mandatory compliance levels suffer non-relevance of their accounting numbers. The authors conclude that in countries outside the Anglo-Saxon system, a highly transparent annual report is a crucial prerequisite to ensure value relevance of goodwill numbers.

In a cross-country study, Aharony et al. (2010) investigate the value relevance of goodwill, R&D, and asset revaluations of 2,298 firms in 14 EU countries in the year prior to versus the year of adoption of IFRS 3. The authors find that estimated coefficients on goodwill against market value of equity are statistically significant and higher for the first year of adopting IFRS than for the last year of local GAAP in all 14 countries, suggesting that IFRS adoption results in an increased goodwill relevance.³² Further, such incremental relevance is contingent upon the deviation of the item's value under local GAAP from that under IFRS. Laghi et al. (2013) investigate six EU countries from 2008 to 2011 (n=835) and report a positive association between goodwill and share prices, and a negative association between goodwill impairment losses and share prices. The authors also add a measure of default risk and additional explanatory variables. The yearly analysis reports significant coefficient of goodwill impairments for only 2008 and 2009, suggesting that value relevance of impairments increased during the financial crisis. Knauer and Wöhrmann (2016) examine the information content of goodwill impairments in accordance with IAS 36 and SFAS 142 based on 564 goodwill impairment announcements by US and EU firms from 2005 to 2009. Using an event-study research design, the authors document a negative reaction by the capital market

³² The results from Aharony et al. (2010)'s study should be interpreted with caution since goodwill from acquisitions was immediately set off against reserves in many EU countries prior to the IFRS adoption. Therefore, while the authors provide evidence on the value relevance of accounting goodwill, their investigation does not provide meaningful inferences on the relative goodwill relevance under the amortization-based versus the impairment-only regime.

to unexpected goodwill write-offs announcements, suggesting that such information is value relevant.

However, Sahut et al. (2011), Hulzen et al. (2011) and Hamberg and Beisland (2014) argue the contrary. In particular, Hamberg and Beisland (2014) perform pre- and post-IFRS-adoption valuation tests for Sweden from 2001 to 2010 (n=2,052). Their study is based on Aharony et al. (2010)'s model and further includes goodwill impairment. The authors find that goodwill number remains significantly related to the firm's market value of equity, yet the value of goodwill impairment charges is irrelevant under the impairment-only framework. Sahut et al. (2011) investigate the relationship between the market value of firms and the book value of intangible assets, including goodwill, in ten EU countries from 2002 to 2004 under local GAAP and from 2005 to 2007 under IFRS (n=1,885). The authors observe that EU investors perceive the financial information conveyed by reported goodwill to be relevant in explaining the share price and returns, yet to a lesser extent under IFRS than under the local GAAP. Similarly, Hulzen et al. (2011) investigate four E.U. countries during the 2001 - 2004 amortisation-based regime and the 2005 - 2010 impairment test regime. The authors employ both the market valuation estimation developed from Ohlson (1995)'s model and the earnings-return model. The results from market valuation tests present an insignificant estimated coefficient on impairment, and a significant estimated coefficient on amortisation. While the study reports an incremental explanatory power of the model for the impairment regression relative to the results of the amortisation regression, further analysis indicates that such enhancement is attributable to the increase in value relevance of other accounting items, such as book value of equity and net earnings numbers, rather than impairment variables.

Table 3.1 reports the empirical studies on value relevance of goodwill information, the countries, time period, research design and main findings. The studies

are listed by single-country studies followed by cross-country studies. Most existing evidence relates to developed countries. In addition, the evidence on an enhancement in value relevance of goodwill and its impairments under the impairment-only approach is inconclusive. In this thesis, this controversy is addressed in the first research question:

RQ1: Are goodwill numbers under different accounting treatment choices value relevant to investors?

Table 3.1.*Value Relevance of Goodwill Information*

Authors (Year)	Country	Period	Research design	Main findings
Single-country studies				
Ahmed & Guler (2007)	US	1994 - 2004	Ohlson model	Goodwill is more relevant after the introduction of SFAS 142
Chalmers et al. (2008)	Australia	2004 pre- and 2006 post-	Ohlson-Barth model	
Abughazaleh et al. (2012)	UK	2005 - 2006	Ohlson-Lapointe-Attunes model	IFRS measures of goodwill provide incrementally useful information
Amel-Zadeh et al. (2013)	UK	1997 - 2011	Ohlson-Barth model	Goodwill and goodwill impairments are value relevant
Oliveira et al. (2010)	Spain	1998 - 2008	Ohlson model	Goodwill numbers are generally relevant, but the degree of relevance diminish in subsequent years. Loss firms had no relevant goodwill.
Baboukardos and Rimmel (2014)	Greece	2008	Ohlson-Barth model	IFRS measures of goodwill and impairments provide incremental value relevance
Hamberg and Beisland (2014)	Sweden	2001 - 2010	Ohlson-Barth model	Goodwill information is more relevant information for firms with high disclosure compliance level
				Goodwill is relevant in general. Goodwill impairments are not relevant under the IFRS regime
Cross-country studies				
Aharony et al. (2010)	14 EU countries	2005 - 2006	Ohlson-Barth model	IFRS measures of goodwill are more relevant. The incremental value relevance is higher in countries where local GAAP differed more from IFRS. Institutional features like IFRS mandatory, anti-director-right index and, GAAP differential score positively affect goodwill relevance.
Laghi et al. (2013)	6 EU countries	2008 - 2011	Ohlson-Lapointe-Attunes model	Greater value relevance of IFRS goodwill impairment during the period of negative stress. National condition, like default risk, is a significant factor that affects the relevance degree
Sahut et al. (2011)	10 EU countries	2002 - 2007	Ohlson model	Goodwill is relevant to a lesser extent under the IFRS than under the local GAPP
Hulzen et al. (2011)	4 EU countries	2005 - 2010	Ohlson-Barth model and Easton earnings-returns model	Goodwill impairment is not relevant. Enhanced explanatory power of regression under the IFRS regime is attributable to accounting items other than goodwill
Knauer & Wöhrmann (2016)	US and EU	2005 - 2009	Abnormal return event study	Goodwill impairment is value relevant.

3.1.2 Recognition of goodwill impairments

As discussed earlier, the IASB claimed that impairment testing is crucial to guaranteeing timely loss recognition and maintaining conservatism, as they ensure that goodwill is not carried at more than its economic (or “recoverable”)³³ value. However, a group of researchers criticise the impairment test for being subjective to managerial expectations, and managers may use reporting discretions opportunistically to impede necessary impairments (Rockness et al. 2001). Watts (2003a) documents that “assessing [goodwill] impairments requires valuation of future cash flows. Because those future cash flows are unlikely to be verifiable and contractible, they, and valuation based on them, are likely to be manipulated” (p. 217). Therefore, the second research issue is whether goodwill impairment decisions by firms are driven by managerial opportunism or are timely with declines in goodwill economic values. The third research issue is whether firms possibly manipulate cash flows to postpone the recognition of goodwill impairments.

In this section, I first review studies investigating the determinants related to the recognition of goodwill impairment by firms across countries. In these studies, the incidence and/or amount of impairment is generally regressed against numerous explanatory proxies, such as firms’ characteristics and managerial incentives. I then review studies investigating the impact of these explanatory proxies on the timeliness of impairment recognition as well as its association with cash flow management, and end the section with relevant research questions.

3.1.2.1 Goodwill impairment and managerial incentives

Studies based on a U.S. sample have reported evidence that pointed to the exercise of managerial opportunism. Beatty and Weber (2006) examine 176 US initial adopters

³³ For example, IAS 36 (para. BC 131G).

likely to have goodwill impairments, which are identified as those for which the difference between market and book value of equity is smaller than recorded goodwill. The authors find that the likelihood and magnitude of a firm's below-the-line³⁴ impairment charges at adoption are significantly associated with the costs of debt covenants violation, the CEO bonus and tenure, the extent to which the firm's stock price is tied to operating income, and the delisting incentives. In an extension paper, Ramanna and Watts (2012) investigate US firms with a high likelihood of goodwill impairment from 2003 to 2006, as indicated by a BTM ratio greater than 1 for two subsequent fiscal years. They find that the decision to delay impairment is neither attributable to managers' possession of favourable private information about the firm, nor it is due to valuation motives as measured by earnings response.³⁵ Rather, the non-recognition of impairments is increasing with financial characteristics, including proxies for agency-based motives like debt covenants violation concerns, CEO bonus and tenure, and proxies for reporting flexibility.

Other studies have utilised a similar approach for non-US samples and reported inconsistent results. Siggelkow and Zülch (2013) examine German firms between 2004 and 2010 and report that the impairment decision is negatively associated with profitability indicator and positively associated with unexpected high earnings, suggesting income smoothing. In contrast to findings based on the US studies, the authors find no evidence that impairment incidence is associated with "big-bath" accounting, leverage, CEO change or CEO compensation. Hamberg et al. (2011) investigate 180 first-time adopters in Sweden and find that only CEO tenure of more than five years is (weakly) significantly related to impairments. The CEO compensations and leverage (as a proxy for the debt covenant slack) have insignificant influence on the

³⁴ That is, as a separate item from "income from continuing operations".

³⁵ That is, a proxy for the capitalisation of earnings in returns.

recognition of impairments. Similarly, Iatridis and Senftlechner (2014) find no evidence for an association between CEO tenure and goodwill impairment amounts in Austrian firms following the IFRS adoption for the period from 2006 to 2011. On the other hand, Giner and Pardo (2015) find that Spanish managers consistently exercise discretionary choices in the goodwill impairment reporting during 2005 and 2011, and that “earnings smoothing” and “big-bath” strategies influence their accounting decisions. In a cross-country study with a different approach, Avallone and Quagli (2015) report the evidence of managerial opportunism in the goodwill impairment calculation for the UK, German and Italian firms from 2007 to 2011. Their study compares the weighted average cost of capital and growth rate estimated by firms and those determined from external sources and conclude that the manipulation of growth rate is a significant explanatory factor in impeding or decreasing the goodwill write-offs.

In sum, the evidence of managerial opportunism in goodwill impairment recognition is not very strong in countries outside the U.S. There is also one cross-country study of Avallone and Quagli (2015), but differences between countries are not examined in the study.

3.1.2.2 Goodwill impairment and corporate governance.

Recent studies have extended the literature by examining the impact of corporate governance on the recognition of goodwill impairment. AbuGhazaleh et al. (2011) investigate U.K firms in the first years of IFRS adoption and find that goodwill impairment recognition is associated with (i) economic indicators, such as BTM, ROA and change in cash flows; (ii) proxies for CEO change, income smoothing and “big-bath” strategies; and (iii) a set of corporate governance indicators, such as board meetings, independent non-executive directors as a percentage of board members, and the percentage of shares held by executive and non-executive directors and by blockholders. The authors conclude that goodwill impairments are likely to respond to

changes in economic circumstances, and that while goodwill impairment reflects managerial discretions, strong corporate governance mechanisms mitigate managerial opportunism. In a study of Australian firms (n=1,793), Kabir and Rahman (2016) find that goodwill impairment losses are more associated with economic factors in firms with sound corporate governance, and are associated with the CEO's tenure (in the first year) regardless of the strength of the firm's corporate governance.

Some studies have used samples of emerging countries to provide more insights into the governance features. Majid (2015) finds that Malaysian firms make use of goodwill write-off as a tool to manage earnings through "big-bath" reporting and "earnings smoothing" following the IFRS-impairment adoption from 2006 to 2010 (n=1,911). Also, the greater outside shareholder ownership concentration moderates the effect of "big bath" reporting on the magnitude of goodwill impairment due to increasing shareholder monitoring of managers' reporting behaviour. Omar et al. (2015) further examine the effect of ownership structure on goodwill impairment decisions in Malaysia in 2003 - 2009 (n=579) and report that family-controlled firms tend to record more goodwill impairments. Majid (2017) examines 52 Singaporean firms from 2010 to 2012 and find that firms approaching violation of debt covenants have a higher likelihood of exercising the recognition choices. Such incentive-related behaviour is constrained by the proportion of audit committee independence in this country.

3.1.2.3 Timeliness of goodwill impairment and cash flow management.

A stream of studies has particularly investigated the timeliness of goodwill impairments. In these studies, timeliness is determined by the association between the actual goodwill impairments and economic indicators suggesting that goodwill is impaired. The reluctance of managers to impair goodwill in a timely manner is

manifested by the time lag between the actual write-offs and these economic indicators (Hayn and Hughes 2006).

Chen et al. (2008) extend Beatty and Weber (2006)'s study to a sample of 1,763 US firm-year observations and find that first-year impairment is significantly related to prior stock prices. Further, earnings lag stock market returns in reflecting the effects of impairments. In a prevailing study, Li and Sloan (2017) investigate US firms during the pre-SFAS 142 period 1996 -2000 relative to the post-SFAS 142 period 2004 -2011 (n=28,339). The authors find that market indicator of lagged BTM ratio is not only statistically significant against goodwill impairment incidence, but also higher than the corresponding value in the pre-impairment period. They conclude that managers use the discretion afforded by SFAS 142 opportunistically to postpone the booking of goodwill impairments. Given that most (stock) under-performance of firms with an impairment of goodwill transpire before the actual write-off, Li and Sloan (2017) argue that investors are aware of the event that would trigger a subsequent write-off. The financial (non-market) indicator of goodwill impairment, measured as the combination of lagged unusually low ROA and lagged large goodwill balance, also has explanatory power for impairments in the post-142 period. In an additional analysis, Li and Sloan (2017) report significant association between financial indicators of impairment and future impairments and future stock returns. They conclude that investors are likely to mistakenly embrace the FASB's claim that goodwill balances under SFAS 142 should more closely reflect economic reality, resulting in over-pricing firms with inflated goodwill and high probability of impairments.

In a cross-country study, Amiraslani et al. (2013) examine the timeliness of asset impairments, including goodwill impairment, in 23 EU countries (and Switzerland and Norway) from 2006 to 2011. Based on Basu (1997)'s model of conditional conservatism, the authors find that impairment losses are significantly and negatively

related to current stock market returns as expected. Glaum et al. (2018) investigate goodwill impairment across 21 IFRS-adopters from 2005 to 2011. They find that the goodwill impairment incidence is negatively related to economic performance, as measured by a firm's stock market return and its lagged variable, suggesting that firms were not entirely responsive to declines in economic values in a timely manner. Besides, goodwill impairments are also related to proxies for managerial and firm-level incentives, such as "earnings smoothing". Alternatively, André et al. (2016) investigate the pattern of goodwill impairment across EU and US firms between 2006 and 2015 and find that, although US and EU firms have similar levels of goodwill, US firms recognise larger goodwill impairment and in a more timely manner during the financial crisis in 2008 and 2009. The authors also consider the association between goodwill impairment recognition and three alternative measures of economic impairments (equity market value minus equity book value less than goodwill, market-to-book smaller than 1, and negative earnings before interest, tax, depreciation and amortisation), and report a delayed response to economic impairment and higher "big-bath" accounting on the part of E.U. firms. André et al. (2016), however, do not examine which aspects of difference in country-level institutional setting are able to explain the variations in their results.

The studies cited in this section indicate a lack of timeliness in goodwill impairment recognition. Filip et al. (2015), therefore, further examined whether US firms under SFAS 142 manage production level or cut discretionary expenditures to improve current cash flows and convince auditors and other monitors of the firm that goodwill impairment is not necessary. The author find that firms identified as "suspects" of avoiding necessary goodwill impairment manipulate their cash flows upward compared to the control group. Besides, the engagement in real activities to achieve the cash flow manipulation are reported to be detrimental to the firm's future performance.

It is noted however that the study of Filip et al. (2015), while providing a comprehensive evidence on the engagement of cash flow management by firms to conceal the “true” economic performance of goodwill, relies on firms in the US market where fair value estimation is the main approach. On the other hand, there has been evidence that most firms operating in non-US countries utilise the VIU method when valuing goodwill impairments (ESMA 2013). It therefore would be more interesting to analyse whether evidence of cash flow management behaviour and delayed goodwill impairments also exists outside-the-US and in environments with different levels of enforcement.

Panels A and B of Table 3.2 report the empirical studies on managerial and governance impact on impairment recognition, the countries, time period, research design and the main findings. Panel C reports the empirical studies on the timeliness of impairment recognition, the countries, time period, research design and the main findings. The studies are listed by single-country studies followed by cross-country studies. The empirical evidence of the relationship between managerial incentives and economic performance and the recognition of impairments is inconsistent across countries. Except for the study of Filip et al. (2015), there has also been a lack of research evidence on whether managers have actually been involved in cash flow manipulations to support the non-recognition of impairments. It therefore requires more research to better understand the circumstances where the implementation of the impairment-only approach is rigorous and reliable so that more useful information can be provided to investors. In this thesis, these issues are addressed in the second and third research questions:

RQ2: Are goodwill impairment decisions by firms timely with declines in economic values of goodwill balances?

RQ 3: Are firms able to manipulate cash flow to postpone the recognition of goodwill impairment?

Table 3.2*Recognition of Goodwill Impairments*

Panel A. Goodwill impairment and managerial incentives

Authors (Year)	Country	Period	Research design	Focus of study	Main findings
Single-country studies					
Beatty & Weber (2006)	US	2001	Probit- and censored-regression	Impairment, contracting incentives (debt covenant, CEO tenure and bonus), valuation and stock market incentives	Contractive incentives (debt covenant violation costs, CEO tenure and bonus), valuation and delisting incentives affect impairment recognition choice.
Ramanna & Watts (2012)	US	2003 - 2006	OLS regression	Impairment, agency-based motive (debt covenant violation, CEO tenure and bonus, smoothing, big bath), reporting flexibility (segments, unverified net assets), private information (share repurchase, insider buying)	Non-recognition of impairment is associated with agency-based motives (e.g. debt covenants violation concerns, CEO bonus and tenure) and reporting flexibility proxies
Hamberg et al. (2011)	Sweden	2001 - 2007	Probit regression	Impairment, CEO tenure	Impairment under IFRS is lower than amortisation and impairment under local GAAP. Only CEO tenure affects impairment decisions
Siggelkow & Zülch (2013)	Germany	2004 - 2010	Probit regression	Impairment, CEO change and CEO bonus, smoothing, big-bath	Impairment decision is negatively related to profitability and positively related to abnormal high earnings, suggesting "smoothing earnings". Impairment decision is not related to "big-bath", leverage, CEO change, CEO compensation.
Iatridis & Senftlechner (2014)	Austria	2006 - 2011	OLS regression	Impairment, CEO tenure	A change in CEO is not related to higher goodwill impairment.
Giner and Pardo (2015)	Spain	2005 - 2011	Probit regression	Impairment, smoothing, big-bath	The incidence of goodwill impairments is associated with "big-bath" and "smoothing earnings" strategies, especially during the financial crisis period 2008 -2009, and not associated with profitability and returns.

Cross-country studies

Avallone and Quagli (2015)	UK, Germany, Italia	2007 - 2011	Tobit regression	Impairment, managerial opportunism (discount rate, growth rate)	Goodwill impairment is negatively associated with profitability and positively associated with goodwill balance. Growth rate manipulation is a significant explanatory factor for delayed goodwill write-off.
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Panel B. Goodwill impairment and corporate governance

Authors (Year)	Country	Period	Research design	Focus of study	Main findings
Single-country studies					
Kabir & Rahman (2016)	Australia	2007 - 2012	Probit regression	Impairment, CEO tenure, corporate governance	Goodwill impairment incidence are more likely to be associated with economic realities in stronger corporate governance firms
AbuGhazaleh et al. (2011)	UK	2006 - 2006	Tobit regression	Impairment, smoothing, big bath, CEO change, corporate governance	Goodwill impairments are associated with ROA, change cash flows, BTM, CEO change, earnings management proxies, and corporate governance proxies
Majid (2015)	Malaysia	2006 - 2010	Tobit regression	Impairment, smoothing, big bath, debt covenant violation, CEO change, CEO bonus, firm ownership	Goodwill impairments are associated with both "big bath" and "earnings smoothing". The effect is moderated by outside shareholder ownership concentration
Omar et al. (2015)	Malaysia	2006 - 2008	Tobit regression	Impairment, family ownership, board and audit committee independence	Family-controlled firms are more likely to recognise impairment losses than non-family-controlled firms.
Majid (2017)	Singapore	2010 - 2012	Tobit regression	Impairment, debt covenant violation, audit committee independence	Goodwill impairment decisions are affected by debt covenant violation concerns. The effect is moderated by audit committee independence.

Panel C. Timeliness of goodwill impairments and cash flow management

Authors (Year)	Country	Period	Research design	Focus of study	Main findings
Single-country studies					
Chen et al. (2008)	US	2002	Easton returns model	Impairments, timeliness	First year impairments represent more timely information, but they are also partly predicted by previous years' returns
Li & Sloan (2017)	US	1996 - 2011	Probit regression	Impairment, timeliness	Impairment lagged market indicator is not only statistically significant against goodwill impairment incidence, but also higher than the corresponding values in the pre- SFAS-142 period. Inflated goodwill in the post- SFAS 142 period results in overpricing stock price.
Filip et al. (2015)	US	2003 - 2011	Multivariate regression	Impairment, cash flow management, real activities	Firms manage production levels and cut discretionary expenditure to justify delayed goodwill write-offs.
Cross-country studies					
Amiraslani et al. (2013)	EU and Switzerland and Norway	2006 - 2011	Earnings regression	Impairment, timeliness, enforcement	Goodwill impairments are significantly associated with stock market returns
André et al. (2016)	US and EU	2006 - 2015	Probit regression	Impairment, conditional conservatism	US firms recognise larger goodwill impairment and in a more timely manner than EU firms during the financial crisis period (2008-2009). Asymmetrical losses are lower for the US firms.
Glaum et al. (2018)	21 IFRS-adopters	2005 - 2011	Probit regression	Impairment, timeliness, enforcement	Goodwill impairment incidences lag market indicators and also proxy for managerial- and firm-level incentives.

3.2 The Impact of Institutional Enforcement Environments.

Ball et al. (2000) regard “implementation [as] the Achilles heel of IFRS” (p.22). Recent empirical evidence has also resulted in the uneven application of standards across countries (Christensen et al. 2013; Glaum et al. 2013; Kvaal and Nobes 2012; Cascino and Gassen 2015) and points to the pivotal role of rigorous enforcement to financial reporting quality (Leuz et al. 2003; Holthausen 2009; Brown 2011; Leuz 2010; Pope and McLeay 2011; Securities and Commission 2000; Européens 2001). In addition, several studies have suggested that the IFRS adoption may have resulted in higher accounting quality and positive effects on capital market only in countries with strong country-level enforcement arrangements (Li 2010; Daske et al. 2008; Christensen et al. 2013; Cai et al. 2014; Kabir and Laswad 2015). Given the requirement to use subjective estimates and judgements in accounting for goodwill and its impairment-only regime, enforcement assumes greater importance in ensuring the rigorous implementation of goodwill accounting under IFRS.

Despite its interest for practitioners and standard setters, the available evidence on the impact of country-level characteristics on the implementation of accounting standards on business combination and goodwill is limited. A few cross-country studies examine how goodwill accounting informativeness is justified by a country’s institutional features. Aharony et al. (2010) test the complementary effect of institutional factors on the incremental value relevance of goodwill with the adoption of IFRS in EU countries and find that the coefficients of institutional variables, including the mandatory IFRS adoption binary, the anti-director rights index, and the GAAP difference score, are significantly positively associated with the stock return in the year of adoption of IFRS 3. This suggests that the greater degree of value relevance of goodwill to investors from the switch to IFRS could be achieved in countries with higher protection of investor rights and greater discrepancies between IFRS and local GAAP. In

contrast, Sahut et al. (2011) report that goodwill is less value-relevant under IFRS than under pre-IFRS local GAAP, especially in the UK and France. Such a finding does not hold in Italian firms. Further, the adoption of IFRS 3/IAS 36 in Sweden, Italy and Finland does not appear to have an incremental impact on how investors view the information provided by goodwill. Laghi et al. (2013) find positive and significant coefficients on goodwill against the firm's market value of equity in all sample countries over the sample periods except the UK, and negative and significant coefficients on goodwill impairment for all sample periods for only French firms. While the study does not clarify why there are differences in value relevance of goodwill and its impairment albeit the use of common standards (i.e., IFRS), it implicitly points to the possible impact the country's characteristics would have on the value relevance of goodwill information. Knauer and Wöhrmann (2016) examine the information content of goodwill impairments in US and EU firms from 2005 and 2009 using an event study and find that investors react more negatively in countries where the level of investor protection is low and when the management's explanation is unverifiable.

Studies that have considered how the implementation of a goodwill impairment testing framework varies with a country's institutional features are also limited. Amiraslani et al. (2013) in the study on the timeliness of goodwill impairment in EU countries (and Switzerland and Norway) document that the speed of the impairment recognition, defined as the relation between asset impairments and stock returns, is most pronounced in countries with relatively strong outsider protection and enforcement such as the UK and Ireland, and least pronounced in countries characterised by relatively weak enforcement such as Southern and Middle Eastern European countries. Glaum et al. (2018) examine whether the strength of country-level enforcement affects both the timeliness of goodwill write-offs and the influence of firms' managerial incentives and other attributes in 21 IFRS-adopters from 2005 to 2011

based on Brown et al. (2014)'s index of auditing and accounting enforcement. The authors posit that firms in weak enforcement countries are less likely to be responsive to economic events when making impairment relative to their counterparts in strong enforcement countries. Rather, goodwill impairments are related to CEO's reputation and smooth-earnings incentives regardless of the country's enforcement levels, suggesting that impairment test requirements leave room for managerial discretions, even in strict enforcement countries. This study, however, mainly focuses on EU countries, and includes only three Asia-Pacific countries that are generally recognised as having relatively strong enforcement mechanisms, namely Australia, Hong Kong and New Zealand.

Table 3.3 reports the cross-country studies on goodwill relevance, determinants of goodwill impairments, and timeliness of the write-offs by country, time period, research design, and the main findings. These studies point to the importance of institutional features in goodwill accounting. However, the number of these studies is very limited, concentrated on EU samples and neglect emerging countries although these countries have also adopted the impairment approach. Further, most studies reported the variations in results, rather than the aspects of country-level differences attributable to such variations. This thesis seeks for international evidence beyond EU and US samples, namely, the Asia-Pacific countries in which the regulatory enforcement environment and incentives vary significantly and are observable (Brown et al. 2014; Ball et al. 2003; Kaufmann et al. 2013; Schwab and Sala-i-Martin 2015). Thus, it is to be expected that the disparity in the institutional enforcement arrangements significantly impacts the quality of goodwill reporting in this region, namely, the relevance of goodwill information, the timeliness of impairment recognition, and its possible association with cash flow management. The issue is addressed in research question 4 of this thesis.

RQ4: To what extent are the relevance of goodwill, the timeliness of impairment decisions and the association of goodwill recognition postponement with cash flow management explained by the country-level enforcement environments?

Table 3.3*The impact of institutional environment*

Panel A. Value relevance of goodwill information

Authors (Year)	Countries	Period	Research design	Main findings
Aharony et al. (2010)	14 EU countries	2005 - 2006	Ohlson-Barth model	The incremental value relevance is higher in countries where local GAAP differ more from IFRS. Institutional features like IFRS mandatory, anti-director right index, GAAP differential score positively affect goodwill relevance.
Laghi et al. (2013)	6 EU countries	2008 - 2011	Ohlson-Lapointe-Attunes model	National conditions, like default risk, are significant factor that affect the relevance degree.
Sahut et al. (2011)	10 EU countries	2002 - 2007	Ohlson model	Incremental value relevance of goodwill under IFRS vis-à-vis under local GAAP vary significantly in different countries
Knauer & Wöhrmann (2016)	US and EU	2005 - 2009	Abnormal return event study	Institutional features, such as level of investor protection, significantly negatively affect investors' reaction to goodwill write-off announcements

Panel B. Determinants and timeliness of goodwill impairment

Authors (Year)	Countries	Period	Research design	Main findings
Amiraslani et al. (2013)	EU and Switzerland and Norway	2006 - 2011	Earnings regression	Goodwill impairments are more timely in countries with stronger outsider protection and enforcement
André et al. (2016)	US and EU	2006 - 2015	Probit regression	US firms recognised larger goodwill impairment and in a more timely manner than EU firms during the financial crisis period (2008-2009). Asymmetrical losses are lower for the US firms.
Glaum et al. (2018)	21 IFRS-adopters	2005 - 2011	Probit regression	Goodwill impairment incidences lag market indicators and also proxy for managerial- and firm-level incentives. Untimely goodwill impairment is more severe in countries with weak enforcement.

3.3 Chapter Summary

This chapter provides a review of the empirical literature about accounting for business combinations and goodwill. Overall, controversies remain regarding the impact of the adoption of impairment-only testing regime, which induces a substantial change in the financial reporting landscape for goodwill. The empirical evidence of both pros and cons from this change is inconclusive. Additionally, most evidence has been derived from US and EU listed large firms, and thus, not necessarily transferable to other less developed settings. While these studies present the variations in empirical results across different countries, no further examination is provided on how the institutional difference between countries can be used to explain such variations. Following an extant literature review, four research questions are stated: (RQ1) Are goodwill numbers under different accounting treatment choices value relevant to investors?; (RQ2) Are goodwill impairment decisions by firms timely with declines in economic values of goodwill balances?; (RQ3) Are firms able to manipulate cash flow to postpone the recognition of goodwill impairment?; (RQ4) To what extent are the relevance of goodwill, determinants of impairment decisions and its association with cash flow management explained by the differences in the country-level enforcement environments? The following chapters in this thesis provide empirical examinations that address these research questions, and thus add texture to the current literature.

CHAPTER 4

GOODWILL ACCOUNTING WITH IMPAIRMENT OR WITH AMORTISATION?

The study in this chapter investigates the comparative value relevance to investors of goodwill measures reported by firms across a sample of Asia-Pacific markets that have adopted and markets that have not adopted the IFRS-based impairment testing regime and have varying enforcement arrangements. This study is performed to verify whether the impairment-only approach provides more useful information to investors and other financial statement users than the amortisation-based approach, as claimed by the IASB. Using a sample of 8,433 firm-year observations, I find that goodwill under the IFRS-based impairment approach, rather than “mechanical” amortisation, provides more useful information to investors. The result holds up in strong enforcement countries. In contrast, the adoption of the IFRS-based impairment framework has a trivial impact on accounting quality in countries where regulatory enforcement mechanisms have not yet been strengthened. While this study supports the move the IASB made from the amortisation-based approach to the impairment-only testing approach, it suggests that weak enforcement countries need to improve their enforcement mechanisms in order to reap the benefits of the impairment-only approach.

4.1 Introduction

This study investigates whether the impairment-only approach provides more useful information to investors and other financial statement users than the amortisation-based approach. The IASB argues that the amortisation-based approach on goodwill is arbitrary and hence does not provide useful information (IASB 2013, BC.131E). Conversely, the financial information under the impairment-led testing regime provides more useful goodwill information to users of financial statements than the amortisation regime (IAS 36, BC131G). However, this set of standards has not always been accepted as enhancing the relevance and representative faithfulness of goodwill numbers (Watts 2003a, 2003b; Massoud and Raiborn 2003). Critics argue that the non-amortisation approach allows the inclusion of internally generated goodwill arising after acquisition, is inconsistent with general purpose financial reporting, and thus diminishes the relevance of goodwill information (Bloom 2009). Further, accounting for goodwill with impairment tests is now subject to managerial expectations without appropriate verifications (Massoud and Raiborn 2003) so that management may use their reporting discretion opportunistically to manage necessary goodwill impairments (Watts 2003a, 2003b). KPMG (2014) conducted a survey and reported that financial reporting stakeholders concern about the subjective nature inherent in the impairment test and questioned the usefulness of the information generated by goodwill impairment.

The empirical evidence on whether goodwill under the IFRS-based impairment regime provides more useful information to investors relative to the amortisation-based approach, as claimed by the IASB, is inconclusive (Boennen and Glaum 2014). Early studies find that the amortisation approach to goodwill has failed to provide useful information to the users of financial statements, instead making it more arduous for market participants to value a firm's performance (e.g., Jennings et al. (2001)).

However, extant literature does not provide clear evidence of whether the impairment-only approach has successfully enhanced the decision-usefulness of goodwill information relative to the previous amortisation system. Some studies report an increase in value relevance and the predictive value of goodwill following the adoption of the impairment-only approach (Churyk (2005); Ahmed and Guler (2007); Aharony et al. (2010); Chalmers et al. (2008); Chalmers et al. (2011); Lee (2011)) while others illustrate that managers utilise discretion to report goodwill impairment opportunistically (Beatty and Weber 2006; Ramanna and Watts 2012; Carlin and Finch 2010; Kabir and Rahman 2016) and that the goodwill information is less relevant under IFRS than under local GAAP (Sahut et al. 2011; Hulzen et al. 2011; Hamberg and Beisland 2014).

Given the inconclusive evidence, I investigate whether the impairment-led testing regime could provide more value-relevant information on goodwill than the amortisation-based approach in Asia-Pacific countries. Following prior literature, value relevance is defined as the association between goodwill information and equity market values (Francis and Schipper 1999; Barth et al. 2001). The value relevance test is concerned because the IASB made the standard-setting decisions on goodwill impairment based on the relative usefulness of these alternative approaches, and the IASB Conceptual Framework specifies relevance and faithful representation as two fundamental qualitative characteristics that make accounting information useful (IASB 2010, QC5). Recent empirical evidence has also revealed uneven application of standards across jurisdictions and points to the critical role of country-level enforcement arrangements for accounting quality (Kvaal and Nobes 2012; Christensen et al. 2013; Glaum et al. 2013; Cascino and Gassen 2015; Ball et al. 2000; Nobes 2013). Given the requirements of IAS 36 to use subjective judgement and unverifiable assumptions in testing goodwill for impairment, the importance of a stricter

enforcement mechanism for improving value relevance of goodwill information can hardly be overemphasised (Glaum et al. 2018). I, therefore, further investigate whether, and if so, to what extent, the differential value relevance of goodwill under these two goodwill accounting treatment approaches is driven by the quality of the country's institutional enforcement arrangements.

The study sample comprises 8,541 firm-year observations in the period from 2011 to 2014 from listed firms from IFRS-based impairment test adopters in the Asia-Pacific region³⁶, including Australia, Hong Kong, Korea (South), Malaysia, the Philippines, Singapore, Taiwan and Thailand; and non-IFRS amortisation-based followers, including Japan and Vietnam. The stark contrast in the financial reporting landscape for goodwill accounting in this region provides an opportunity to investigate the impact of alternative accounting regulatory regimes on the usefulness of goodwill information in different countries. Besides, I focus on Asia-Pacific countries because existing value relevance studies on goodwill have solely focused on developed economies and a single-country sample base (Boennen and Glaum 2014; d'Arcy and Tarca 2018), and are not generalisable to other IFRS followers across the world. Therefore, it is important to have evidence on the relative merits of alternative goodwill approaches from diverse settings. This study seeks to fill this gap in the goodwill accounting literature and provides evidence from the diverse institutional settings of Asia-Pacific countries.

The study reports two main findings. First, there is greater value relevance for goodwill reported by firms in countries under the impairment testing-based approach relative to that by firms in countries under the amortisation-based approach. Second,

³⁶ For the impairment group, the sample comprises all IFRS-based impairment test adopters in the Asia-Pacific region after excluding: (i) countries that have no or small stock exchanges in terms of market capitalisation, like Brunei Darussalam, Cambodia, Mongolia, Myanmar, New Zealand, Papua New Guinea and (ii) South Asian countries given their institutions are different from the others, like Afghanistan, Bangladesh, Nepal, and Sri Lanka.

such finding holds up in countries with strong enforcement arrangements. However, the benefits of the adoption of IFRS-based impairment approach, in term of greater value relevance, have not occurred in countries where regulatory enforcement mechanisms are not yet established or strengthened. As a result, this study supports the move the IASB made from the amortisation-based approach to the impairment-only testing approach, but suggests that weak enforcement countries need to improve their enforcement arrangements so that the benefits from the impairment-only approach can be realised.

The remainder of this study is as follows: Section 4.2 outlines the institutional background and related research; Section 4.3 develops hypotheses and empirical design; Section 4.4 describes the sample and data; Sections 4.5 and 4.6 present the results and additional robust tests; and Section 4.7 concludes the study.

4.2 Institutional Background and Related Literature.

4.2.1 Institutional background

IFRS 3 eliminates periodic goodwill amortisation and imposes the impairment-only approach. The rejection of the amortisation-based approach is primarily due to the fact that it is not possible to reliably determine the useful life and the pattern of consumption of goodwill, and thus the amortisation charge over any given period is only an arbitrage estimate. However, the switch from the amortisation-based approach to the impairment-only testing framework is controversial. The standard setters claim that the impairment-only regime allows managers to reflect their inside knowledge of their firms' economic attributes and circumstances when testing for goodwill impairment, and thus provide more relevant goodwill information to investors. Nonetheless, a conceptual issue underlying IFRS 3/IAS 36, as admitted by the IASB itself,

is that goodwill acquired from business combinations is mixed up with internally generated goodwill. This furnishes an effective “cushion” against future goodwill impairment.³⁷ Further, the goodwill impairment tests allow firms a range of discretionary choices. The estimation of FVLCD or VIU for the CGUs to which goodwill is allocated is generally based on subjective firm-specific forward-looking information (KPMG 2014). Thus, it is questionable whether, given the lack of appropriate verifications and balance checks, the impairment test mandated by IAS 36 is sufficiently rigorous to provide more useful information to market participants (Hoogervorst 2012). Following the criticism, the IASB has conducted a PIR of IFRS 3 projects since 2014. Finding evidence on the impact of alternative regulatory regimes on the usefulness of goodwill information would provide insights relevant to the IASB’s research project relating to the assessment of potential future accounting standards and modifications of existing standards on goodwill.

4.2.2 Related literature

Numerous empirical studies have been conducted to determine how the market perceives goodwill: those that investigate whether market participants consider goodwill to be value-relevant information when valuing the entity’s equity; and those that investigate whether more value-relevant information is available to financial statement users by systematically amortising the goodwill balance, or by writing off the goodwill balance if its value is found to be impaired (Boennen and Glaum 2014).

Findings from prior value relevance studies have consistently suggested that the market perceives goodwill as an asset (Wen and Moehrle 2016; Boennen and Glaum 2014). In an early study, Jennings et al. (1996) investigate the association between

³⁷ See IAS 36 (rev. 2004), para. BC 135

goodwill and the market value of equity in the US during 1982 and 1988 and find that goodwill coefficients are significantly positive in each of the sample years, indicating that recognised goodwill is of value to market participants³⁸. Henning et al. (2000) apply a levels model to examine the relevance of goodwill components against equity market value. Accordingly, the coefficients on goodwill write-up, synergies, and going-concern variables are observed to be significantly positive, indicating that the market views these components of goodwill as assets³⁹. These value relevance studies have been corroborated by a host of studies that use non-US samples, all of which report a significantly positive association between goodwill and the market value of equity, and thus support the hypothesis that purchased goodwill at acquisition is value relevant (e.g. Bugeja and Gallery (2006), Dahmash et al. (2009), Amel-Zadeh et al. (2013)).

In 2004, the IASB issued IFRS 3 that requires testing goodwill annually for impairment, instead of amortising the balance over a finite life. Numerous empirical studies have been conducted to test whether the use of the impairment testing regime has resulted in more value-relevant goodwill information. Ahmed and Guler (2007) find that the estimated coefficients for both goodwill and its interaction with SFAS 142 are significantly positive against firms' market values, suggesting that US investors assign more weight to goodwill in their information set since the introduction of the impairment-only approach. Chalmers et al. (2008) report that Australian IFRS measures of goodwill in 2006 are positively value-relevant in comparison with the pre-IFRS Australian GAAP in 2004. Oliveira et al. (2010) find that local GAAP goodwill is relevant for the years prior to IFRS adoption in Portugal, but the association between goodwill and share prices is greater in the years after 2005 following the impairment-only testing

³⁸ Besides, those coefficients are found to be much higher than the coefficients for other fixed assets, which could possibly be a result of expeditious goodwill amortisation or omitted variables that are correlated with both goodwill and equity value, such as internally generated goodwill

³⁹ An alternative explanation is that these components are correlated with some omitted variables that are valued by the market (Henning et al. 2000)

approach. Eloff and de Villiers (2015) posit that the significantly positive association between goodwill and equity market value is much stronger for IFRS 3 goodwill treatment in South Africa, but also note that this improvement may be rooted in the exclusion of some items that have previously been recognised as part of goodwill before IFRS 3 adoption. Aharony et al. (2010) document that the IFRS adoption has increased the goodwill relevance in 14 EU countries. Further, the level of such incremental value relevance is contingent upon the deviation of the item's value under the domestic GAAP from that under the IFRS. Overall, these studies suggest that goodwill and its impairment, rather than amortisation, might provide more useful information to investors.

However, Sahut et al. (2011) and Hamberg and Beisland (2014) argue the contrary. Sahut et al. (2011) investigate the relationship between the market value of firms and the book value of intangible assets, including goodwill, across EU countries from 2002 to 2007 and find that E.U. investors perceive the financial information conveyed by capitalised goodwill to be relevant in explaining the price of shares and stock market returns, yet at a lesser extent under IFRS than under the local GAAP. Hamberg and Beisland (2014) perform a pre- and post-IFRS-adoption study for Sweden from 2001 to 2010. The authors find that goodwill number remains a significant determinant of a firm's market value of equity, yet the value relevance of goodwill charges has been irrelevant under the impairment-only framework.

Prior research has demonstrated that the differences in institutional environment imply differences in the relevance of resulting accounting information to users of financial statements (Bushman et al. 2004; Ali and Hwang 2000). Concerns have been raised regarding how accounting informativeness is justified by a country's institutional and governance features when value relevance studies are conducted. Nevertheless, the available evidence on the impact of country-level enforcement on goodwill relevance

under the new accounting standards relative to the prior amortisation regime is limited. Among the few cross-country studies, Aharony et al. (2010) test the impact of institutional factors on the incremental value relevance of goodwill resulting from the adoption of IFRS. The authors find that the coefficients of institutional governance proxies are significant and positively associated with the stock returns in EU countries, suggesting that a greater degree of goodwill relevance from the switch to IFRS could be achieved in countries with higher protection of investor rights and greater discrepancies between IFRS and indigenous GAAP. On the other hand, Sahut et al. (2011) document that reported goodwill is less value relevant under IFRS than under pre-IFRS local GAAP in the UK and France. Further, the adoption of IFRS 3/IAS 36/IAS 38 in Sweden, Italy and Finland does not seem to have had any incremental impact on how investors view the information provided by goodwill. Laghi et al. (2013) contend positive and significant coefficients on goodwill balance in all six EU countries from 2008 to 2011, except the UK, and negative and significant coefficients on goodwill impairment for only French companies.

The studies cited in this section indicate that the incremental value relevance of goodwill information as a result of IFRS adoption varies significantly across countries. These studies focus on a comparison of the pre- and post-IFRS adoption period in the EU countries. On the other hand, the study in this thesis examines the comparative value relevance of goodwill across markets that have adopted and markets that have not adopted IFRS-based impairment test. The focus is Asia-Pacific countries where a stark contrast in the financial reporting landscape for goodwill accounting has been observed. Also, there has been significant variation in enforcement levels and reporting incentives across the countries in this region (Ball et al. 2003). An investigation into the impact of alternative regulatory regimes on the usefulness of goodwill numbers at different level of enforcement environments across the Asia-Pacific region is important for standard

setters to carry out international comparisons and to develop implications for regulatory reform.

4.3 Hypotheses and Empirical Design

4.3.1 Hypotheses development

Aligning with the objectives for IFRS 3 issuance (and IAS 36 revision thereof), the IASB justifies the impairment-only testing framework as improving the comparability, reliability and usefulness of goodwill information (IASB, 2004a). Arguments that an impairment framework exposes more informative goodwill value are underpinned by the proposition that the goodwill value does not necessarily need to be reduced if its value has not been impaired. By implementing the impairment test of goodwill, the valuation will better reflect the true economic value of goodwill, rather than merely presenting a simple calculation of “cost less accumulated amortisation” (Wines et al. 2007), p. 868). These arguments implicitly suggest that investors will likely assign more weight to goodwill in their information set once the impairment-only approach comes into effect.

In spite of standard-setters’ claims, critics underline the impairment-only approach as being “fraught with subjectivity and ambiguity” (Watts 2003a). Given the difficulty in verifying value-in-use or fair-value estimates for goodwill, managers may use the discretions inherent in the impairment test to delay or manage goodwill impairment losses (Watts 2003a; Ramanna and Watts 2012). Another reason that managers may welcome the impairment-only approach is because it eliminates the periodic amortisation charges, assuming that investors view these charges as ongoing operating costs. In contrast, goodwill impairments are frequently regarded as one-off non-cash “big bath” charges that can be neglected in evaluating the firm’s performance (Elliott

and Shaw 1988; Riedl 2004). Finally, acquired goodwill and internally generated goodwill after acquisition are undifferentiated under the impairment test (Wiese 2005). The application of the impairment-only framework thus results in the inconsistent treatment of internally generated goodwill, which possibly rules out the relevance of information provided to financial statement users (IASB, 2004a, BC139). On the other hand, except for the estimation of the useful life of goodwill, the amortisation-based approach is easy to implement and is an accustomed practice that is not conditional on judgement calls (IASB, 2004c, D09). In these circumstances, the previous mandatory amortisation of goodwill might better reflect the underlying economic value of goodwill, and thus be more relevant to investors' decision-making.

Findings from the literature that justify the variation in value relevance of goodwill under the IFRS-based impairment framework *vis-à-vis* the amortisation treatment of goodwill are inconclusive. Some studies suggest an increase in value relevance of goodwill after the adoption of the impairment-only regime (Ahmed and Guler 2007; Chalmers et al. 2008; Aharony et al. 2010) while others illustrate that managers use goodwill impairment opportunistically (Ramanna and Watts 2012) and that the goodwill is relevant to a lesser extent under IFRS than under local GAAP (Sahut et al. 2011; Hulzen et al. 2011; Hamberg et al. 2011). Given the inconsistent evidence in prior literature, the following hypothesis in non-directional form on the differential value relevance of goodwill under alternative goodwill accounting approaches across countries is stated as:

H1: *Ceteris paribus*, the value relevance of goodwill in countries under the impairment-only approach is different from that in countries under the amortisation-based approach.

Kothari (2000) and Ball et al. (2003) argue that it is the strong institutional environment for implementation, rather than the accounting standards per se, that makes accounting information relevant to the market. Empirical researchers consistently report the significant and positive impact of the institutional environment on the degree of informativeness of accounting numbers (Leuz et al. 2003; Love and Klapper 2002; Ariff et al. 2013). As discussed earlier, the perceived complex requirements of the impairment test in lieu of IAS 36 have been found to leave significant room for managerial discretion, judgement and bias (Ramanna and Watts 2012). Thus, investors in countries that follow the impairment-led testing framework may likely rely on country-level enforcement mechanisms to ensure rigorous implementation of accounting standards, taking it as a signal that the departure from standards is not tolerated and that financial statement information is relevant and faithfully representative. Arguably, the country-level enforcement environment complements the value relevance of goodwill to a greater extent in countries following the IFRS impairment-only testing approach than it would in countries following the amortisation-based approach. This argument is consistent with prior research providing evidence that the market prices accrual quality (Subramanyam 1996). However, Christensen et al. (2013) report the evidence that, regardless of the accounting standards used, accounting quality increases with an increase in the strength of the enforcement mechanism. This suggests that the goodwill accounting approach may not make any difference to the value relevance of goodwill in stronger enforcement countries. Therefore, the second hypothesis in the alternative form is posed as:

H2: *Ceteris paribus*, the differential value relevance of goodwill measures under the impairment-only approach vis-à-vis the amortisation-based approach is not associated with the strength of country-level enforcement.

4.3.2 Empirical design

4.3.2.1 Model

This study examines whether value relevance to investors of goodwill information is different across countries under alternative regulatory regimes. Following prior studies, value relevance is defined as statistical tests of the association between goodwill information and market value of equity (Francis and Schipper 1999; Barth et al. 2001). Value relevance is a widely used operationalisation of relevance and representational faithfulness of accounting information in the accounting literature (Barth et al. 2001). Accordingly, an accounting amount is considered value-relevant if it has a predicted, significant correlation with the market value of equity.⁴⁰ Since the IASB Conceptual Framework focuses on the usefulness of accounting information about equity investment decisions, and specifies relevance and representational faithfulness as two fundamental qualitative characteristics that make accounting information useful, Barth et al. (2001) and Beaver (2002) argue that value relevance research provides insights into setting accounting standards.

A value relevance study is generally based on return or price model specifications, the choice of which is largely contingent on the research questions (Kothari and Zimmerman 1995). In this study, I conduct the price valuation models to assess whether goodwill values reported under the impairment-only testing framework represent information that better explains the firm's equity valuation than goodwill reported under the amortisation framework. In particular, the modified Ohlson (1995) valuation model that explains market price based on the book value of net assets and earnings

⁴⁰ An accounting amount will be deemed as value-relevant if it is capable of affecting the decision-making process made by users (IASB, 2010). That is, it faithfully represents and reflects information that is associated with equity investors when valuing the firm. Otherwise, such information will not be reflected in security prices (Barth et al. 2001).

numbers is employed in the data set. This study also refers to research models by Barth and Clinch (1996) and Barth and Clinch (1998) that separate book value and earnings variables from their goodwill components in order to test the value relevance of these accounting variables and the influence they have on the overall relations. To test the comparative value relevance of goodwill information, I further include in the model the goodwill treatment approach and its interaction with year-end goodwill balance. Therefore, the estimations for the main test in this study is as follow:

$$\begin{aligned} PR = & \alpha + \beta_1 ADJBVE + \beta_2 ADJEARN + \beta_3 GW + \beta_4 DIFRS + \beta_5 DIFRS*GW + (1) \\ & \beta_6 REVG + \beta_7 LEV + \beta_8 TGDP + \text{SECTOR FIXED EFFECTS} + \text{YEAR} \\ & \text{FIXED EFFECTS} + \text{COUNTRY FIXED EFFECTS} + \varepsilon \end{aligned}$$

In model (1), the variable of interest is the interaction variable DIFRS*GW, which captures the incremental value relevance of goodwill and its impairment under the impairment only approach relative to the amortisation-based approach.

4.3.2.2 Dependent variables

The dependent variable, PR, is defined as the market value of equity per share for a firm three months after the end date of the fiscal period. The lagged share price is assigned to ensure that there is sufficient time for the annual reports to be available on the market, and for the market to react to the information in the annual report (Aboody and Lev 1998; Harris and Muller III 1999).

4.3.2.3 Independent variables

The independent variables are year-end book value of equity less goodwill balance, ADJBVE, year-end earnings after taxes, before extraordinary and before goodwill charges, ADJEARN, and year-end book value of goodwill balance, GW. Since goodwill charges reported on the income statement are dependent on the goodwill balance reported on the balance sheet, these amounts are excluded from earnings

numbers in order to avoid any mechanical effects of goodwill accounting on the performance measure (Lee 2011; Aboody et al. 1999). Goodwill charges are defined as “amortisation of and impairment losses on goodwill” recorded by firms in the amortisation-based countries; and as “impairment losses on goodwill” recorded by firms in the impairment-led testing countries. Following (Barth and Clinch 2009), the variables that represent levels (i.e., currency values) are deflated by the number of shares outstanding. This deflator is proved in the literature to yield more consistently correct inferences and to mitigate any scale effects (including heteroskedasticity problems).⁴¹

In order to test the comparative value relevance in the first hypothesis, I incorporate a dichotomous variable, DIFRS, which represents the goodwill treatment approach and equals 1 if firms operate in countries that have adopted the IFRS-based impairment approach, and 0 if firms operate in countries that have not adopted the IFRS-based impairment approach (that is, the amortisation-based approach). The interaction between DIFRS and goodwill, DIFRS*GW, captures the incremental value relevance of goodwill under the impairment-only approach relative to the amortisation-based approach.

4.3.2.4 Control variables

The valuation specification is augmented by the set of firm-level, country-level and fixed effects control variables as follows.

I include a variable of the firm’s growth, REVG, to mitigate the possible self-selection bias and control for growth options of the firm (McCarthy and Schneider 1995). Since entities are typically acquired by growing entities, goodwill generated from

⁴¹ Barth and Clinch (2009) investigate the efficacy of different specifications and find that share-deflated help mitigate the scale effects. Also, their findings show that some features of the outstanding shares are correlated with the scale, resulting in more correct inferences.

these acquisitions may proxy for growth options that will influence share prices (McCarthy and Schneider 1995). REVG is measured as the difference between sales reported in the current year versus the previous year. I also include the firm leverage, LEV, which is the total interest-bearing debts over the book value of equity. Since the debt premise suggests that firms' debt position influence their inclination to either accelerate or delay impairment recognition against goodwill balance (Beatty and Weber 2006) and capital market concerns affect their preference for accounting treatment, these may also influence the share price. Finally, I incorporate a market liquidity proxy, T_GDP, to control for the difference in financial market development across sample countries that may have impact on the quality of financial reporting. T_GDP is measured as the total value of market trading as a percentage of a country's gross domestic product (GDP).⁴²

Other controls include country, industry and separate year effects. The country and industry fixed effect is to justify the variation in government regulations, asset structures, and competitiveness among countries and industries that may impact firm valuation. The year dummies are to capture the influence of aggregate trends as well as unexpected variation or special events that may affect outcome variables.

4.3.2.5 Enforcement

This study tests the second hypothesis on the impact of the strength of national enforcement arrangements on the differential value relevance to investors of goodwill information under the alternative regulatory accounting regime by dividing the primary sample into observations from relatively stronger and weaker enforcement

⁴² The financial information demand from the market participants provides incentives for firms to improve the financial reporting quality, and prior research (Soderstrom and Sun 2007; Leuz et al. 2003) suggests that firms in countries with developed capital markets provide better quality financial information. For a robustness check, I also utilise the country's market capitalisation of listed domestic companies to GDP (M_GDP) as an alternative market development variable and obtain similar qualitative results (not reported).

environments based on the median of an enforcement proxy, and estimating model (1) separately for each group. The enforcement proxy, ENFQ, is the factor score derived from the principal-component factor analysis of the four year average from 2011 to 2014 of six country-level governance indicators from the World Governance Index (WGI) capturing rule of law, regulatory quality, control of corruption, government effectiveness, political stability, and voice and accountability developed by Kaufmann et al. (2011).⁴³ A higher value of ENFQ indicates stronger and effective legal system and enforcement environment of the country and vice versa.⁴⁴

Prior studies have applied a number of proxies that reflect the variation across countries on their legal systems and institutions (e.g., (Porta et al. 1998), (Berkowitz et al. 2003), (Djankov et al. 2002)). Recent research papers also use Brown et al. (2014)'s aggregate index that particularly focuses "enforcement" in the financial reporting and auditing. However, these proxies are not available for all of the sample countries in this study, in particularly, Vietnam. Consequently, I utilise the WGIs developed by the World Bank (Kaufmann et al. 2011) since these are the only institutional data being available for all sample countries. The WGIs employed cover a regularly updated set of quality and effectiveness of the legal system and institutional mechanisms in enforcing the law and reporting regulations in a country. Based on previous literature, which documents a positive relation between strong governance institutions and accounting quality (e.g. Bushman and Piotroski, 2006), I expect that the factor score of six WGI's governance indices, ENFQ, would also impact the value relevance of goodwill information. Further, these indices are established based on aggregation methodology, which permit

⁴³ Arguably, a composite index constructed based on principal-component factor analysis is capable of representing this group of indices and allows the researcher to consider the effect of all indices as well as interpret their joint impact (Kennedy 1998)

⁴⁴ Appendix A provides a description of the WGI indices. Each of six WGI proxies ranges from -2.5 to +2.5 reflecting the weakest and the strongest governance mechanisms in each country, respectively. Thus, the higher value indicates a stronger enforcement level.

meaningful comparison across countries and over time (Kaufmann et al. 2011). A number of recent studies using the same metrics (for example, see Love and Klapper (2002); Verriest (2013); Cahan et al. (2016)) provide evidence of the construct validity of these proxies.

4.4 Sample and Data

4.4.1 Sample and data collection.

In this study, the financial data and market data are collected from Osiris and Thomson Reuters DataStream Advance, and enforcement data (WGI) from the website of the World Bank.⁴⁵ In addition, data on goodwill charges are hand-collected from companies' annual reports obtained through countries' securities exchange or the companies' investor relation websites.⁴⁶ Table 4.1 reports the definitions of the model variables and the sources of the data.

Table 4.1 about here

The initial sample comprises 3,132 non-financial publicly listed firms⁴⁷ that reported a goodwill balance during the period 2011 - 2014 and were listed on the exchange mainboards of Australia, Hong Kong, Japan, Korea (South), Malaysia, the Philippines, Singapore, Taiwan, Thailand and Vietnam. This results in 10,621 firm-year

⁴⁵ The data is download from: <http://info.worldbank.org/governance/wgi/#home>; Retrieved in November 2017.

⁴⁶ In cases where English annual reports are not available for firms, data on goodwill charges will rely on the Thomson Reuters DataStream Advance database

⁴⁷ The financial firms (bank and financial services firms) are excluded from this study, as their unique financial characteristics (e.g. capital structure) would render comparison with firms in other industries senseless.

observations. Of these, 1,619 firm-year observations are excluded due to missing data and 208 firm-year observations are excluded due to inconsistent accounting standard on goodwill.⁴⁸ I also eliminate 361 firm-year observations with a negative book value of equity since prior studies have found that these firms are likely to be in financial distress (Amir and Lev 1996). The data selection process generates a sample of 8,433 firm-year observations. To mitigate the effect of the extreme observations on regression analysis, I winsorise each continuous variable at the top and bottom 0.5% of its distribution. Table 4.2 delineates the sample selection process. Reflecting the larger sizes of their economies, Australia, Japan, Korea (South) and Malaysia account for the majority of the sample countries. The lowest representation is by Vietnamese firms, that constitute only 1.41% of the sample. Composition from the sample by the Global Industry Classification Standard (GICS) industry sector classification shows that the firms in the industrials (24.77%) and consumer discretionary (22.93%) sectors are most common. Firms from energy, telecommunication services and utilities each make up less than 4% of the sample.

Table 4.2 about here

4.4.2 Descriptive statistics and basis analysis

Table 4.3 presents the descriptive statistics for the main variables across the testing period for the full sample. This table also reports the breakdown of observations

⁴⁸ The goodwill accounting policy of each sample company is examined from the accounting policy notes to a firm's financial statements. For the purpose of consistency, I have excluded two Malaysian firms (8 firm-year observations) that, under special permissions, applied the straight-line amortisation approach on their goodwill balance until 2011. I further eliminate 55 Japanese firms (200 firm-year observations) that utilised the IFRS impairment-only approach in their consolidated financial statements during the sample period. The total exclusion due to inconsistent accounting standard on goodwill is 57 firms (208 firm-year observations).

in the impairment-only-based versus the amortisation-based sub-sample, and values corresponding to tests of differences in means and medians between the two groups based on *t*-statistics and *Mann-Whitney-U*-statistics. Accordingly, the mean (median) of goodwill per share, GW, is 5.125% (3.958%) of the corresponding adjusted book value of equity, ADJBVE and 5.243% (2.451%) of the corresponding market value of equity per share. Results from tests of differences indicate that the greatest differences between countries adopting the impairment-only testing regime and countries following the amortisation-based approach are attributable to earnings numbers and goodwill measures.

Table 4.3 about here

Table 4.4 reports the Pearson (below diagonal) and Spearman (above diagonal) correlations for the full sample. The highest correlations are observed between ADJBVE and PR, which is reasonable. Finally, Table 4.5 shows the PCA factor analysis for country-level enforcement proxy. Panels A and B of Table 4.5 provide descriptive statistics and correlations for the six metrics of the WGIs, whereas Panel C presents the results of PCA factor analysis for these six metrics. This analysis process reveals a singular factor with an eigenvalue exceeding 1 (eigen-value = 5.106), which accounts for approximately 85% of the variance in the set of variables. All six individual metrics related to the enforcement level load onto this factor with the factor loading ranging from 0.568 to 0.996.

Table 4.4 and Table 4.5 about here

4.5 Empirical Results

4.5.1 Test of hypothesis 1

The main test in this study investigates whether value relevance to investors of goodwill information is different across countries under alternative regulatory regimes. Table 4.6 reports the results for estimating model (1) for the full sample in column (3). The regression is performed using firm-level clustering for robust-standard errors to mitigate the effect of heteroskedasticity (Petersen 2009).

Table 4.6 about here

In column (3), I find that the coefficients of ADJBVE and ADJEARN are positive and significant at 1% level of confidence. These results are in line with prior value relevance literature and provide assurance about the reasonableness of the estimated model. The coefficients (values) of goodwill, GW, and its interaction with the accounting treatment approach, DIFRS*GW, are found to be significantly positive at 0.857 (5.436) and 1.792 (4.363), respectively, at 1% significant level. The marginal association between goodwill and market share price is 0.935 under the impairment-only approach. The findings are consistent with prior literature that market participants consider goodwill more informative information under the impairment-only approach than under the amortisation approach.

Among the control variables, I do not find significant coefficient of ROAG against market security prices. On the other hand, the coefficient LEV is statistically significant and negative at -0.671 (p-value<.01) as predicted.

Overall, the results obtained from the price model support the hypothesis that goodwill measures are more associated with the market value of firms operating in countries that have adopted the impairment-led testing framework relative to that of firms operating in countries that have followed the amortisation-based approach.⁴⁹

4.5.2 Test of hypothesis 2.

The second hypothesis examines whether the differential value relevance to investors of goodwill information under alternative regulatory accounting regime is greater in countries with a strong enforcement environment. Table 4.6 reports the results of estimating model (1) for sub-sample of strong enforcement countries in column (4) and in weak enforcement environments in column (5), respectively. Stronger (weaker) enforcement countries are those with the ENF proxy at or above (below) the median for all countries.

I find that the coefficients (values) of GW and its interaction term with DIFRS are statistically significant at 0.802 (5.571) and 3.136 (4.049), respectively, in strong enforcement countries, but are not significant in weak enforcement countries. These findings indicate that goodwill is more value-relevant information under the impairment-only approach than under the amortisation-based approach when the country-level institutional enforcement arrangements are strong. In contrast, the

⁴⁹ Standard OLS technique is usually the preferred technique in value relevance studies. However, panel data technique may also be utilised. In this study, the Breusch-Pagan test shows the preference for the random effects model. Therefore, I also ran panel data regression with controls for year, sector and country effects, and clustered standard errors and obtains similar qualitative results (untabulated).

coefficients of goodwill, GW, and its interaction term, DIFRS*GW, in weak enforcement countries are found to be insignificant, indicating that the adoption of impairment-only framework has a trivial impact on the accounting quality for firms in these countries.

4.6 Additional Tests and Robustness Checks

4.6.1 Differences in responded coefficients of reported book value, earnings and goodwill numbers.

It could be argued that the higher value relevance of goodwill and its impairment in countries that follow the IFRS-based accounting approach reflects the differences in the quality of information generally rather than of goodwill specifically. To test whether the incremental value relevance is attributable to the adoption of a goodwill impairment-led testing regime, I re-estimate model (1) and interact DIFRS with all explanatory variables for the full sample and for the strong and weak enforcement sub-samples. The model specifications are as follows:

$$\begin{aligned}
 PR = & \alpha + \beta_1 ADJBVE + \beta_2 ADJEARN + \beta_3 GW + \beta_4 DIFRS + \\
 & \beta_5 DIFRS*ADJBVE + \beta_6 DIFRS*ADJEARN + \beta_7 DIFRS*GW + \\
 & \beta_8 REVG + \beta_9 LEV + \beta_{10} TGDP + \text{SECTOR FIXED EFFECTS} + \text{YEAR} \\
 & \text{FIXED EFFECTS} + \text{COUNTRY FIXED EFFECTS} + \varepsilon
 \end{aligned} \tag{2}$$

Table 4.7 reports the results of estimating model (2). For the regression against the weak enforcement sample, I find that the coefficients (values) of the interaction between DIFRS and explanatory variables are all insignificant, except DIFRS*ADJBVE, which is found to be significant at 2.594 (1.678). On the other hand, the coefficients of the interaction terms between DIFRS and ADJEARN and GW are found to be significantly positive for both the full sample and the strong enforcement sub-sample. In particular, the coefficients (values) of DIFRS*ADJEARN are 1.585 (2.401) for the full sample, and

3.126 (2.657) for strong enforcement sub-sample. The coefficients (values) of DIFRS*GW are 1.570 (3.586) and 1.358 (1.845) for the full sample and the strong enforcement sub-sample, respectively. Overall, the results remain similar to those obtained in the main findings.

Table 4.7 about here

4.6.2 Income statement effects.

Prior relevance studies on goodwill that employ price specification also include goodwill charges in the value relevance model (for example, see Amel-Zadeh et al. (2013); Hamberg and Beisland (2014); (Lapointe-Antunes et al. 2009)). To test whether the main findings in this study are sensitive to the inclusion of goodwill charges in the price regressions, I re-estimate model (1) after including goodwill charges and its interaction with DIFRS as follows:

$$\begin{aligned}
 PR = & \alpha + \beta_1 ADJBVE + \beta_2 ADJEARN + \beta_3 GW + \beta_4 GWC + \beta_5 DIFRS + \\
 & \beta_6 DIFRS*GW + \beta_7 DIFRS*GWC + \beta_8 REVG + \beta_9 LEV + \beta_{10} TGDP + \\
 & SECTOR \text{ FIXED EFFECTS} + YEAR \text{ FIXED EFFECTS} + COUNTRY \\
 & FIXED EFFECTS + \varepsilon
 \end{aligned} \tag{3}$$

where GWC is goodwill charges, defined as “amortisation of and impairment losses on goodwill” recorded by firms in the amortisation-based countries; and as “impairment losses on goodwill” recorded by firms in the impairment-led testing countries.

Table 4.8 reports the results for estimating model (3). The main findings remain qualitatively unchanged. In particular, the coefficients of GW and its interaction with

accounting treatment approach, DIFRS*GW, are found to be positive and statistically significant for the full sample and the strong enforcement sub-sample, indicating that the impairment testing framework improves the value relevance of goodwill information and that the incremental goodwill relevance is higher in relatively stronger enforcement countries. On the other hand, the level of goodwill is not relevant in weak enforcement countries regardless of the accounting treatment being adopted.

Table 4.8 about here

4.6.3 Alternative model of country-level enforcement impact

Alternative, I test the impact of institutional enforcement arrangements on the comparative value relevance to investors of goodwill information under different regulatory accounting regime by investigating the interaction effects. In specific, I include an enforcement proxy, ENFQ, in the model and let it interact with explanatory variables of GW and DIFRS. Therefore, model (1) is re-estimated as follows:

$$\begin{aligned}
 PR = & \alpha + \beta_1 ADJBVE + \beta_2 ADJEARN + \beta_3 GW + \beta_4 DIFRS + \beta_5 DIFRS*GW + \quad (4) \\
 & \beta_6 ENFQ + \beta_7 ENFQ*GW + \beta_8 ENFQ*DIFRS + \beta_9 ENFQ*DIFRS*GW \\
 & + \beta_{10} REVG + \beta_{11} LEV + \beta_{12} TGDP + \text{SECTOR FIXED EFFECTS} + \\
 & \text{YEAR FIXED EFFECTS} + \text{COUNTRY FIXED EFFECTS} + \varepsilon
 \end{aligned}$$

The results are reported in Table 4.9. In column (3), I find that the coefficient (value) on ENFQ*DIFRS*GW is statistically significant and positive at 2.194 (0.802). This suggests that, relative to weak enforcement countries, the positive impact of adopting IFRS-based impairment-only framework on the association between goodwill balance and market value is more pronounced in countries with strong enforcement arrangements. An alternative interpretation of this interaction term is that institutional

enforcement and other governance mechanisms are more important in enhancing goodwill relevance in countries adopting the IFRS-based impairment-only approach, which is plausible because investors in these countries will have more need to rely on the enforcement system to ensure that firms comply and implement the impairment test in a strict manner. Overall, the findings confirm the main results, indicating that these results are robust regardless of the model used.

Table 4.9 about here

4.6.4 Sensitivity to industry sectors.

Government regulations, asset structures and competitiveness vary across industries, and these may impact firm valuation. Further, investors' perceptions of the firm's value can be altered when the firm or other firms in the same industry sector face adverse publicity or spillover effects from sector-wide operational risk concerns. Put differently, the nature of activities within industry sectors might be a reason for the variation of goodwill relevance. I note that this study already includes industry sector dummies in the models to control for industry fixed effects. Nevertheless, to further check the robustness of the main results to industry sectors, I form nine industry sub-samples by excluding one industry from the full sample at a time and re-run model (1) for each of these sub-samples. The results of each of these analyses (untabulated) are consistent with the main findings.

4.6.5 Country sensitivity tests

Australia has adopted the IFRS impairment-only approach, is highly developed, and has a more rigorous enforcement regime than the other sample countries. Therefore, to see whether the incremental value relevance of goodwill under the impairment-only approach is attributable to Australia, I re-estimate model (1) after excluding Australia firms from the sample. Accordingly, the coefficient (value) of the variable $DIFRS*GW$ is significantly positive at 1.505 (3.340) (untabulated).

Korea (South) has fully adopted IFRS since 2011. It could be argued that the inclusion of this country generates a confounding effect resulting from the adoption year. In order to test whether the findings are not attributable to Korea, I re-estimate model (1) after excluding Korea from the sample and continue to find support for our primary analysis. Accordingly, the coefficient (value) of $DIFRS*GW$ is significantly positive at 1.944 (1.920) (untabulated). I also re-estimate model (1) for the full sample from 2012 - 2014 (that is, excluding the IFRS adoption year in 2011 in Korea). The results are also consistent with the main findings.

4.7 Conclusion

This study investigates whether there is differential value relevance to investors of goodwill measures reported by firms across Asia-Pacific markets that have adopted and markets that have not adopted the IFRS-based impairment-only testing regime, and if so, whether the differential goodwill relevance is driven by the variation in enforcement environments. The study is novel as it is the first cross-country study in Asia-Pacific countries on the association between goodwill information and market stock prices at different level of enforcement. This institutional context is particularly

interesting due to the stark contrast in the financial reporting landscape for goodwill accounting at the current time.

The results obtained from the valuation model support the hypothesis that goodwill numbers are more associated with equity market values for firms operating in countries that have adopted the IFRS-based impairment testing framework relative to that for firms operating in countries that have followed the amortisation-based approach. The result holds up in strong enforcement countries. In contrast, the adoption of IFRS-based impairment has a trivial impact on accounting quality in weak enforcement countries. Overall, the findings in this study support the move of the IASB to the impairment-only testing approach, but suggest that weak enforcement countries need to improve their regulatory enforcement mechanisms so that the benefits from the implementation of the IFRS-based impairment-only approach can be realised.

Finally, it is noted that while this study has included firm- and country-specific variables on the models and conducts several robustness tests, other firm- and country-specific attributes may affect the value relevance of goodwill. For example, this study does not cover firm-level ownership structure and other corporate governance arrangements like policies related to board composition and executive compensations. These features have been widely observed in prior corporate governance studies as having implications for general accounting quality, and can vary significantly between countries due to differences in national culture, legal histories, and institutions. While not all of these features are sources of exogenous variations, future research into their effects on the value relevance of goodwill in different countries jurisdictions is encourage. Another caution needs to be exercised in interpreting the results is that the sample comprises only two countries – Japan and Vietnam – using the amortisation-based approach. Notwithstanding this limitation, the study generates important

insights into the goodwill impairment debate and is of potential interest to the IASB and other national standard setters.

Table 4.1.*Description of Variables*

Variables	Notation	Definition/Calculation	Data source
<i>Dependent variables</i>			
Market stock price	PR	Annual stock price for firm i three months after the end date of the fiscal year t	Thompson Reuters
<i>Independent variables</i>			
Book value of equity less goodwill	ADJBVE	Year-end book value of equity less goodwill balance for firm i in year t , deflated by number of shares outstanding	Thompson Reuters & Osiris
Earnings before goodwill charges	ADJEARN	Year-end earnings after taxes, before extraordinary/preference dividends, and before goodwill charges for firm i in year t , deflated by number of shares outstanding	Thompson Reuters & Osiris
Goodwill	GW	Year-end goodwill balance for firm i in year t , deflated by number of shares outstanding	Thompson Reuters & Osiris
Goodwill charges	GWC	Year-end goodwill charges for firm i in year t , defined as “amortisation of and impairment losses on goodwill” recorded by firms in the amortisation-based countries; and as “impairment losses on goodwill” recorded by firms in the impairment-led testing countries	Hand-collected data from companies’ annual reports
Goodwill treatment	DIFRS	Indicator variable: equals 1 if firms operate in impairment-based countries, and 0 otherwise	Thompson Reuters & Osiris
Revenue growth	REVG	Growth rate for firm i in year t , measured as the difference between current year sales and the previous year sales, scaled by the previous year sales	Thompson Reuters & Osiris
Leverage	LEV	Leverage for firm i in year t , measured as the ratio between interest-bearing debts to book value of equity.	Thompson Reuters & Osiris
Market liquidity	T_GDP	Total value of market trading as a percentage of GDP in a given country	World Bank
Enforcement	ENF	Principal-component analysis (PCA) of the four-year average from 2011-2014 of six WGIs’ individual country-level metrics	World Governance Indicators, World Bank

Table 4.2.*Sample*

Panel A. Sample selection process

Description	No. of firms	No. of firm-years
Listed firms/firm-years reporting positive goodwill for the period 2011 - 2014	3,132	10,621
Less: firms/firm-years applying inconsistent goodwill accounting rule	-57	-208
Less: firms/firm-years with insufficient data or stop trading	-321	-1619
Less: firms/firm-years reporting negative book value of equity	<u>-118</u>	<u>-361</u>
Final sample	<u>2,636</u>	<u>8,433</u>

Panel B. Sample by country and industry

Sectors	Total	Australia	Hong Kong	Japan	S. Korea	Malaysia	Philippines	Singapore	Taiwan	Thailand	Vietnam
Energy	288	70	2	46	15	68	15	45	3	8	16
Consumer discretionary	1,934	291	68	635	252	266	48	113	167	75	19
Consumer staples	900	99	18	283	133	180	48	56	27	31	25
Healthcare	438	110	15	153	53	38	0	34	13	18	4
Industrials	2,089	245	43	607	321	369	54	234	138	46	32
Information technology	1,280	142	21	509	77	113	26	53	309	25	4
Materials	1,260	205	23	271	225	219	42	63	145	55	13
Telecommunication services	87	18	4	12	3	20	0	16	3	11	0
Utilities	<u>157</u>	<u>26</u>	<u>10</u>	<u>8</u>	<u>24</u>	<u>26</u>	<u>17</u>	<u>8</u>	<u>9</u>	<u>23</u>	<u>6</u>
Total:											
No. of firm-years	<u>8,433</u>	<u>1,206</u>	<u>204</u>	<u>2,524</u>	<u>1,103</u>	<u>1,299</u>	<u>250</u>	<u>622</u>	<u>814</u>	<u>292</u>	<u>119</u>
No. of firms	<u>2,636</u>	<u>369</u>	<u>60</u>	<u>816</u>	<u>327</u>	<u>398</u>	<u>79</u>	<u>195</u>	<u>261</u>	<u>92</u>	<u>39</u>

Table 4.3.*Descriptive Statistics*

Variable	Full sample				Firm-year obs. under amortisation-based				Firm-year obs. under impairment-based				Diff. in Mean	t-test	M-W-U- Test
	Obs.	Mean	Med	S.D.	Obs.	Mean	Med	S.D.	Obs.	Mean	Med	S.D.			
PR	8,478	10.681	2.040	26.921	2,709	12.644	9.590	11.718	5,769	9.760	0.690	31.591	2.885	6.099***	48.821***
ADJBVE	8,532	10.926	1.260	28.498	2,763	13.164	9.490	13.275	5,769	9.854	0.550	33.364	3.311	6.534***	15.441***
ADJEARN	8,532	0.708	0.100	2.099	2,763	0.891	0.680	1.076	5,769	0.621	0.040	2.436	0.270	7.104***	50.221***
GW	8,532	0.560	0.050	1.605	2,763	0.675	0.170	1.399	5,769	0.505	0.030	1.692	0.171	4.919***	25.813***
ROAG	8,532	0.107	0.010	0.558	2,750	0.018	-0.050	0.335	5,686	0.149	0.040	0.634	-0.131	-12.445**	-16.925**
LEV	8,532	0.628	0.390	0.803	2,763	0.605	0.330	0.778	5,769	0.639	0.400	0.814	-0.034	-1.847**	-3.559***
T_GDP	8,532	0.919	0.810	0.735	2,763	0.831	1.000	0.295	5,769	0.960	0.810	0.867	-0.129	-10.134**	6.776***
ENF	8,532	0.000	0.480	1.000	2,763	0.346	0.480	0.633	5,769	-0.166	-0.400	1.096	0.512	7.226***	18.490**

Note: Variables as defined in Table 4.1.

***, ** and * denote significance level at less than 1%, 5% and 10%, respectively

Table 4.4.*Pearson (Below Diagonal) and Spearman (Above Diagonal) Correlations*

	PR	BVELG	EARNLG	GW	DIFRS	ROAG	LEV	T_GDP	ENF
PR	1	0.889*	0.766*	0.612*	-0.530*	-0.085*	0.028*	0.356*	0.147*
ADJBVE	0.805*	1	0.711*	0.524*	-0.547*	-0.134*	0.045*	0.376*	0.084*
ADJEARN	0.808*	0.759*	1	0.460*	-0.482*	-0.004	-0.035*	0.249*	0.117*
GW	0.527*	0.486*	0.446*	1	-0.281*	-0.033*	0.154*	0.159*	0.243*
DIFRS	-0.050*	-0.054*	-0.060*	-0.049*	1	0.191*	0.041*	-0.075*	-0.205*
ROAG	-0.029*	-0.035*	-0.029*	0.009	0.110*	1	0.0368*	-0.045*	-0.071*
LEV	-0.003	0.027*	-0.039*	0.149*	0.020	0.011	1	0.074*	-0.095*
T_GDP	0.060*	0.066*	0.061*	0.018	0.082*	-0.015	0.030*	1	0.221*
ENF	0.008	-0.010	0.003	0.060*	0.239*	-0.014	-0.067*	0.260*	1

Note: Variables are defined as in Table 4.1

* denotes significance at less than 5%

Table 4.5.*Descriptive Statistics of Country Institutional Enforcement (ENF)*

Panel A: Descriptive Statistics

Variable	Obs.	Mean	S.D.	p25	Med	p75
VA	8,532	0.579	0.687	-0.170	0.810	1.020
PO	8,532	0.588	0.599	0.300	0.930	0.950
GO	8,532	1.361	0.480	1.150	1.550	1.550
RE	8,532	1.098	0.533	0.930	1.130	1.130
RL	8,532	1.109	0.580	0.960	1.380	1.380
COR	8,532	1.060	0.803	0.450	1.500	1.500

Panel B. Pearson (below diagonal) and Spearman (above diagonal) Correlations

Variable	VA	PO	GO	RE	RL	COR
VA		0.526*	0.654*	0.656*	0.767*	0.679*
PO	0.595*	1	0.872*	0.871*	0.801*	0.857*
GO	0.498*	0.892*	1	0.999*	0.980*	0.996*
RE	0.598*	0.808*	0.923*	1	0.979*	0.992*
RL	0.724*	0.913*	0.944*	0.943*	1	0.986*
COR	0.641*	0.876*	0.933*	0.921*	0.965*	1

Panel C. Principal Component Governance Factor Score Analysis (PCA)

Variable	Factor Loading Coefficients	Kaiser_Meyer_Olkin Measure of Sampling Adequacy
VA	0.715	0.568
PO	0.925	0.837
GO	0.951	0.802
RE	0.947	0.832
RL	0.997	0.682
COR	0.972	0.92
Variation explained	0.851	Overall 0.774
Eigenvalue	5.106	

Panel D. Descriptive Statistics of Governance Factor Score

Variables	Mean	S.D.	p25	Med	p75
GI	0.000	0.998	-0.401	0.480	0.480

Note: Institutional enforcement environment index is presented in six categories according to the World Governance Indicators (World Bank), whereas VA is Voice and Accountability, PO is Political Stability and Absence of Violence, GO is Government Effectiveness, RE is Regulatory Quality, RL is Rule of Law, and COR is Control of Corruptions. The definitions of these six dimensions are provided in Appendix A. * denotes significance at less than 5%

Table 4.6.*Value Relevance of Goodwill and the Impact of Country-level Enforcement*

Column 1	Column 2	Column 3	Column 4	Column 5
VARIABLES	Predicted sign	Model (1)		
		Full sample	Strong ENF	Weak ENF
		Coefficient (t_statistics)	Coefficient (t_statistics)	Coefficient (t_statistics)
Constant		-2.018*** (-4.404)	-1.055* (-1.949)	-2.824* (-1.897)
ADJBVE	+	0.333*** (9.927)	0.393*** (13.069)	0.328*** (8.268)
ADJEARN	+	5.706*** (12.958)	5.338*** (12.920)	5.686*** (10.817)
GW	+	0.857*** (5.436)	0.802*** (5.571)	19.814 (1.042)
DIFRS	±	1.682*** (2.775)	-1.077** (-2.008)	15.410*** (4.853)
DIFRS*GW	±	1.792*** (4.363)	3.136*** (4.049)	22.291 (1.173)
REVG	±	0.120 (-0.687)	0.229* (1.796)	1.246 (2.081)
LEV	±	-0.671*** (-2.864)	-0.135 (-1.422)	-1.466** (-2.309)
T_GDP	±	-0.320 (-0.350)	2.321*** (5.422)	-6.808*** (-2.766)
Year fixed effects		Included	Included	Included
Sector fixed effects		Included	Included	Included
Country fixed effects		Included	Included	Included
Adjusted R-squared		0.766	0.723	0.767
Observations		8,478	5,841	2,637

Note: Variables are defined in Table 4.1

***, ** and * denote significance level at less than 1%, 5% and 10%, respectively

Table 4.7*Additional test: Differences in Responded Coefficients of Book Value, Earnings and Goodwill*

Column 1	Column 2	Column 3	Column 4	Column 5
VARIABLES	Predicted sign	Model (2)		
		Full sample	Strong ENF	Weak ENF
		Coefficient	Coefficient	Coefficient
		(<i>t</i> -statistics)	(<i>t</i> -statistics)	(<i>t</i> -statistics)
Constant		-1.972*** (-4.389)	-0.360 (-0.724)	-0.814 (-0.489)
ADJBVE	+	0.385*** (13.142)	0.398*** (13.840)	-2.266 (-1.473)
ADJEARN	+	4.326*** (10.039)	4.252*** (10.037)	3.884 (0.843)
GW	+	1.049*** (7.026)	0.972*** (6.752)	19.244 (0.958)
DIFRS	±	1.545*** (2.607)	-1.733*** (-3.612)	13.354*** (4.168)
DIFRS*ADJBVE	±	-0.061 (-1.275)	0.260 (1.439)	2.594* (1.687)
DIFRS*ADJEARN	±	1.584** (2.401)	3.126*** (2.657)	1.801 (0.389)
DIFRS*GW	±	1.570*** (3.586)	1.358* (1.845)	21.721 (1.082)
REVG	±	0.086 (0.482)	0.266* (1.799)	1.253 (2.084)
LEV	±	-0.665*** (-2.827)	-0.139 (-1.586)	-1.485** (-2.327)
T_GDP	±	-0.246 (-0.274)	2.440*** (6.161)	-6.687*** (-2.709)
Year fixed effects		Included	Included	Included
Sector fixed effects		Included	Included	Included
Country fixed effects		Included	Included	Included
Adjusted R-squared		0.766	0.739	0.767
Observations		8,478	5,841	2,637

Note: Variables are defined in Table 4.1

***, ** and * denote significance level at less than 1%, 5% and 10%, respectively

Table 4.8*Additional test: Income Statement Effects*

Column 1	Column 2	Column 3	Column 4	Column 5
VARIABLES	Predicted sign	Model (3)		
		Full sample	Strong ENF	Weak ENF
		Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)
Constant		-2.017*** (-4.411)	-0.991* (-1.856)	-2.603* (-1.742)
ADJBVE	+	0.333*** (9.903)	0.395*** (13.313)	0.328*** (8.262)
ADJEARN	+	5.706*** (12.938)	5.324*** (12.867)	5.685*** (10.806)
GW	+	0.883*** (3.886)	0.902*** (4.356)	17.669 (0.847)
GWC	-	-0.514 (-0.173)	-2.011 (-0.731)	-35.493 (-2.013)
DIFRS	±	1.682*** (2.777)	-1.109** (-2.124)	15.050*** (4.723)
DIFRS*GW	±	1.766*** (3.818)	3.051*** (3.792)	-15.184 (-0.729)
DIFRS*GWC	±	0.567 (0.075)	-1.233 (-0.292)	31.822 (1.969)
REVG	±	-0.121 (-0.688)	0.220* (1.751)	-1.260** (-2.101)
LEV	±	-0.670*** (-2.848)	-0.12 (-1.298)	-1.473** (-2.317)
T_GDP	±	-0.324 (-0.355)	2.337*** (5.548)	-6.710*** (-2.719)
Year fixed effects		Included	Included	Included
Sector fixed effects		Included	Included	Included
Country fixed effects		Included	Included	Included
Adjusted R-squared		0.766	0.723	0.767
Observations		8,478	5,841	2,637

Note: Variables are defined in Table 4.1

***, ** and * denote significance level at less than 1%, 5% and 10%, respectively

Table 4.9*Additional test: Moderating effects of country-level enforcement environments*

Column 1	Column 2	Column 3
		Model (4)
Variables	Predicted sign	Full sample
		Coefficient (t_statistics)
Constant		3.286*** (3.524)
ADJBVE	+	0.479*** (11.379)
ADJEARN	+	2.434*** (6.312)
GW	+	1.683 (1.371)
DIFRS	±	-3.785*** (-5.846)
ENFQ	±	1.507*** (4.504)
DIFRS*GW	±	0.275 (0.206)
ENFQ*GW	±	-1.994 (-0.737)
ENFQ*DIFRS	±	-0.724 (-0.733)
ENFQ*DIFRS*GW	±	2.194* (0.802)
REVG	±	-0.304 (-1.451)
LEV	±	-0.582*** (-2.873)
T_GDP	±	-0.051 (-0.081)
Year fixed effects		Included
Sector fixed effects		Included
Country fixed effects		Included
Adjusted R-squared		0.793
Observations		8,478

Note: Variables are defined in Table 4.1

***, ** and * denote significance level at less than 1%, 5% and 10%, respectively

CHAPTER 5

IS GOODWILL IMPAIRMENT UNDER IFRS TIMELY?

The study in this chapter investigates the timeliness of goodwill impairments under the IFRS-based impairment approach in Asia-Pacific economies. I find that the likelihood to book an impairment loss on goodwill is not associated with contemporaneous market impairment indicators, but is associated with contemporaneous accounting-based impairment indicators, consistent with the findings in prior studies that managers tend to use the value-in-use method to test goodwill for impairment. I also find that the likelihood of impairment loss is associated with lagged market indicator of the BTM ratio, providing evidence on price leads accounting information. Taken together, these findings suggest that managers respond to poor economic performance, but not entirely on a timely basis. An alternative explanation for this result is that firms may engage in financial accounts manipulations and delay the recognition of goodwill impairment loss. In the additional test, I find that goodwill impairments are likely more predictable if BTM is greater than 1 for more than two consecutive years. These results hold up for firms in strong enforcement countries. In contrast, the likelihood of impairment recognition by firms in weak enforcement countries is solely attributable to lagged accounting indicators and “big-bath” incentives.

5.1 Introduction

This study examines whether goodwill impairment loss under IAS 36 is timely. One of the major arguments advanced by the IASB is that the impairment test requires managers to make professional estimates and judgements; if applied faithfully and neutrally, this approach allows managers to convey their private information based on their insights into the firm's underlying economic circumstances (Wyatt 2005). In other words, goodwill information under the impairment regime reflects economic reality better than the straight-line amortisation system (IAS 36, BC131). Critics, however, argue that managers can use it opportunistically (Watts 2003a; Massoud and Raiborn 2003; Ramanna and Watts 2012; Beatty and Weber 2006; Roychowdhury and Martin 2013). The empirical evidence from prior literature is inconclusive. Lee (2011) finds that the ability of goodwill to forecast future cash flows has improved in the post-SFAS-142 period. Godfrey and Koh (2009) and Chalmers et al. (2011) report evidence supporting the notion that goodwill impairment loss reflects the underlying economics of firms. In contrast, ESMA (2013) presents evidence that suggested that many European firms delay the booking of goodwill impairment losses. Similarly, André et al. (2015) and Li and Sloan (2017) report that goodwill impairments lag behind the economic impairment and suggest that the market participants, at least partially, predict impairments before their announcements. Enforcement and oversight bodies have also expressed concern about economic impairments not always being booked in a timely manner (Hoogervorst 2012; ESMA 2013).

In light of the regulators' concerns, I investigate whether goodwill impairment loss reported by firms in Asia-Pacific countries reflects the underlying economics in a timely fashion. As discussed in earlier chapters, I choose Asia-Pacific countries because extant studies on goodwill impairment cover developed economies with stronger enforcement regimes and neglect emerging countries although these countries have

adopted the IFRS-based impairment framework also. Further, countries in this region vary in strength of enforcement level which prior studies have documented to be associated with accounting quality (Ball 2006; Kvaal and Nobes 2012; Christensen et al. 2013; Glaum et al. 2013; Cascino and Gassen 2015). This suggests that evidence in prior goodwill impairment studies may not hold in Asia-Pacific countries.

The sample in this study covers 5,790 firm-year observations from 2011 to 2014 from eight Asia-Pacific IFRS-based impairment test adopters.⁵⁰ Australia, Hong Kong, Korea (South), Malaysia, the Philippines, Singapore, Taiwan and Thailand. First, I find that the goodwill impairment incidence is not associated with contemporaneous market impairment indicators of BTM ratio, but is associated with contemporaneous accounting-based impairment indicators, consistent with the findings in prior studies that managers are likely to use the value-in-use method in impairment testing (Amiraslani et al. 2013). Second, I find that the likelihood of impairment loss is also associated with one-year lagged market indicators, providing evidence on price leads accounting information. Taken together, these findings suggest that while firms respond to the decline in economic values, they do not entirely do so in a timely manner. An alternative explanation for this result is that firms may manage accounting indicators so as to time the recognition of an impairment loss opportunistically. Additional test further adds that goodwill impairment incidence is likely to be more predictable if the firm has a BTM ratio greater than 1 for more than two consecutive years. Sub-sample analyses show that these findings hold up for firms in strong enforcement countries. In contrast, the likelihood of impairment recognition by firms in weak enforcement countries are solely attributable to lagged accounting indicators and

⁵⁰ Again, the sample comprises of all IFRS-based impairment test adopters in Asia-Pacific countries after excluding: (i) countries that have no or small stock exchanges in term of market capitalisation, like Brunei Darussalam, Cambodia, Mongolia, Myanmar, New Zealand, Papua New Guinea; and (ii) South Asia countries given their institutions are different from the others, like Afghanistan, Bangladesh, Nepal, Sri Lanka

“big-bath” incentives. This implies that, in Asia-Pacific countries, enforcement levels considerably attributes to accounting quality for goodwill following the adoption of the IFRS-based impairment approach.

The remainder of this study is as follows: Section 5.2 reviews related research and develops hypotheses; Section 5.3 designs empirical model; Section .54 describes the sample and data; Sections 5.5 and 5.6 present the results and additional robust tests; and Section 5.7 concludes the study.

5.2 Institutional Background and Related Literature

5.2.1 Institutional background

IFRS 3 imposes the impairment-only approach pursuant to the IAS 36 value-in-use or fair-value-based impairment test. In particular, goodwill must be allocated to one or more CGUs at acquisition time and an impairment loss must be recognised if the CGU's carrying value of assets exceeds the recoverable amount. The IASB claims that the set of standards provide a better measure of goodwill because it allows firms to consider underlying economic and business conditions when testing for goodwill impairment. Despite the IASB's claim, the practical application of impairment testing may worsen financial reporting. Acquired goodwill allocated to a CGU may furnish an effective “cushion” against future goodwill impairment by mixing up acquired goodwill with internally generated goodwill (IAS 36, BC 135). Firms can further reduce the likelihood of future impairment by intentionally allocating goodwill to CGUs having a higher degree of unrecognised internally generated goodwill. The goodwill impairment tests also allow firms a wide range of discretionary options which are subjective and unverifiable (KPMG 2014). Managers may opportunistically use the allowed discretion to avoid or delay necessary goodwill impairments to achieve desired targets (Watts

2003a, 2003b). This accounting practice can result in aggressive accounting whereby goodwill would be held indefinitely at cost and only be written down when there is substantial evidence suggesting that impairments should be taken. This could cause the initial overstatements of assets and earnings and later understatement of earnings when the aggressive accounting is reversed through “big-bath” impairments (Roychowdhury and Martin 2013). Since 2014, the IASB has launched a PIR of IFRS 3 to consider whether changes should be made to the existing impairment test for goodwill. Finding evidence of whether firms impair goodwill in response to changes in economic value would provide insights relevant to the IASB’s research project on the topic.

5.2.2 Related literature

Lee (2011) considers the impact of the SFAS 142 enactment during 1995-2006 in the US and finds that the ability of goodwill to forecast future cash flows has been improved in the post-SFAS 142 period. Also, the analysis of sub-samples finds no evidence that the reporting discretion allowed by SFAS 142 is used opportunistically or informatively. These findings are comparable to those of Jarva (2009). Godfrey and Koh (2009) and Chalmers et al. (2011) investigate whether managers use their goodwill impairment discretion to reflect firms’ underlying investment opportunities. Their studies find significant negative associations between goodwill impairment losses and firms’ investment opportunities in the US (Godfrey and Koh 2009) and in Australia (Chalmers et al. 2011), supporting the proposition that the goodwill impairment regime aligns financial reporting with firms’ economic circumstances by enabling firms with greater investment opportunities to maintain a goodwill balance that reflects their underlying economic values.

In contrast, numerous studies have reported evidence on the exercise of opportunism in the impairment-only approach application. Beatty and Weber (2006) find that the likelihood and magnitude of US firms' below-the-line impairment charges in the SFAS 142 adoption year are associated with the costs of debt covenants violation, the extent to which the firm's stock price is tied to operating income, the earnings-based bonus, the CEO tenure, and the exchange delisting incentives. Likewise, Ramanna and Watts (2012) investigate the application of SFAS 142 for US firms with a high likelihood of goodwill impairment and conclude that the decision to recognise goodwill impairment is attributable to proxies for agency-based motives like debt covenant violation issues. Their study also provides evidence that managers opportunistically manipulate earnings by selectively delaying goodwill. Hamberg et al. (2011) investigate whether Swedish firms report goodwill impairment losses in their first-year adoption of IFRS, and if so, whether such impairment decisions are related to firms' stock market turnovers, earnings-based management compensation, entrenchment, and leverage. However, in their study, only the entrenchment proxy is found to be (weakly) significantly related to impairments.

Some studies have particularly focused on the examination of informativeness and timeliness of goodwill impairment, which is determined by the association between actual accounting impairments and economic indicators suggesting that goodwill is impaired. Hayn and Hughes (2006) argue that investigating the time lag between deterioration in the economic fundamentals underlying goodwill's value and actual write-offs provides insights into how timely management has been in recording these changes. In other words, the reluctance of managers to impair goodwill in a timely manner is manifested as an association between lagged economic indicators and goodwill impairment in the current year. In this regard, Li and Sloan (2017) investigate the US firms during the pre-SFAS 142 period 1996 - 2000 relative to the post-SFAS 142

period 2004 – 2011. They find that the impairment lag market indicator, as measured by the BTM ratio, is not only statistically significant against goodwill impairment incidence, but is also higher than the corresponding values in the pre-impairment-only period. This suggests that managers have exploited the discretion afforded by the SFAS 142 to delay goodwill impairments. Further, the accounting indicator of goodwill impairment, measured as the combination of an unusually low rate of accounting return (ROA) and a large goodwill balance (scaled by total assets), are also found to have explanatory power for impairments in the post-142 period. Li and Sloan (2017) conclude that investors seem not to be able to fully predict the lagged nature of post-SFAS goodwill impairments. André et al. (2016) investigate the pattern of goodwill impairment across the EU and the US between 2006 and 2015 and find that, US firms recognise timelier impairments particularly during the financial crisis. Their logistic regression also shows a delayed response to economic impairment on the part of EU firms, regardless of the economic impairment indicators used.⁵¹

The available evidence relating to the impact of country-level characteristics on the timeliness of goodwill impairment has been limited. Amiraslani et al. (2013) investigate the timeliness of asset impairments, including the impairment of goodwill, in EU countries (and Switzerland and Norway) between 2006 and 2011 and find that impairment losses are related to contemporaneous stock market returns. The speed of the impairment recognition, however, is less pronounced in countries with relatively weaker enforcement such as the Southern and Middle Eastern European countries. Glaum et al. (2018) examine 21 IFRS-adopters from 2005 to 2011 and posit that the goodwill impairment incidence is not only related to economic performance, as

⁵¹ André et al. (2016) measure economic impairment by three alternative metrics used in the literature, including: equity market value minus equity book value less than goodwill, market-to-book smaller than 1, and negative earnings before interest, tax, depreciation and amortisation (EBITDA).

measured by firm's stock market return and its lagged variable, but also related to managerial and firm-level incentives proxies. Further, firms in weak enforcement countries are less likely to impair goodwill on a timely basis. This study, however, mainly focuses on the EU countries, and includes only three Asia-Pacific countries that have been generally recognised as having relatively strong enforcement mechanisms, namely Australia, Hong Kong and New Zealand.

This review section shows a limited number of cross-country studies on the information value and timeliness of goodwill impairments. Further, these studies mostly concentrate on EU samples and thus may not be generalizable to other IFRS followers. The study in this thesis provides an analysis of the impact of the strength of national enforcement arrangements on the decision whether to impair goodwill, with the setting focusing on the Asia-Pacific region. Countries in this region have been known for their significant variance in enforcement environment and reporting incentives (Houque et al. 2012; Cai et al. 2014; Ball et al. 2003). Thus, an investigation on whether the implementation of the impairment-only approach is rigorous so that benefits from IFRS adoption can be generalised in these countries is of importance to standard setters.

5.3 Hypotheses and Empirical Design

5.3.1 Hypotheses development.

There are several reasons why reported goodwill impairment losses may not be timely. Given that the estimation of fair value and value-in-use is highly subjective and hard to verify, managers may exploit this subjectivity to avoid or delay impairment to achieve desired targets. Prior studies document that managers book goodwill impairment loss opportunistically (Ramanna and Watts 2012; Siggelkow and Zülch 2013; Giner and Pardo 2015; AbuGhazaleh et al. 2011; Majid 2015; Avallone and Quagli

2015). Further, since goodwill impairment loss is viewed as an implicit admission of management mistakes in past acquisition decisions, managers may be reluctant to impair goodwill so as to avoid penalty.⁵² Alternatively, since the impairment test depends on management's forecasts of future cash flows which are subject to forecasting error, management may not book an impairment loss contemporaneously with a decline in firm performance. Instead, they may wait to see whether the performance declines are permanent enough to warrant booking an impairment loss on goodwill. Research studies on goodwill impairment have also reported evidence that impairments lag market impairment indicators (Li and Sloan 2017; André et al. 2016; Filip et al. 2015; Glaum et al. 2018). Based on the above arguments, I pose the following hypothesis in the alternative form:

H1: *Ceteris paribus*, reported impairment loss on goodwill is timely

Prior literature has emphasised the pivotal role of rigorous enforcement on accounting quality (Leuz et al. 2003; Holthausen 2009; Brown 2011; Leuz 2010; Pope and McLeay 2011; Securities and Commission 2000; Européens 2001). In addition, several studies have suggested that the IFRS adoption may result in positive capital market effects only in countries with strong national enforcement arrangements (Li 2010; Daske et al. 2008; Christensen et al. 2013; Kabir and Laswad 2015). Given the requirement to use subjective estimates and judgements in accounting for goodwill and its impairment-only regime, enforcement assumes greater importance in ensuring greater rigorous implementation and compliance with the goodwill impairment testing requirements under IAS 36. In this regard, firms operating under stringent regulatory scrutiny in strong enforcement countries have a greater tendency to implement the

⁵² The Economist (2013). Goodwill Hunting. Available at: www.economist.com/business/2013/05/18/goodwill-hunting

impairment tests in a strict manner, and therefore, to write off goodwill when economic performance indicators suggest that goodwill is impaired. Alternatively, the enforcement impact on the timeliness of goodwill impairment might be trivial because the impairment-only approach is very subjective requiring “un-verifiable” estimates (Watts 2003a; Ramanna and Watts 2012). While it is difficult to predict the sign of the effect of enforcement on goodwill impairment, I pose the following hypothesis in alternative form:

H2: *Ceteris paribus*, reported goodwill impairment loss is more timely in stronger enforcement countries than in weaker enforcement countries.

5.3.2 Empirical design

5.3.2.1 Variables.

This study tests the hypotheses by estimating a multivariate logistic regression. This section discusses the model variables.

Dependent Variables.

The dependent variable is goodwill impairment (IMPD), which equals 1 if goodwill impairment loss is booked in a given firm-year, and 0 otherwise.

Test variables – Goodwill impairment indicators.

In particular, I use a set of one market indicator (BTMD) and two accounting indicators (ROA and Δ SALE) of goodwill impairment. The variable BTMD takes the value of 1 if the BTM ratio is greater than 1 and 0 otherwise.⁵³ A BTM ratio greater than 1 indicates the diminution of both recognised and unrecognized economic rents, which

⁵³ In this study, book value is calculated before the effect of goodwill impairment, but after the effect of other asset write-offs.

triggers the goodwill impairment event thereof (Roychowdhury and Martin 2013). Consistent with this argument, IASB suggests that a decline in market capitalisation below book value is a strong signal of performance deteriorations in the acquired firm (IAS 36, para. 12). Several academic studies (Li and Sloan 2017; Kabir and Rahman 2016; Ramanna and Watts 2012; Beatty and Weber 2006) have also supported the hypothesis that an above-one BTM warrants market expectation of impairment.

While prior studies have evaluated the timeliness of goodwill impairment loss by reference to the BTM ratio, a myriad of research has also documented the value-in-use method as the prevailing method (Amiraslani et al. 2013; Carlin and Finch 2011; ESMA 2013). Such evidence implicitly suggests that managers' decision to recognise an impairment loss on goodwill should also be driven by fundamental accounting indicators. Consistent with this, prior studies (Li and Sloan 2017; André et al. 2016) have found that goodwill impairment losses are associated with accounting-based indicators. Following these arguments, I use two accounting indicators in this study, namely, the firm's accounting return on assets (ROA) and change in sales (Δ SALE). The variable Δ SALE is measured as change in net sales from $t-1$ to t to total assets in $t-1$.

To evaluate the timeliness of reported goodwill impairment loss, I utilise contemporaneous as well as the lagged values of each of the three indicators – BTMD, Δ SALE and ROA – over the preceding two years $t-1$ and $t-2$.

Control variables.

I include several control variables that are observed to be associated with goodwill impairment decisions (Riedl 2004; Beatty and Weber 2006; Hayn and Hughes 2006; Ramanna and Watts 2012).

The first two variables, adapted from Riedl (2004), revolve around management incentives to absorb impairment losses in periods of unusually high or low earnings

before the recognition of goodwill impairment losses. In particular, managers are likely to manage earnings downward during the abnormally high earnings period to prevent raising the expectations of investors and analysts of future income (Graham et al. 2005; Dechow et al. 2010) by taking goodwill write-offs. On the other hand, managers in firms that have an unusually large loss are likely to take a “big-bath” by accelerating recognition of losses (Healy 1985). Recognising impairment losses when earnings level is abnormally high or low even reduces the probability of impairment incidences in future years. In this study, a firm-year is identified as having abnormally high earnings, i.e. SMOOTH equals 1, if its pre-write-off earnings number is positive and the change in its current earnings (i.e., in year t) is above the median among firms with a positive change in earnings within each sample country; otherwise SMOOTH equals 0. On the other hand, a firm-year is identified as a big-bath year, i.e., BATH equals 1, if its pre-write-off earnings number is negative and if it endures a negative change in current earnings (i.e., in year t) which is below the median among firms with negative change in earnings within each sample country; otherwise BATH equals 0. I predict a positive association with goodwill impairment incidences for both variables SMOOTH and BATH.

Another incentive-related variable is leverage, LEV, which is the total debt over total equity.⁵⁴ The debt hypothesis predicts that firms are likely to delay goodwill impairments if they are subject to debt covenant constraints, or if they belong to an industry where debt ratio is regarded as an essential regulatory proxy (Riedl 2004; Ramanna and Watts 2012; Beatty and Weber 2006). I, therefore, anticipate that LEV is negatively associated with goodwill impairment incidence. However, it is noted that

⁵⁴ Beatty and Weber (2006) test firms' actual debt covenants to identify whether the covenants are goodwill inclusive. I can not use a similar approach since data on actual debt covenant for most Asian firms is not publicly available. Rather, I follow Godfrey and Koh (2009) and AbuGhazaleh et al. (2011), and employ leverage as a proxy for closeness to debt covenant violations.

leverage can also indicate the firm's degree of financial risk, which tends to be higher for firms with intensive acquisition activities. Under such circumstances, leverage may have a positive relation with impairment.

I further incorporate a set of accounting-based measures of a firm's financial position that prior literature has suggested as having an impact on impairment decisions (Li and Sloan 2017; Hayn and Hughes 2006; Francis et al. 1996). The first variable, GW/TA , is the ratio of goodwill to total assets (adjusted for goodwill impairments). A greater amount of goodwill in firms' balance sheets may represent accumulated delayed goodwill write-downs (Roychowdhury and Martin 2013), and thus may imply greater exposure to impairment in the future. The second variable, $SIZE$, is the natural logarithm of end-of-year total assets (adjusted for goodwill impairments) and also a proxy for the magnitude of goodwill write-offs.

Country-level variables that may have an impact on the financial reporting quality are also included. In particular, I include market liquidity ratio, T_GDP , as a control for the difference in financial market development across sample countries, and measure T_GDP as the total value of market trading as a percentage of a country's GDP.⁵⁵ I further include the ownership concentration, $CONCENTR$, to control for the influence of the ownership structure on accounting method choices across countries. The variable $CONCENTR$ is defined as the median percentage of common shares owned by top three shareholders in the ten largest privately owned non-financial firms in a given country (La Porta et al. 1998).

⁵⁵ Soderstrom and Sun (2007) and Leuz et al. (2003) suggest that market participants' demand for financial information motivates firms to enhance the quality of financial reporting, and firms in countries with developed capital markets provide higher quality financial information. For a robustness check, I utilise the country's market capitalisation of listed domestic companies to GDP (M_GDP) as alternative market development variable and obtain similar results (not reported).

Finally, I include indicator variables for country, industry sector and year to account for the variation in government regulations, asset structures and competitiveness between countries and industries that may impact firms' valuation decisions and to capture the influences of aggregate trends as well as unexpected variation or special events that may affect goodwill impairment.

5.3.2.2 Model.

The following model is estimated to test the hypotheses:

$$\begin{aligned} \text{IMPD} = & \alpha + \beta_1 \text{BTMD} + \beta_2 \text{BTMD}_{t-1} + \beta_3 \text{BTMD}_{t-2} + \beta_4 \text{ROA} + \beta_5 \text{ROA}_{t-1} + \quad (1) \\ & \beta_6 \text{ROA}_{t-2} + \beta_7 \Delta \text{SALE} + \beta_8 \Delta \text{SALE}_{t-1} + \beta_9 \Delta \text{SALE}_{t-2} + \beta_{10} \text{SMOOTH} + \\ & \beta_{11} \text{BATH} + \beta_{12} \text{LEV} + \beta_{13} \text{GW/TA} + \beta_{14} \text{SIZE} + \beta_{15} \text{T_GDP} + \\ & \beta_{16} \text{CONCENTR} + \text{YEAR FIXED EFFECTS} + \text{SECTOR FIXED} \\ & \text{EFFECTS} + \text{COUNTRY FIXED EFFECTS} + \varepsilon \end{aligned}$$

The first hypothesis (H1) posits that goodwill impairment loss is timely. If goodwill impairment loss is timely, it will be positively associated with the BTM variable (BTMD) but negatively associated with the change in accounting return on assets (ROA) and change in sales (ΔSALE). The association of goodwill impairment losses (IMPD) with the lagged impairment indicators – BTMD_{t-1} , BTMD_{t-2} , ΔSALE_{t-1} , ΔSALE_{t-2} , ROA_{t-1} and ROA_{t-2} – will suggest that impairment is delayed.

The second hypothesis (H2) posits that goodwill impairment loss is likely to be timely in stronger enforcement countries than in weaker enforcement countries. To test H2, I divide the sample into two sub-samples – stronger enforcement and weaker enforcement sub-samples – based on the median of an enforcement proxy (ENF), and

estimate model (1) for each sub-sample separately⁵⁶. Goodwill impairment (IMPD) is predicted to be more strongly associated with contemporaneous economic indicators of impairments (i.e., more timely), and less strongly associated with lagged economic indicators of impairment in the stronger enforcement sub-sample relative to the weaker enforcement sub-sample.

The enforcement proxy, ENF, is an index of the strength of auditing and accounting enforcement of 2008 developed by Brown et al. (2014).⁵⁷ The authors develop this composite measure based on the weighing of nine items related to the regulation of the audit profession and six items related to the regulations of financial reporting.⁵⁸ High values of ENF indicate stronger accounting and auditing enforcement and vice versa.

Prior empirical studies have utilised a wide range of proxies to reflect the variation across countries in relation to their enforcement level (Berkowitz et al. 2003; La Porta et al. 1998; Djankov et al. 2002; Kaufmann et al. 2011). These measures largely relate to countries' legal systems and institutions in general, and may not capture enforcement in relation to accounting standards. To address this concern, I utilise Brown et al. (2014)'s index which focuses on "enforcement" in financial reporting and auditing, that is, the institutional oversights of financial reporting enforcement to promote firms' compliance with accounting standards in their statutory financial statements. Since the impairment tests under IAS 36 are complex, requiring judgements and unverifiable estimates, the role of the auditing and enforcement mechanism is

⁵⁶ An alternative approach to examine these interaction effects would be to include an enforcement proxy in the logistic regression model and let it interact with other explanatory variables. However, Ai and Norton (2003); Norton et al. (2004) point out that the application of interaction terms in non-linear regressions is problematic, and that the magnitude and statistical significance of the interaction term in a non-linear model varies widely over its entire range.

⁵⁷ Brown et al. (2014) develop the index of auditing and accounting enforcement for the periods 2005 and 2008. The index used in this study is of 2008. For a robustness check, I also apply the average index from 2005 to 2008, rather than the index for only 2008, as proxy of ENF. The results remain qualitatively unchanged.

⁵⁸ Appendix B

important to constrain managers from reporting opportunistically. The design of Brown et al. (2014)'s index makes it particularly suitable for this study. Further, the measure is constructed using more recent data than other enforcement proxies and is available for all of the sample countries.

5.4 Sample and Data

5.4.1 Sample and data collection

The financial data and market data are collected from Osiris and Thomson Reuters DataStream Advance, and enforcement data from Brown et al. (2014). In addition, goodwill charges are hand-collected from companies' annual reports obtained through countries' securities exchange or the companies' investor relation websites.⁵⁹ Table 5.1 reports the definitions of the model variables and the sources of data.

Table 5.1 about here

The initial sample comprises 2,046 non-financial publicly listed firms⁶⁰ that reported a goodwill balance during the period 2011 - 2014 and were listed on the exchange mainboards of Australia, Hong Kong, Korea (South), Malaysia, the Philippines, Singapore, Taiwan and Thailand. This results in 6,970 firm-year observations. Of these, 997 firm-year observations are excluded due to missing data and 8 firm-year

⁵⁹ Again, in cases where English annual reports for firms are not available, data on goodwill impairments will rely on the Thomson Reuters DataStream Advance database.

⁶⁰ Financial firms (bank and financial services firms) are excluded from this study as their unique financial characteristics would render comparison with firms in other industries senseless.

observations are excluded due to inconsistent accounting standard on goodwill.⁶¹ I also exclude 175 firm-year observations with a negative book value of equity since prior studies have found that these firms are likely to be in financial distress (Amir and Lev 1996). This data selection process generates a sample of 5,790 firm-year observations. To mitigate the effect of the extreme observations on regression analysis, each continuous variable is winsorised at the top and bottom 0.5% of its distribution. Table 5.2, Panel A describes the sample selection process. Panel B of Table 2 presents the sample by industry sector and country. The sample is dominated by firms from Australia, Korea and Malaysia. The lowest representation is by the Philippines firms, which constitutes only 4.73% of the sample. Panel B also shows that the industrials (25.03%) and consumer discretionary (22.01%) sectors are the most dominant in the sample.

Table 5.2 about here

5.4.2 Descriptive statistics and basis analysis.

Table 5.3 provides the summary statistics for the dependent variable, the incidence of goodwill impairment (IMPD), for the full sample and by country, industry and year across the sample period. Panel A reveals an average goodwill impairment incidence of 11.900% in the sample firm-years. The mean incidence of goodwill impairment ranges from as high as 13.800% in Singapore to as low as 4.00% in Korea (South). Further, firms operating in the information technology sector are more likely

⁶¹ The goodwill accounting policy of each sample company is identified from the accounting policy note to its financial statements. This study excludes 2 Malaysian firms (8 firm-year observations) that, under special permissions, applied the straight-line amortisation approach on their goodwill balance until 2011.

to report goodwill impairment (Panel B). Panel C reports the decreasing trend in goodwill impairment incidence, with the lowest being concentrated in 2014.

Table 5.3 about here

Table 5.4 presents the descriptive statistics for the market performance indicators of goodwill impairment incidents, firm-level determinants, and control variables. The statistics for firm-year with and without goodwill impairment as well as values corresponding to tests of differences in means and medians between the two groups based on *t*-statistics and *Mann-Whitney U*-statistics are also reported. Results from tests of differences indicate that, relative to the non-impairment sample, the impairment sample has a significantly higher average BTM in years *t-1* and *t-2*. Also, compared with the non-impairment sub-sample, a significantly higher percentage of the impairment firm-years has a BTM ratio of greater than 1. Similar results are observed for accounting-based indicators. The impairment sub-sample also has a significantly lower accounting rate of return (ROA) and slower sales growth (Δ SALE) in the current year as well as in the preceding two years. These results suggest that managers book impairment losses on goodwill in response to both contemporaneous and lagged market and accounting-based impairment indicators. Besides, lower abnormally-low pre-impairment operating income (BATH), lower leverage (LEV), and higher goodwill balance as a fraction of total assets (GW/TA) are observable in the non-impairment sample.

Table 5.4 about here

Table 5.5 reports the Pearson (below diagonal) and Spearman (above diagonal) correlations for the full sample with different market-based impairment indicators. As predicted, the market-based indicators in years t , $t-1$ and $t-2$ are correlated with goodwill incidence, IMPD. The highest correlation is between ROA and Δ SALE in the current period, which is understandable. Finally, Table 5.6 shows the descriptive statistics for the country-level enforcement variable. Countries with a high value of ENF in 2008, indicating strict enforcement on financial reporting and auditing, are Australia (52) and Hong Kong (52). Countries with low index value are Taiwan (18) and Thailand (23).

Table 5.5 and Table 5.6 about here

5.5 Empirical Results

5.5.1 Test of hypothesis 1

Tale 5.7 reports the results of estimating model (1). The multivariate logistic regressions are performed using firm-level clustering for robust-standard errors to mitigate the effect of heteroscedasticity (Petersen 2009).

Table 5.7 about here

In column (3), I find that the association between BTMD in the current year and goodwill impairment incidence, IMPD, is insignificant. However, the coefficient (z-values) on $BTMD_{t-1}$ is positive and significant at 0.384 (2.390). The coefficient on $BTMD_{t-2}$ is positive but not significant. These results suggest that the likelihood of

recognising an impairment loss on goodwill is associated not with the contemporaneous BTM ratio but with one year-lagged book-to market ratio. Considering the accounting impairment indicators, the likelihood of booking an impairment loss is negatively associated with the current and one-year-lagged return on assets (ROA and ROA_{t-1}). The coefficients (z-values) on ROA and ROA_{t-1} are -1.963 (-3.590) and -0.633 (-1.760), respectively. Thus, firms with lower accounting profitability in the current and previous year are likely to impair goodwill. The results are similar for changes in sales ($\Delta SALE$). The coefficients (z-values) on $\Delta SALE$ and $\Delta SALE_{t-1}$ are -0.410 (-1.900) and -0.098 (-1.700), respectively. Among the control variables, BATH and SIZE have statistically significant and positive relations with goodwill impairment incidences at 1% level of significance. Other variables, including SMOOTH, LEV and GW/TA report signs as predicted, but are not significant.

Overall, the findings suggest that while the likelihood to book an impairment loss on goodwill is not associated with contemporaneous market impairment indicators, it is associated with contemporaneous accounting-based impairment indicators. This is consistent with the evidence in prior studies that managers tend to use the value-in-use method to determine the recoverable amounts of goodwill in impairment testing (Amiraslani et al. 2013). On the other hand, the results suggest that the likelihood of impairment loss is associated with one-year lagged market-based indicators, providing evidence on price leads accounting information. Also, taken together, it implies that although managers in poorer-performance firms are likely to impair goodwill, they do not entirely do so in a timely basis. Alternatively, it is possibly a signal that managers manipulate accounting indicators so as to delay goodwill write-offs.

Table 5.8 analyses the marginal effects of market-based and accounting-based performance indicators. Specifically, this table reports the changes in the log odds (logit) on impairment probability in accordance to a one-unit change in the independent

variable. That is, when one continuous explanatory variable is increased by one standard deviation or when one dichotomous variable is changed from 0 to 1, while other continuous variables are set to their mean values and other dichotomous variables are set to 0. The probability of goodwill impairment in the base-line scenario is 7.1%. In column (3), the likelihood of goodwill write-offs, IMPD, increases by 2.9 percentage points, i.e., from 8.3% to 11.2% when $BTMD_{t-1}$ changes from 0 to 1. On the other hand, IMPD decreases by 12.9 and 4.2 percentage points when accounting ROA and ROA_{t-1} respectively change by one standard deviation. Similarly, IMPD decreases by 2.7 and 0.6 percentage point in accordance with a one-unit change in $\Delta SALE$ and $\Delta SALE_{t-1}$ respectively. The marginal impact of the one-unit variation in incentive-based variable, BATH, on IMPD is also significant at 6.5 percentage points. In sum, contemporaneous accounting-based indicators have greater margin effects on impairment likelihood than lagged indicators. These results are comparable to those of Hayn and Hughes (2006) and Ravenscraft and Scherer (1991) who find that low profitability is one of the strongest indicators of asset diminutions.

Table 5.8 about here

5.5.2 Test of hypothesis 2

Table 5.9 reports the results of estimating model (1) for sub-samples of strong- and weak- enforcement environments. Stronger (weaker) enforcement countries are those with the ENF proxy at or above (below) the median for all countries.

Table 5.9 about here

The regression results report no significant association between market-based impairment indicators in period t and the incidence of goodwill impairment for firms in both strong- and weak- enforcement countries. Nevertheless, the coefficient (z -values) on BTM_{t-1} is statistically significant at 0.340 (1.980) in strong enforcement countries, but not in weak enforcement countries. The coefficients (z -values) of $\Delta SALE$, ROA and ROA_{t-1} are also statistically significant at -0.613(-2.150), -2.091 (-3.350) and -0.719 (-1.760), respectively, for firms in strong enforcement countries. Variable $BATH$ also has a significant coefficient. On the other hand, the likelihood of goodwill impairments in firms in weak enforcement countries is associated with only $\Delta SALE_{t-1}$ at -0.115 (z -value -1.660) and $BATH$ at 0.791 (z -value 2.280).

These results suggest that firms in the strong enforcement sub-sample are more responsive to market-based and accounting-based performance indicators compared to firms in the weak enforcement sub-sample. In contrast, the impairment decisions by firms in weak enforcement countries are driven by lagged accounting indicator of change in sale and “big-bath” incentives. Further, this finding implies investors in weak enforcement countries are less likely to have sufficient information to discern goodwill’s deterioration over time.

Table 5.10 analyses the marginal effects of the impairment indicators. Column (3) shows that $IMPD$ in strong enforcement countries increases by 2.9 percentage points when $BTMD_{t-1}$ changes from 0 to 1, and reduces by 5.3 percentage points in accordance with one-unit variation of $\Delta SALE$. $IMPD$ decreases by 18 and 6.2 percentage points when accounting ROA and ROA_{t-1} respectively change by one standard deviation. However, a one-unit change in $\Delta SALE_{t-1}$ leads to a decline in $IMPD$ by 0.4 percentage points in weak enforcement countries, but not in strong enforcement ones. Besides, when $BATH$

incentive changes from 0 to 1, IMPD increases by 9.4 percentage points in strong enforcement countries and 2.7 percentage points in weak enforcement countries.

Table 5.10 about here

5.6 Additional Tests and Robustness Checks

5.6.1 Tobit censored regression.

To assess the robustness of the inferences and take into account the magnitude of each impairment incidence, I re-estimate model (1) using Tobit censored regression for the full sample as well as the strong and weak enforcement sub-samples. Accordingly, the dependent variable is goodwill impairment to total goodwill before impairment. The results are reported in Table 5.11.

Table 5.11 about here

In general, the Tobit regressions yields similar inferences to the main findings. For the full sample, the coefficients (t -values) for $BTMD_{t-1}$ are positively significantly at 0.096 (2.070). The coefficients (t -values) for ROA and ROA_{t-1} are negative and significant at -0.576 (-6.080) and -0.268 (-2.600), respectively, whereas the coefficients (t -values) for $\Delta SALE$ and $\Delta SALE_{t-1}$ are significant at -0.189 (-4.090) and -0.019 (-0.670), respectively. Similar results are obtained for the strong enforcement sub-sample. On the other hand, in weak enforcement countries, only the coefficient (t -value) of $\Delta SALE_{t-1}$ is significant at -0.038 (-0.690) and the coefficient (t -value) of BATH is significant at 0.244

(1.960). The findings from these analyses confirm the main results, indicating that these results are robust regardless of the regression model used.

5.6.2 Different consecutive time horizon.

Hayn and Hughes (2006) and Roychowdhury and Martin (2013) have asserted that persistently depressed market values over book values of equity of firms over periods of time likely indicates managerial opportunism conducted by managers to delay goodwill impairments. Therefore, I further investigate the timeliness of goodwill impairment by using market indicators measured as the BTM ratio over k continuous years (where k ranges from 1 to 3). In particular, the dummy variables BTMDUM1, BTMDUM2 and BTMDUM3 are set equal to 1 if a firm respectively has a BTM ratio above 1 for one, two and three consecutive years prior to the write-offs, and 0 otherwise. Model (1) is then re-estimated separately for the above performance dummies to investigate the extent to which impairment lags impairment indicators as follows:

$$\begin{aligned} \text{IMPD} = & \alpha + \beta_1 \text{BTMDUM}_k + \beta_2 \text{ROA} + \beta_3 \text{ROA}_{t-1} + \beta_4 \text{ROA}_{t-2} + \beta_5 \Delta \text{SALE} + \quad (2) \\ & \beta_6 \Delta \text{SALE}_{t-1} + \beta_7 \Delta \text{SALE}_{t-2} + \beta_8 \text{SMOOTH} + \beta_9 \text{BATH} + \beta_{10} \text{LEV} + \\ & \beta_{11} \text{GW/TA} + \beta_{12} \text{SIZE} + \beta_{13} \text{T_GDP} + \beta_{14} \text{CONCENTR} + \text{YEAR} \\ & \text{FIXED EFFECTS} + \text{SECTOR FIXED EFFECTS} + \text{COUNTRY FIXED} \\ & \text{EFFECTS} + \varepsilon \end{aligned}$$

The results are reported in Table 5.12. The predictive power for the BTM-indicator model is significant for firms that have a BTM ratio greater than 1 for two and three years (column 4 and 5). The levels of significance for ROA and ΔSALE remain qualitatively the same as those in the main model. Overall, the findings ostensibly indicate that goodwill impairment is likely more predictable if the firm's book value is greater than its equity market value for more than two consecutive years.

Table 5.12 about here

5.6.3 Alternative measure of market performance indicators.

Alternatively, I utilise market returns in year t , RET , and its lagged values, RET_{t-1} and RET_{t-2} , as another market-based impairment indicators whereas RET is measured as the firm's annual stock return at time t adjusted for dividends and stock splits. Stock market return is predictive of an acquisition's success (Lapointe-Antunes et al. 2009; Gu and Lev 2011; Hayn and Hughes 2006). Thus, a negative stock market return during the post-acquisition period is also considered an indication that the firms' assets have lost some of their ability to generate future cash flows, and have therefore been impaired. Following prior literature (Hayn and Hughes 2006; Glaum et al. 2018), I hypothesise that the lower the returns, the more likely that goodwill is impaired, and thus, predict a negative association between RET and the incidence of goodwill impairment. Otherwise, a significantly negative association between market return in year $t-1$ and $t-2$, and the likelihood of goodwill impairment in year t indicates that goodwill impairment is partially anticipated and not reported on a timely basis. The model is re-estimated as follows:

$$\begin{aligned} IMPD = & \alpha + \beta_1 RET + \beta_2 RET_{t-1} + \beta_3 RET_{t-2} + \beta_4 ROA + \beta_5 ROA_{t-1} + \beta_6 ROA_{t-2} \quad (3) \\ & + \beta_7 \Delta SALE + \beta_8 \Delta SALE_{t-1} + \beta_9 \Delta SALE_{t-2} + \beta_{10} SMOOTH + \beta_{11} BATH + \\ & \beta_{12} LEV + \beta_{13} GW/TA + \beta_{14} SIZE + \beta_{15} T_GDP + \beta_{16} CONCENTR + \\ & YEAR \text{ FIXED EFFECTS} + SECTOR \text{ FIXED EFFECTS} + COUNTRY \\ & FIXED EFFECTS + \varepsilon \end{aligned}$$

The results are reported in Table 5.13. In column (3), I find no evidence that the firm's decision to impair goodwill is linked with the change in contemporaneous stock

return, RET and one-year lagged stock return, RET_{t-1} . Rather, the coefficient (z-value) on RET_{t-2} is statistically significant and negative at -0.206 (-2.520), suggesting that the likelihood of recognizing an impairment loss on goodwill is associated with two-year lagged RET . Considering the accounting impairment indicators, the coefficients (z-values) on ROA and ROA_{t-1} are -2.048 (-3.370) and -6.025 (-1.640), respectively. The coefficients (z-values) on $\Delta SALE$ and $\Delta SALE_{t-1}$ are -0.401 (-1.810) and -0.114 (-1.950), respectively. In the sub-sample analyses in columns (4) and (5), I obtain similar significant results for RET_{t-2} for both strong and weak enforcement countries. However, the variables ROA and $\Delta SALE$ are only statistically significant in strong enforcement countries whereas the variable $\Delta SALE_{t-1}$ is only statistically significant in weak enforcement countries. Other control variables remain qualitatively the same as the findings in the main model.

In sum, the results confirm the main findings that the likelihood of impairment loss is associated with contemporaneous accounting-based indicators as well as lagged market-based and lagged accounting-based indicators, and that while firms' managers base their impairment decisions in accounting indicators they are not likely to impair goodwill entirely on a timely basis.

Table 5.13 about here

Banker et al. (2016) suggest the use of an extreme cutoff for stock returns in the impairment tests in order to improve the explanatory power of timeliness models. Hence, I set the indicator variable RET_{DUM} at cutoff level -5% and -10% and predict firms in general are more likely to impair goodwill once RET is unusually low at less than 5% and 10%. In particular, RET_{DUM} is set to 1 for observations with RET less than

-5% or -10% and 0 otherwise. A value of 1 indicates that goodwill is likely to be materially impaired. Model (1) is then re-estimated using RETD and its lagged values, RETD_{t-1} and RETD_{t-2} as market-based impairment indicators as follows:

$$\begin{aligned} \text{IMPD} = & \alpha + \beta_1 \text{RETD} + \beta_2 \text{RETD}_{t-1} + \beta_3 \text{RETD}_{t-2} + \beta_4 \text{ROA} + \beta_5 \text{ROA}_{t-1} + \\ & \beta_6 \text{ROA}_{t-2} + \beta_7 \Delta \text{SALE} + \beta_8 \Delta \text{SALE}_{t-1} + \beta_9 \Delta \text{SALE}_{t-2} + \beta_{10} \text{SMOOTH} + \\ & \beta_{11} \text{BATH} + \beta_{12} \text{LEV} + \beta_{13} \text{GW/TA} + \beta_{14} \text{SIZE} + \beta_{15} \text{T_GDP} + \\ & \beta_{16} \text{CONCENTR} + \text{YEAR FIXED EFFECTS} + \text{SECTOR FIXED} \\ & \text{EFFECTS} + \text{COUNTRY FIXED EFFECTS} + \varepsilon \end{aligned} \quad (4)$$

The results are presented in Table 5.14. The regression reports a significant association between IMPD and RETD_{t-2} when RET is set at -5% cutoff level, and a significant association between IMPD and RETD_{t-1} and RETD_{t-2} when RET is set at a -10% cutoff level. Specifically, the coefficient (z-value) of RETD_{t-1} 0.044 (0.560) and RETD_{t-2} is 0.217 (2.420) in models using -10% cutoff level. The levels of significance for ROA, ROA_{t-1} and ΔSALE, ΔSALE_{t-1} remain qualitatively the same as those in the main model. Overall, the results confirm the main findings, and highlight that goodwill impairment is marginally more predictable if stock returns of firms prior to impairment are as abnormally low as less than 10%.

Table 5.14 about here

5.6.4 Growth opportunities

Godfrey and Koh (2009) and Chalmers et al. (2011) find that managers make use of the discretion afforded in the goodwill impairment test to reflect firms' underlying growth opportunities when they account for goodwill. Likewise, I capture the firm's

growth opportunities using a composite measure of investment opportunities (IOS) and test the hypothesis that the higher the firm's investment opportunities, the less probability that they recognise goodwill impairment. More precisely, I predict goodwill impairment incidence is negatively related with IOS in year t , IOS, and in year $t-1$ and $t-2$, IOS _{$t-1$} and IOS _{$t-2$} , and re-estimate model (1) as follows:

$$\begin{aligned} \text{IMPD} = & \alpha + \beta_1 \text{IOS} + \beta_2 \text{IOS}_{t-1} + \beta_3 \text{IOS}_{t-2} + \beta_4 \text{ROA} + \beta_5 \text{ROA}_{t-1} + \beta_6 \text{ROA}_{t-2} \quad (5) \\ & + \beta_7 \Delta \text{SALE} + \beta_8 \Delta \text{SALE}_{t-1} + \beta_9 \Delta \text{SALE}_{t-2} + \beta_{10} \text{SMOOTH} + \beta_{11} \text{BATH} \\ & + \beta_{12} \text{LEV} + \beta_{13} \text{GW/TA} + \beta_{14} \text{SIZE} + \beta_{15} \text{TGDP} + \beta_{16} \text{CONCENTR} + \\ & \text{SECTOR FIXED EFFECTS} + \text{YEAR FIXED EFFECTS} + \varepsilon \end{aligned}$$

The IOS score is constructed through PCA on three IOS measures as used in prior studies (Chalmers et al. 2011), including: market-to-book value of assets (MKBVA), market-to-book value of equity (MKBVE), and price-to-earnings ratio (PE). The higher MKBVA, measured as a percentage of the firm's value attributable to assets-in-place, indicates less reliance on assets-in-place and more growth options. The MKBVE measures the value of the firm as a proportion of non-growth opportunities, so MKBVE should increase with increases in growth opportunities. Earnings-to-price ratio (EP) is the percentage of earnings derived from assets-in-place, so it is expected to be inversely related to the firm's growth options. I use the PE ratio as an inverse version of EP ratio in order to maintain the positive relationship between IOS and growth opportunities and thereby facilitate interpretability.⁶²

Untabulated results from logistic regression for model (4) show that the coefficients of IOS and IOS _{$t-1$} , IOS _{$t-2$} are not significant for the full sample and subgroup. The results for other variables are generally consistent with those in the primary analyses. Accordingly, I could not provide sufficient evidence to support the argument

⁶² The PE ratio is set as 0 for firms with negative earnings (i.e., it is the ratio with closing price per common share to primary earnings per share for firm with non-negative earnings).

that managers make use of reported goodwill impairment losses to reflect firms' growth opportunities.

5.6.5 Sensitivity to industry sectors

To assess whether the inferences generalise across sample industry sectors, or whether particular industry sectors are unduly influential, I form nine industry sub-samples by excluding one industry from the full sample at a time, and re-estimate model (1) for each of these sub-samples. Untabulated findings from the nine sub-sample estimations reveal similar inferences regarding the timeliness of goodwill impairment and the influence of other control variables.

5.6.6 Country sensitivity tests

Korea (South) has fully adopted IFRS since 2011. It could be argued that the inclusion of this country generates confounding effect resulting from the adoption year. In order to test whether the findings are not attributable to Korea, I re-estimate model (1) after excluding Korea from the sample and continue to find support for our primary analysis. I also re-estimate model (1) for the full sample from 2012-2014 (i.e., excluding the year 2011). The results are also consistent with the main findings.

Australia is highly developed and has a more rigorous enforcement regime than the remaining sample countries. In order to assess whether Australia is unduly influential, I again re-estimate model (1) after eliminating Australian observations and obtain qualitatively similar results to the main findings.

5.7 Conclusion

This study investigates the timeliness of goodwill impairment for eight Asia-Pacific economies with varying levels of audit and financial reporting enforcement. On the one hand, I find that goodwill impairment incidence is not associated with current market impairment indicators, but is associated with contemporaneous accounting-based impairment indicators. On the other hand, I find a significant association between the likelihood of goodwill impairment and one-year lagged market indicator of the BTM ratio, thus providing evidence on price leads accounting information. Taken together, these findings suggest that firms are not entirely responsive to poor economic performance in a timely manner. Another likely explanation is that firms may engage in some financial accounting manipulations and delay the booking of goodwill impairment. Additional tests further indicate that the likelihood of goodwill impairments is more predictable if the market indicator BTM is greater than 1 for more than two consecutive years. These findings hold up in strong enforcement countries. In contrast, in weak enforcement countries, the likelihood of goodwill impairment recognition is solely attributable to lagged accounting-based indicators and a “big-bath” incentive.

It is noted, however, that there are caveats for interpretations. First, there can be the problem of endogeneity, which is essentially hard to address in social science studies. The regression models in this study have included a number of important control variables, including SMOOTH, BATH, LEV, GW/TA, SIZE, CONCENTR, and T_GDP. However, in the absence of a natural experimental setting, there may exist extraneous variables which also have impact on the association tested in the hypotheses. Second, the research design is only able to control for economic and other relevant factors influencing the likelihood of goodwill impairment at the firm level, rather than the CGU level since such data is not available for the sample countries. Notwithstanding the

limitations, the results in this study have implications for the standard setters in assessing reporting practices for goodwill under the impairment-only framework and revisions of existing standards.

Table 5.1*Description of Variables*

Variables	Notation	Definition/Calculation	Data source
<i>Dependent variables</i>			
Goodwill impairment incidence	IMPD	Goodwill impairment incidence: equals 1 if firm <i>i</i> recognises impairment of goodwill in year <i>t</i> , and 0 otherwise	Hand-collected data from companies' annual reports
Goodwill impairment	IMP	Goodwill impairment, scaled by beginning-of-year balance of goodwill	Hand-collected data from companies' annual reports
<i>Independent variables</i>			
Return	RET	Annual stock return for firm <i>i</i> in year <i>t</i> (adjusted for dividends and stock splits)	Thompson Reuters
Return, lag by one year	RET t-1	Stock return for firm <i>i</i> in year <i>t-1</i> , (adjusted for dividends and stock splits)	Thompson Reuters
Return, lag by two years	RET t-2	Stock return for firm <i>i</i> in year <i>t-2</i> , (adjusted for dividends and stock splits)	Thompson Reuters
Book-to-market ratio	BTM	Ratio of book value of equity to market value of equity for firm <i>i</i> in year <i>t</i>	Thompson Reuters
Book-to-market ratio, lag by one year	BTM t-1	Ratio of book value of equity to market value of equity for firm <i>i</i> in year <i>t-1</i>	Thompson Reuters
Book-to-market ratio, lag by two years	BTM t-2	Ratio of book value of equity to market value of equity for firm <i>i</i> in year <i>t-2</i>	Thompson Reuters
Book-to-market greater than 1	BTMD	Indicator variable: equals 1 if firm <i>i</i> has book-to-market greater than 1 in year <i>t</i> , and 0 otherwise	Thompson Reuters
Book-to-market greater than 1, lag by one year	BTMD t-1	Indicator variable: equals 1 if firm <i>i</i> has book-to-market greater than 1 in year <i>t-1</i> , and 0 otherwise	Thompson Reuters
Book-to-market greater than 1, lag by two years	BTMD t-2	Indicator variable: equals 1 if firm <i>i</i> has book-to-market greater than 1 in year <i>t-2</i> , and 0 otherwise	Thompson Reuters
Investment opportunities set	IOS	PCA analysis of three IOS measures of firm <i>i</i> in year <i>t</i> , including: market-to-book value of assets, market-to-book value of equity, and price-earnings ratio	Thompson Reuters
Investment opportunities set, lag by one year	IOS t-1	PCA analysis of three IOS measures of firm <i>i</i> in year <i>t-1</i> , including: market-to-book value of assets, market-to-book value of equity, and price-earnings ratio	Thompson Reuters
Investment opportunities set, lag by two years	IOS t-2	PCA analysis (PCA) of three IOS measures of firm <i>i</i> in year <i>t-2</i> , including: market-to-book value of assets, market-to-book value of equity, and price-earnings ratio	Thompson Reuters

Accounting rate of return	ROA	Return on assets for firm <i>i</i> in year <i>t</i>	Thompson Reuters & Osiris
Accounting rate of return, LAG1	ROA t-1	Return on assets for firm <i>i</i> in year <i>t-1</i>	Thompson Reuters & Osiris
Accounting rate of return, LAG2	ROA t-2	Return on assets for firm <i>i</i> in year <i>t-2</i>	Thompson Reuters & Osiris
Change in sale	ΔSALE	Change in sale of firm <i>i</i> from year <i>t-1</i> to year <i>t</i> , divided by total assets at year <i>t-1</i>	Thompson Reuters & Osiris
Change in sale, LAG1	ΔSALE t-1	Change in sale of firm <i>i</i> from year <i>t-2</i> to year <i>t-1</i> , divided by total assets at year <i>t-2</i>	Thompson Reuters & Osiris
Change in sale, LAG2	ΔSALE t-2	Change in sale of firm <i>i</i> from year <i>t-3</i> to year <i>t-2</i> , divided by total assets at year <i>t-3</i>	Thompson Reuters & Osiris
Income smoothing incentive	SMOOTH	Indicator variable: equals 1 if management of firm <i>i</i> in year <i>t</i> is likely to pursue earnings-smoothing (i.e., earnings number in year <i>t</i> is positive and the change in current earnings is above the median among firms with a positive change in earnings), and 0 otherwise	Thompson Reuters & Osiris
Big-bath incentive	BATH	Indicator variable: equals 1 if management of firm <i>i</i> in year <i>t</i> is likely to pursue big-bath (i.e., earnings number in year <i>t</i> is negative and the change in current earnings is below the median among firms with a negative change in earnings), and 0 otherwise	Thompson Reuters & Osiris
Debt contracting	LEV	Total interest-bearing debts to total equity before goodwill impairment for firm <i>i</i> in year <i>t</i>	Thompson Reuters & Osiris
Goodwill intensity	GW/TA	Goodwill before goodwill impairment to total assets before goodwill impairment for firm <i>i</i> in year <i>t</i>	Thompson Reuters & Osiris
Firm size	SIZE	Natural logarithm of total assets before goodwill impairment for firm <i>i</i> in year <i>t</i>	Thompson Reuters & Osiris
Market liquidity	T_GDP	Total value of market trading as a percentage of GDP in a given country	World Bank
Ownership concentration	CONCENTR	Ownership structure measured as the median percentage of common shares owned by top three shareholders in the ten largest private-owned non-financial firms in a given country. High values stand for high ownership concentration	La Porta et al (1998)
Audit and accounting enforcement index	ENF	Index of the strength of public enforcement of financial reporting and auditing.	Brown, et al. (2014)

Table 5.2*Sample*

Panel A Sample selection process

Description	No. of firms	No. of firm-years
Firms/firm-years reporting goodwill balance in the period 2011 - 2014	2,046	6,970
Less: firms/firm-years applying inconsistent goodwill accounting rule	(2)	(8)
Less: firms/firm-years with insufficient data or stop trading	(219)	(997)
Less: firms/firm-years reporting negative book value of equity	<u>(44)</u>	<u>(175)</u>
Final sample	<u>1,781</u>	<u>5,790</u>

Panel B Sample by country and industry

Sectors	Total	Australia	Hong Kong	South Korea	Malaysia	Philippines	Singapore	Taiwan	Thailand
Energy	226	70	2	15	68	15	45	3	8
Consumer discretionary	1280	291	68	252	266	48	113	167	75
Consumer staples	592	99	18	133	180	48	56	27	31
Healthcare	281	110	15	53	38	0	34	13	18
Industrials	1450	245	43	321	369	54	234	138	46
Information technology	766	142	21	77	113	26	53	309	25
Materials	977	205	23	225	219	42	63	145	55
Telecommunication services	75	18	4	3	20	0	16	3	11
Utilities	<u>143</u>	<u>26</u>	<u>10</u>	<u>24</u>	<u>26</u>	<u>17</u>	<u>8</u>	<u>9</u>	<u>23</u>
Total:									
No. of firm-years	<u>5,790</u>	<u>1,206</u>	<u>204</u>	<u>1,103</u>	<u>1,299</u>	<u>250</u>	<u>622</u>	<u>814</u>	<u>292</u>
No of firms	<u>1,781</u>	<u>369</u>	<u>60</u>	<u>327</u>	<u>398</u>	<u>79</u>	<u>195</u>	<u>261</u>	<u>92</u>

Table 5.3*Incidence of Goodwill Impairment (IMPD)***Panel A. By Country**

	Obs.	Mean	S.D.
Australia	1206	0.130	0.334
Hong Kong	204	0.079	0.253
Korea (South)	1103	0.040	0.202
Malaysia	1299	0.128	0.334
the Philippines	250	0.060	0.238
Singapore	622	0.138	0.345
Taiwan	814	0.047	0.211
Thailand	292	0.045	0.207
Total	5790	0.109	0.302

Panel B. By Industry Sector

	Obs.	Mean	S.D.
ENRG	226	0.196	0.398
CONDCR	1280	0.099	0.285
CONSTP	592	0.088	0.283
HHC	281	0.071	0.258
INDUSTL	1450	0.083	0.277
ITEC	766	0.093	0.290
MATLS	977	0.101	0.299
TCSVC	75	0.121	0.327
UTILS	143	0.083	0.276
Total	5790	0.109	0.302

Panel C. By Year

	Obs.	Mean	S.D.
2011	1438	0.126	0.332
2012	1463	0.121	0.327
2013	1442	0.092	0.288
2014	1447	0.067	0.250
Total	5790	0.109	0.302

Table 5.4.*Descriptive Statistics for Determinants of Goodwill Impairment Incidence*

Variable	Full sample				Firm-year obs. without impairment				Firm-year obs. with impairment				Diff. in Mean	<i>t</i> -Test	M-W-U-Test
	Obs.	Mean	Med	S.D.	Obs.	Mean	Med	S.D.	Obs.	Mean	Med	S.D. impaired/ impaired)	(non-		
BTM	5,790	1.604	0.940	5.189	5,196	1.594	0.930	5.343	594	1.684	1.061	3.819	-0.090	-0.503*	-4.379***
BTM <i>t</i> -1	5,790	1.582	0.920	4.438	5,196	1.552	0.900	4.304	594	1.805	1.090	5.339	-0.253	-1.082*	-4.390***
BTM <i>t</i> -2	5,790	1.606	0.910	6.038	5,196	0.167	0.900	6.328	594	1.519	1.020	3.823	-0.099	-0.601	-1.796*
BTMD	5,790	0.471	0.000	0.499	5,196	0.461	0.000	0.498	594	0.541	1.000	0.499	-0.081	-3.653***	-3.650***
BTMD <i>t</i> -1	5,790	0.473	0.000	0.499	5,196	0.465	0.000	0.498	594	0.560	1.000	0.497	-0.095	-4.343***	-4.322***
BTMD <i>t</i> -2	5,790	0.483	0.000	0.500	5,196	0.476	0.000	0.499	594	0.533	1.000	0.499	-0.058	-2.612**	-2.617***
ROA	5,790	0.048	0.060	0.139	5,196	0.059	0.059	0.121	594	-0.019	0.039	0.232	0.077	7.897***	9.679***
ROA <i>t</i> -1	5,790	0.104	0.070	1.152	5,196	0.111	0.070	1.220	594	0.043	0.060	0.182	0.068	3.399***	4.945***
ROA <i>t</i> -2	5,790	0.082	0.070	0.905	5,196	0.086	0.067	0.958	594	0.044	0.060	0.194	0.042	2.534***	3.361***
ΔSALE	5,790	0.346	0.020	10.172	5,196	0.392	0.030	12.0.11	594	0.003	0.010	0.384	0.388	1.820*	5.003***
ΔSALE <i>t</i> -1	5,790	0.139	0.060	1.104	5,196	0.143	0.060	1.168	594	0.105	0.040	0.350	0.039	1.682*	2.106**
ΔSALE <i>t</i> -2	5,790	0.221	0.070	6.052	5,196	0.236	0.070	6.439	594	0.104	0.050	0.266	0.132	1.338*	1.662*
SMOOTH	5,790	0.234	0.000	0.423	5,196	0.237	0.000	0.426	594	0.208	0.000	0.406	0.030	1.637*	1.587
BATH	5,790	0.089	0.000	0.284	5,196	0.070	0.000	0.256	594	0.227	0.000	0.419	-0.156	-8.719***	-12.380***
LEV	5,790	0.590	0.410	0.676	5,196	0.583	0.400	0.670	594	0.650	0.454	0.714	-0.067	-2.141**	-2.541**
GWTA	5,790	0.078	0.020	0.131	5,196	0.076	0.020	0.129	594	0.091	0.032	0.144	-0.014	-0.002**	-1.881*
SIZE	5,790	19.869	19.710	1.985	5,196	19.867	19.701	1.972	594	19.880	19.720	2.085	-0.013	-0.139	-0.364
TGDP	5,790	0.951	0.650	0.944	5,196	0.955	0.770	0.949	594	0.920	0.589	0.912	0.035	0.851	1.980**
CONCENTR	5,790	0.380	0.280	0.142	5,196	0.378	0.283	0.142	594	0.396	0.473	0.137	-0.018	-2.871***	-3.266***
ENF	5,790	35.571	28.500	11.170	5,196	33.286	28.500	11.053	594	35.361	32.000	11.836	-2.404	-4.607***	-6.685***

Note: This table presents descriptive statistics of explanatory and control variables for firm-years in full sample, and firm-years with and without goodwill impairments, mean (median) differences between groups with and without goodwill impairments based on *t*-statistics (*Mann-Whitney-U*-statistics). Variables are defined in Table 5.1. ***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 5.5.*Pearson (Below Diagonal) and Spearman (Above Diagonal) Correlations*

	IMPD	BTMD	BTMD _{t-1}	BTMD _{t-2}	ROA	ROA _{t-1}	ROA _{t-2}	ΔSALE	ΔSALE _{t-1}	ΔSALE _{t-2}	SMOOTH	BATH	LEV	GWTA	SIZE	TGDP	CONCENTR
IMPD	1	0.044*	0.058*	0.030*	-0.138*	-0.071*	-0.049*	-0.071*	0.031*	-0.024	-0.021	0.173*	0.037*	0.026	0.007	-0.029*	0.048*
BTMD	0.051*	1	0.717*	0.574*	-0.352*	-0.326*	-0.272*	-0.150*	0.131*	-0.119*	-0.094*	0.129*	0.069*	-0.147*	-0.031*	0.013	0.032*
BTMD _{t-1}	0.063*	0.710*	1	0.714*	-0.324*	-0.349*	-0.296*	-0.124*	0.154*	-0.128*	-0.076*	0.130*	0.066*	-0.146*	-0.055*	0.001	0.025
BTMD _{t-2}	0.037*	0.567*	0.711*	1	-0.262*	-0.303*	-0.328*	-0.099*	0.107*	-0.156*	-0.051*	0.072*	0.051*	-0.134*	-0.085*	-0.034*	0.039*
ROA	-0.023	-0.032*	0.002	0.005	1	0.703*	0.572*	0.326*	-0.260*	0.196*	0.279*	-0.383*	-0.133*	0.059*	0.118*	-0.059*	0.079*
ROA _{t-1}	-0.019	-0.047*	-0.049*	0.003	0.071*	1	0.683*	0.145*	-0.375*	0.238*	0.022	-0.154*	-0.117*	0.062*	0.112*	-0.045*	0.065*
ROA _{t-2}	-0.015	-0.041*	-0.041*	0.001	0.075*	0.942*	1	0.093*	-0.104*	0.323*	0.062*	-0.132*	-0.114*	0.048*	0.131*	-0.044*	0.041*
ΔSALE	-0.009	-0.017	0.019	0.019	0.984*	0.009	0.004	1	-0.209*	0.077*	0.171*	-0.149*	0.032*	0.006	0.051*	0.084*	0.009
ΔSALE _{t-1}	0.011	0.057*	0.066*	0.033*	-0.059*	-0.281*	-0.040*	-0.053*	1	-0.099*	-0.024	0.065*	-0.043*	0.018	-0.059*	-0.132*	0.055*
ΔSALE _{t-2}	-0.007	-0.022	-0.022	0.013	0.013	0.739*	0.879*	0.002	0.281*	1	0.033*	-0.029*	0.005	0.059*	0.037*	0.048*	-0.122*
SMOOTH	-0.022	-0.094*	-0.077*	-0.048*	0.054*	0.041*	0.047*	0.034*	-0.023	0.034*	1	-0.171*	0.084*	0.031*	0.332*	-0.006	0.028
BATH	0.175*	0.125*	0.129*	0.073*	-0.036*	-0.018	-0.021	-0.003	0.019	-0.007	-0.172*	1	0.101*	0.02	0.025	0.019	-0.056*
LEV	0.031*	0.025	0.021	0.009	-0.009	-0.009	-0.004	0	0.006	0.006	0.056*	0.146*	1	-0.079*	0.377*	0.079*	-0.044*
GWTA	0.035*	-0.123*	-0.110*	-0.096*	-0.009	0.042*	0.036*	-0.008	-0.027	0.036*	0.005	0.012	-0.095*	1	-0.129*	-0.168*	0.041*
SIZE	0.002	-0.038*	-0.064*	-0.097*	0.042*	0.049*	0.061*	0.023	-0.009	0.021	0.329*	0.021	0.284*	-0.162*	1	0.311*	0.203*
TGDP	-0.012	0.019	-0.001	-0.033*	0.009	-0.016	-0.015	0.013	-0.001	-0.011	0.016	-0.019	0.019	-0.108*	0.259*	1	-0.675*
CONCENTR	0.041*	0.037*	0.027	0.036*	-0.009	0.034*	0.038*	-0.021	0.004	0.014	0.021	-0.066*	-0.005	-0.134*	-0.136*	-0.036*	1

Note: Variables are defined as in Table 5.1. * denotes significance at less than 5%

Table 5.6.*Audit and Accounting Enforcement Index by Country*

Country	Audit index			Accounting enforcement index			Audit and accounting enforcement index (ENF)		
	2005	2008	avg. 2005-08	2005	2008	avg. 2005-08	2005	2008	avg. 2005-08
Australia	30.000	30.000	30.000	22.000	22.000	22.000	52.000	52.000	52.000
Hong Kong	22.000	30.000	26.000	8.000	22.000	15.000	30.000	52.000	41.000
Korea (South)	14.000	18.000	16.000	10.000	10.000	10.000	24.000	28.000	26.000
Malaysia	9.000	21.000	15.000	8.000	19.000	13.500	17.000	40.000	28.500
the Philippines	8.000	11.000	9.5.000	16.000	16.000	16.000	24.000	27.000	25.500
Singapore	20.000	20.000	20.000	12.000	12.000	12.000	32.000	32.000	32.000
Taiwan	10.000	10.000	10.000	8.000	8.000	8.000	18.000	18.000	18.000
Thailand	11.000	11.000	11.000	15.000	12.000	13.000	26.000	23.000	24.500
Median	12.500	19.000	15.500	11.000	14.000	13.500	25.000	30.000	27.250

Note: This study utilises the audit and accounting enforcement index from Brown et al (2014)'s study. The median of average audit and accounting enforcement index in 2008 by country is 30. This value is used for classification of strong and weak enforcement countries.

Table 5.7.*Timeliness of Goodwill Impairment*

Column 1	Column 2	Column 3
VARIABLES	Predicted sign	Model 1A MPERF = BTM Coefficient (z-statistics)
Constant		-3.996*** (-2.860)
BTMD	+	-0.168 (-1.230)
BTMDt-1	+	0.384** (2.390)
BTMDt-2	+	0.112 (0.810)
ROA	-	-1.963*** (-3.590)
ROAt-1	-	-0.633* (-1.760)
ROAt-2	-	0.328 (1.280)
ΔSALE	-	-0.410* (-1.900)
ΔSALEt-1	-	-0.098* (-1.700)
ΔSALEt-2	-	0.033 (0.760)
SMOOTH	+	0.003 (0.030)
BATH	+	0.994*** (7.160)
LEV	±	0.105 (1.370)
GW/TA	+	0.516 (1.150)
SIZE	+	0.138*** (3.680)
TGDP	±	-0.058 (-0.220)
CONCENTR	±	-1.203* (-0.350)
Time fixed effects		Included
Sector fixed effects		Included
Country fixed effects		Included
Pseudo-R2		0.107
Observations		5,790

Note: Variables are defined as in Table 5.1

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 5.8.*Economic Significance of Goodwill Impairment Indicators*

	Column 2	Column 3	Column 4
	Change in independent variable	Change in probability of firm <i>i</i> impairing goodwill in year <i>t</i>	Probability of firm <i>i</i> impairing goodwill at year <i>t</i>
Base-line scenario			0.071
BTMD	0 -> 1	-0.011	0.06
BTMDt-1	0 -> 1	0.025**	0.096
BTMDt-2	0 -> 1	0.007	0.078
ROA	+ one std. dev.	-0.129***	-0.058
ROAt-1	+ one std. dev.	-0.042*	0.029
ROAt-2	+ one std. dev.	0.022	0.093
ΔSALE	+ one std. dev.	-0.027**	0.044
ΔSALEt-1	+ one std. dev.	-0.006*	0.065
ΔSALEt-2	+ one std. dev.	0.002	0.073
SMOOTH	0 -> 1	0.001	0.072
BATH	0 -> 1	0.065***	0.136
LEV	+ one std. dev.	0.007	0.078
GW/TA	+ one std. dev.	0.034	0.105
SIZE	+ one std. dev.	0.009***	0.08
T_GDP	+ one std. dev.	-0.003	0.068
CONCENTR	+ one std. dev.	-0.079*	-0.008
Time fixed effects			
Sector fixed effects			
Country fixed effects			

Note: Variables are defined as in Table 5.1

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 5.9*Timeliness of Goodwill Impairment and the Impact of Country-level Enforcement*

VARIABLES	Predicted signed	Column 3	Column 4
		Model 1	
		Strong ENF	Weak ENF
		Coefficient (z-statistics)	Coefficient (z-statistics)
Constant		-5.891*** (-6.380)	-3.913*** (-1.560)
BTMD	+	-0.105 (-0.670)	-0.231 (-0.800)
BTMDt-1	+	0.340** (1.980)	0.508 (1.250)
BTMDt-2	+	0.107 (0.710)	0.282 (0.810)
ROA	-	-2.091*** (-3.350)	-1.451 (-1.380)
ROAt-1	-	-0.719* (-1.760)	-0.739 (-1.160)
ROAt-2	-	0.301 (1.080)	1.468 (0.980)
ΔSALE	-	-0.613** (-2.150)	0.129 (1.470)
ΔSALEt-1	-	-0.119 (-0.900)	-0.115* (-1.660)
ΔSALEt-2	-	0.033 (0.310)	0.256 (1.500)
SMOOTH	+	0.022 (0.150)	0.003 (-0.060)
BATH	+	1.091*** (6.720)	0.791*** (2.280)
LEV	±	0.161* (1.720)	0.0161 (-0.020)
GW/TA	+	0.62 (1.280)	-0.628 (0.240)
SIZE	+	0.195*** (4.450)	-0.0387 (-0.250)
T_GDP	±	-0.397 (-1.390)	1.139* (1.780)
CONCENTR	±	1.962** (1.960)	-34.730*** (-5.060)
Time fixed effects		Included	Included
Sector fixed effects		Included	Included
Country fixed effects		Included	Included
Pseudo-R2		0.099	0.099
Observations		3,331	2,459

Note: Variables are defined as in Table 5.1

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 5.10*Economic Significance of Goodwill Impairment Indicators by Enforcement Sub-sample*

	Column 2	Column 3	Column 4	Column 5	Column 6
	Change in independent variable	Change in probability of firm i impairing goodwill in year t		Probability of firm i impairing goodwill at year t	
		Strong ENF sub-sample	Weak ENF sub-sample	Strong ENF sub-sample	Weak ENF sub-sample
Base-line scenario				0.095	0.035
BTMD	0 -> 1	-0.009	-0.008	0.086	-0.008
BTMDt-1	0 -> 1	0.029**	0.017	0.124	0.017
BTMDt-2	0 -> 1	0.009	0.009	0.104	0.009
ROA	+ one std. dev.	-0.180***	-0.049	-0.085	-0.049
ROAt-1	+ one std. dev.	-0.062*	-0.025	0.033	-0.025
ROAt-2	+ one std. dev.	0.026	0.049	0.121	0.049
ΔSALE	+ one std. dev.	-0.053**	0.004	0.042	0.004
ΔSALEt-1	+ one std. dev.	-0.010	-0.004*	0.085	0.031
ΔSALEt-2	+ one std. dev.	0.003	0.009	0.098	0.009
SMOOTH	0 -> 1	0.002	0.001	0.097	0.001
BATH	0 -> 1	0.094***	0.027***	0.189	0.062
LEV	+ one std. dev.	0.014*	-0.001	0.109	-0.001
GW/TA	+ one std. dev.	0.053	-0.021	0.148	-0.021
SIZE	+ one std. dev.	0.017***	-0.001	0.112	-0.001
T_GDP	+ one std. dev.	-0.034	0.038***	0.061	0.073
CONCENTR	+ one std. dev.	0.169*	-1.175***	0.264	-1.140
Time fixed effects					
Sector fixed effects					
Country fixed effects					

Note: Variables are defined as in Table 5.1

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 5.11*Additional test: Tobit Regression*

VARIABLES	Predicted sign	Column 3	Column 4	Column 5
		Model 1	Model 1	Model 1
		Full sample	Strong ENF	Weak ENF
		Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)
Constant		-0.894*** (-4.740)	-0.945*** (-4.640)	-2.264*** (-3.090)
BTMD	+	-0.043 (-1.080)	-0.033 (-0.790)	-0.071 (-0.650)
BTMD _{t-1}	+	0.096** (2.070)	0.089* (1.860)	0.123 (1.020)
BTMD _{t-2}	+	0.004 (0.100)	0.037 (0.870)	0.032 (0.310)
ROA	-	-0.576*** (-6.080)	-0.527*** (-5.690)	-0.431 (-0.840)
ROA _{t-1}	-	-0.268*** (-2.600)	-0.296*** (-3.040)	-0.321 (-0.720)
ROA _{t-2}	-	0.108 (1.360)	0.108 (1.460)	0.397 (0.790)
ΔSALE	-	-0.189*** (-4.090)	-0.218*** (-4.500)	0.023 (0.820)
ΔSALE _{t-1}	-	-0.019* (-0.670)	-0.030* (-0.780)	-0.038* (-0.690)
ΔSALE _{t-2}	-	0.001 (0.020)	-0.007 (-0.140)	0.062 (0.710)
SMOOTH	+	0.031 (0.840)	0.021 (0.520)	-0.026 (-0.280)
BATH	+	0.343*** (7.750)	0.345*** (7.480)	0.244* (1.960)
LEV	±	-0.004 (-0.210)	0.033 (1.420)	-0.0077 (-0.150)
GW/TA	+	0.015 (0.130)	0.223* (1.900)	0.719 (1.050)
SIZE	+	0.006 (0.700)	0.025*** (2.630)	-0.013 (-0.570)
T_GDP	±	-0.003 (-0.210)	-0.002 (-0.160)	0.710*** (3.250)
CONCENTR	±	0.349*** (3.250)	-0.161 (-1.090)	1.907*** (2.770)
Time fixed effects		Included	Included	Included
Sector fixed effects		Included	Included	Included
Country fixed effects		Included	Included	Included
Pseudo-R2		0.086	0.122	0.066
Observations		5,790	3,331	2,459

Note: Variables are defined as in Table 5.1

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 5.12*Additional test: Different Consecutive Time Horizons*

Column 1	Column 2	Column 3	Column 4	Column 3
VARIABLES	Predicted sign	Model 2		
		One year	Two consecutive years	Three consecutive years
		Coefficient	Coefficient	Coefficient
		(z-statistics)	(z-statistics)	(z-statistics)
Constant		-3.667*** (-2.850)	-3.720*** (-2.890)	-3.756*** (-2.910)
BTMDUM1	+	0.142 (1.410)		
BTMDUM2	+		0.195* (1.920)	
BTMDUM3	+			0.186* (1.780)
ROA	-	-1.931*** (-4.800)	-1.940*** (-4.820)	-1.939*** (-4.810)
ROAt-1	-	-0.637* (-1.870)	-0.641* (-1.880)	-0.645* (-1.900)
ROAt-2	-	0.309 (1.230)	0.316 (1.250)	0.32 (1.270)
ΔSALE	-	-0.417* (-2.650)	-0.414* (-2.630)	-0.423* (-2.700)
ΔSALEt-1	-	-0.085 (-1.020)	-0.0891 (-1.100)	-0.0878 (-1.070)
ΔSALEt-2	-	0.032 (0.500)	0.033 (0.580)	0.033 (0.580)
SMOOTH	+	0.008 (0.070)	0.009 (0.080)	0.007 (0.050)
BATH	+	1.025*** (7.260)	1.016*** (7.200)	1.030*** (7.330)
LEV	±	0.101 (1.460)	0.104 (1.050)	0.103 (1.490)
GW/TA	+	0.492 (1.220)	0.505 (1.260)	0.491 (1.220)
SIZE	+	0.129*** (4.340)	0.130*** (4.370)	0.131*** (4.390)
T_GDP	±	-0.083 (-0.290)	-0.078 (-0.270)	-0.068 (-0.240)
CONCENTR	±	-1.448 (-0.430)	-1.362 (-0.410)	-1.236 (-0.370)
Time fixed effects		Included	Included	Included
Sector fixed effects		Included	Included	Included
Country fixed effects		Included	Included	Included
Pseudo-R2		0.104	0.105	0.104
Observations		5,790	5,790	5,790

Note: Variables are defined as in Table 5.1

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 5.13*Additional test: Market Indicator of Stock Returns (RET)*

Column 1	Column 2	Column 3	Column 4	Column 5
VARIABLES	Predicted sign	Model 3		
		Full sample	Strong ENF	Weak ENF
		Coefficient	Coefficient	Coefficient
		(z-statistics)	(z-statistics)	(z-statistics)
Constant		-3.537** (-2.470)	-5.545*** (-5.910)	-2.913*** (-1.110)
RET	-	-0.129 (-1.030)	-0.215 (-1.410)	0.236 (1.060)
RETt-1	-	-0.045 (-0.450)	-0.166 (-1.480)	0.334 (1.580)
RETt-2	-	-0.206** (-2.520)	-0.212** (-2.210)	-0.394* (-1.920)
ROA	-	-2.048*** (-3.370)	-2.137*** (-3.080)	-1.536 (1.300)
ROAt-1	-	-0.625* (-1.640)	-0.698 (-1.630)	-1.228 (-1.440)
ROAt-2	-	0.344 (1.290)	0.272 (0.960)	2.076 (1.410)
ΔSALE	-	-0.401* (-1.810)	-0.550* (-1.900)	0.125 (1.280)
ΔSALEt-1	-	-0.114* (-1.950)	-0.134 (-0.980)	-0.190* (-2.090)
ΔSALEt-2	-	0.091 (0.670)	0.055 (0.280)	0.311 (1.450)
SMOOTH	+	0.029 (0.210)	0.0383 (0.250)	0.019 (0.070)
BATH	+	0.987*** (6.970)	1.073*** (6.510)	0.957*** (3.140)
LEV	±	0.082 (1.060)	0.127 (1.340)	0.009 (0.070)
GW/TA	+	0.738 (1.590)	0.829 (1.640)	-0.292 (-0.160)
SIZE	+	0.132*** (3.500)	0.189*** (4.300)	-0.036 (-0.450)
T_GDP	±	-0.114 (-0.420)	-0.557* (-2.020)	1.417** (2.070)
CONCENTR	±	-1.662* (-0.480)	2.420** (0.850)	-3.410*** (-4.620)
Time fixed effects		Included	Included	Included
Sector fixed effects		Included	Included	Included
Country fixed effects		Included	Included	Included
Pseudo-R2		0.107	0.101	0.098
Observations		5,790	3,331	2,459

Note: Variables are defined as in Table 5.1

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 5.14.*Additional test: Different Stock Returns Cut-off Levels*

Column 1	Column 2	Column 3	Column 4
VARIABLES	Predicted sign	Model 4	
		MPERF = RETD	
		-5% CUTOFF	-10% CUTOFF
		Coefficient (z-statistics)	Coefficient (z-statistics)
Constant		-4.577*** (-5.980)	-4.566*** (-5.930)
RETD	+	0.084 (0.970)	0.039 (0.490)
RETDt-1	+	0.029 (0.350)	0.044* (0.560)
RETDt-2	+	0.189** (2.050)	0.217** (2.420)
ROA	-	-1.952*** (-3.610)	-1.941*** (-3.590)
ROAt-1	-	-0.541 (-1.490)	-0.539 (-1.500)
ROAt-2	-	0.294 (1.180)	0.296 (1.190)
ΔSALE	-	-0.489** (-2.100)	-0.492** (-2.100)
ΔSALEt-1	-	-0.033 (-0.510)	-0.032 (-0.490)
ΔSALEt-2	-	-0.001 (-0.010)	0.001 (0.010)
SMOOTH	+	0.069 (0.540)	0.057 (0.450)
BATH	+	0.987*** (7.190)	0.995*** (7.240)
LEV	±	0.004 (0.040)	0.004 (0.050)
GW/TA	+	1.123*** (2.940)	1.105*** (2.890)
SIZE	+	0.105*** (2.850)	0.106*** (2.870)
T_GDP	±	-0.095 (1.600)	-0.095 (-1.620)
CONCENTR	±	1.907*** (4.240)	1.912*** (4.230)
Time fixed effects		Included	Included
Sector fixed effects		Included	Included
Country fixed effects		Included	Included
Pseudo-R2		0.073	0.073
Observations		5,790	5,790

Note: Variables are defined as in Table 5.1

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

CHAPTER 6

DO FIRMS MANIPULATE CASH FLOW TO DELAY GOODWILL IMPAIRMENT LOSSES?

The study in this chapter investigates whether managers delay the recognition of economic impairments of goodwill by managing upward current period cash flow levels through REM. Following Ramanna and Watts (2012), Suspect firms are identified as non-impairers that carrying goodwill with two to three consecutive BTM ratio greater than 1. The findings suggest that firms that are vulnerable to recognition of impairment but have not impaired their goodwill exhibit significantly higher abnormal cash flow levels than the impairing firms. Additionally, firms continue to manage cash flow after the delay in impairment, although their capacity to do so diminishes in the second year. The sub-optimal operational decisions to delay impairment by non-impairers are detrimental to their future performance. The degree of REM engagement to manipulate cash flows and its unfavourable effect are higher in firms in stronger enforcement countries. Thus, this paper suggests an unintended consequence of stronger enforcement that motivates cash flow manipulation, namely, firms reporting to the more costly REM to provide stronger justifications for the lack of impairments.

6.1 Introduction

The impairment test for recognising the impairment losses underlying IAS 36 requires estimations of the fair value or value-in-use of goodwill based on projections of cash flows in the DCF models prepared by managers. The literature on goodwill impairment indicates that managers have incentives to delay the recognition of goodwill impairment losses. Empirical studies document this argument (Beatty 2006, Ramana & Watts 2012) and disclose that impairment losses are likely to lag the deterioration of economic performance (Hayn and Hughes 2006; Li and Sloan 2017). The lack of timeliness of goodwill impairment has also been the subject of debate by standard setters (Hoogervorst 2012) and market regulators (e.g., the SEC, ESMA and EFARG⁶³).

Regarding Asia-Pacific countries, the findings in the previous chapter of this thesis provide evidence that reported goodwill impairment loss lags the market impairment indicator of BTM ratio. In addition, it documents that firms also base their impairment decisions on accounting measures. There are two potential explanations for this paradox. First, because price leads earnings, goodwill impairment loss is associated with lagged market indicators and contemporaneous accounting indicators. Second, managers may engage in financial accounts manipulation activities to manage the accounting indicators so as to postpone the booking of an impairment loss.

Therefore, in this chapter, I investigate whether managers delay the recognition of economic impairment of goodwill by managing cash flow levels upward through

⁶³ For example, see Fox III (2008). Speech by SEC staff: Remarks before the 2008 AICPA National Conference on Current SEC and PCAOB Developments. Retrieved at: www.sec.gov/news/speech/2008/spch120808rgf.htm on 01/10/2018; ESMA (2013). European Securities and Market Authorities. European enforcers review of impairment of goodwill and other intangible assets in the IFRS financial statements; and EFRAG. Goodwill Impairment test: Can it be improved? EFRAG Discussion Paper. June 2017. Retrieved at 01/12/2018: www.efrag.org/Assets/Download?assetUrl=%2Fsites%2Fwebpublishing%2FSiteAssets%2FGoodwill%2520Impairment%2520Test%2520Can%2520it%2520be%2520improved.pdf

various real activities strategies. Filip et al. (2015) argue that, because the accounting standards require managers to forecast future cash flows to justify the recoverable amount and impairment decision, US managers use real activities to manage cash flows upward to enhance the creditability of their cash flow projections, and therefore justify the absence of goodwill impairments. It is also noted that while the impairment test prescribed by IAS 36 allows firms to use the higher of fair-value less disposal cost and value-in-use for determining recoverable amounts, value-in-use based on cash flow projection is the prevailing method in countries outside the US (ESMA 2013). In this regard, Amiraslani et al. (2013) find that more than 80% of firms in most EU countries apply value-in-use based on the discounted free cash flows for goodwill impairment testing purposes. Similar patterns exist across Asia-Pacific firms.⁶⁴ IAS 36 also requires that cash flows projection in impairment tests should be based on reasonable assumptions, the recent budgets, and supportable conjecture for periods beyond budgeted projections (IAS 36.30). Thus, auditors and other monitors may base their examination of the goodwill impairment test on the firm's business plan and projected current cash flows over a finite horizon and terminal value (Griffith et al. 2015; Filip et al. 2015). The higher level of current cash flows assure the monitors of reasonably higher future cash flows and terminal value. This create incentives for managers to manipulate cash flows levels upward, by undertaking various REM activities, to convince the auditors and other monitors that non-impairment is justifiable.

This study extends Filip et al. (2015)'s by investigating Asia-Pacific firms' ability to manage cash flows to delay the recognition of goodwill impairment and by considering the effects of country-level auditing and financial reporting enforcement

⁶⁴ Refer to Chapter 2, Table 2.2. Also, the study in Chapter 5 documents that the likelihood of recognising goodwill impairment loss is also associated with contemporaneous and lagged accounting indicators of impairment, consistent with the argument that managers tend to use value-in-use with the DCF method to estimate the recoverable amounts.

arrangements. The Asia-Pacific region has been known for significant variance in enforcement environments.⁶⁵ Other studies find uneven applications of standards across countries and point to the critical role of enforcement for accounting quality (Kvaal and Nobes 2012; Christensen et al. 2013; Glaum et al. 2013; Cascino and Gassen 2015). If managers are able to obfuscate accounting information under conditions of strong enforcement of accounting rules such as in the US, then the use of REM should be more pronounced in countries with weaker enforcement arrangements (Leuz 2010).

The sample observations span the period 2011 to 2014 from eight Asia-Pacific IFRS-impairment adopters: Australia, Hong Kong, Korea (South), Malaysia, the Philippines, Singapore, Taiwan and Thailand. Following Ramanna and Watts (2012), firms likely to have impaired goodwill which is not impaired (Suspect firms) are identified first. These firms are taken to be non-impairers that carry goodwill and have BTM ratio greater than 1 for two to three consecutive years. On the other hand, Benchmark firms are firms with two to three consecutive BTM ratio greater than 1 and with impairment recognition.

I find that, compared to firms that recognise a goodwill impairment loss, Suspect firms manage their cash flow upward through REM activities. Findings from separate estimations further reveal that the degree of engagement in REM to manipulate cash flow is higher in stronger enforcement countries. I interpret this as the result of risks created by more stringent regulatory scrutiny that leads firms to engage in financial accounts manipulations to support the absence of goodwill impairment options. In additional tests, I find that Suspect firms, especially those in strong enforcement countries, persistently implement cash flow management after the delay in booking

⁶⁵ For example, Brown et al. (2014) show that the average audit and accounting enforcement score in 2005-2008 ranged as high as 52 and 41 in Australia and Hong Kong, respectively, and as low as 18 in Taiwan.

goodwill impairment, although their capacity to do so diminishes in the subsequent second period. The sub-optimal operational decisions by non-impairers to delay goodwill impairment are detrimental to their future performance. These unfavourable consequences are more severe for firms in strong enforcement countries.

Amiraslani et al. (2013) show that firms tend to use the value-in-use method in implementing impairment tests. EFRAG (2017) reports that such a tendency creates an opportunistic use of goodwill impairment losses. This research complements these findings and adds that, in Asia-Pacific countries, IFRS impairment approach appears to have exacerbated incentives to manipulate cash flow levels so as to time the recognition of impairment losses opportunistically. In addition, the incentive is higher in stronger enforcement countries. The findings are not in line with the general stream of studies that report greater benefits of IFRS impairment adoption in countries with relatively stronger enforcement (Florou and Pope 2012; Houque et al. 2012; Cai et al. 2014; Kabir and Laswad 2015). Rather, the study suggests an unintended consequence of stronger enforcement environment motivating cash flow manipulation through REM, namely, firms resorting to more costly REM to enhance cash flow levels if they have to delay goodwill impairment recognitions.

This study adds to the literature by providing evidence on the varying lack of timeliness of goodwill impairments across countries with different strengths of enforcement of accounting and auditing rules. Given the significant variance in enforcement environments and incentives in Asia-Pacific countries (Houque et al. 2012; Cai et al. 2014; Ball et al. 2003), an investigation into how firms in this region utilize discretion to manage cash flow to camouflage the evidence for goodwill impairment is necessary for international comparisons. The results are important for standard setters and also call for attention of the oversight bodies to consider the reporting regulations

in implementing accounting standards and limiting different forms of financial accounts manipulation.

The remainder of this study is as follows: Section 6.2 reviews institutional background and related research; Section 6.3 develops hypotheses and empirical design; Section 6.4 describes the sample and data; Sections 6.5 and 6.6 present the results and additional robust tests; and Section 6.7 concludes the study.

6.2 Institutional Background and Related Literature

6.2.1 Institutional background

The impairment test procedure under IAS 36 implies great expertise in the field of valuation. Firms are required to allocate acquired goodwill to one or more CGUs at the time of acquisition, and then recognise an impairment loss against the carrying value of goodwill allocated to the CGU if the CGU's carrying value exceeds the recoverable amount. Firms have to perform the impairment tests yearly (IAS 36, para. 9), and between the regular yearly reviews if events or changes in circumstances suggest that goodwill might be impaired. Examples of such events include significant adverse effects in the technological, market, economic or legal environment (IAS 36, para. 12). Further, the projection of cash flow in the impairment test should be based on reasonable assumptions, the most recent budgets (which should not go beyond five years), and conjecture for periods beyond budgeted projections (IAS 36, para. 30). Once the impairment loss on goodwill is recognised, it cannot be reversed, unlike other assets.

The IASB claims that the standard improves financial reporting because it allows firms to consider their underlying economic and business conditions when testing for goodwill impairment.⁶⁶ Nonetheless, the estimations of fair values or values-in-use for

⁶⁶ See IAS 36 (rev. 2004), para. BC 131. Also see IFRS 3, para. 141

the CGUs is typically based on firm-specific forward-looking information (e.g. the future cash flows of investment plans, the long-term growth expectations, or the discounted factors), which are subjective and unverifiable (KPMG 2014). Managers may use allowed discretionary options to report goodwill impairment opportunistically by either impeding or managing impairment amounts. Given that external parties are not able to examine the fair value or value-in-use estimation procedure that govern managers' goodwill impairment decisions (Roychowdhury and Martin 2013), the lack of timeliness of goodwill impairment exacerbates the information asymmetry for outsiders. The IASB has been implementing a PIR of IFRS 3 since 2014 and decided not to consider the re-introduction of the amortisation-based approach in 2018. The decision is, however, tentative (d'Arcy and Tarca 2018). Finding evidence of whether firms manage cash flows to justify the delayed goodwill impairments would provide insights relevant to the IASB's research project.

6.2.2 Related literature

Rockness et al. (2001) noted that “[the] effect [of goodwill impairment] on financial results and ratios will be very significant in years of impairment, and it is hard to see how fair value of goodwill will be objectively determined. The new impairment charges are prime candidates for moveable expenses from one period to another to achieve desired earnings targets” (p. 22). A stream of studies have reported evidence on the exercise of managerial opportunism. Beatty and Weber (2006) examine US firms in the SFAS 142 initial adoption year and find that stock market and contracting incentives affect the firm's accounting choices. Likewise, Ramanna and Watts (2012) find that the decision to delay impairment is not attributable to managers having favourable private information, but rather, related to proxies for agency-based motives like debt covenant violation issues. Further, managers use the discretion under SFAS

142 to opportunistically manipulate earnings by selectively delaying goodwill. In contrast, Lee (2011) finds that goodwill write-offs under SFAS 142 predicted future cash flows, but admits that such results should be interpreted with caution due to the challenge of separating the financial reporting effects from the macro-economic influence.

Li and Sloan (2017) investigate the timeliness of goodwill impairment during the pre- and post-SFAS-142 from 1996 to 2011. They find that the impairments in the post-SFAS-142 period lag market and financial accounting indicators among US firms, suggesting that managers have exploited the discretion to delay impairment. In addition, investors appear to mistakenly embrace the FASB's claim that goodwill under SFAS 142 should better reflect economic reality, resulting in over-pricing firms with inflated goodwill and high probability of impairments. André et al. (2016) investigate the pattern of goodwill impairment across the EU and the US between 2006 and 2015 and find that, although US and EU firms have similar levels of goodwill, US firms recognise timelier impairments particularly during the financial crisis. Their findings also indicate a delayed response to economic impairment on the part of EU firms.

Researchers have also found evidence regarding the impact of country-level characteristics on the implementation of goodwill impairment. Amiraslani et al. (2013) find that impairment losses recognised by EU firms in 2010 and 2011 are associated with stock market returns. However, the "bad news" is recognised in a more timely manner in countries with relatively stronger outsider protection and enforcement. Glaum et al. (2018) investigate 21 IFRS-adopters from 2005 to 2011 and find that the goodwill impairment incidence is negatively related to lagged economic performance. Further, firms in weak enforcement countries are less likely to impair goodwill on a timely basis.

The studies cited in this section indicate that managers use discretion to delay goodwill write-offs. In this context, the role of firms' monitors, such as auditors, is crucial to constrain managers from reporting opportunistically (Stokes and Webster 2010; Pajunen and Saastamoinen 2013). More importantly, if incentives to use this discretion opportunistically are evident, then the question is how managers can convince the auditors and other monitors of the firm that the non-recognition of goodwill impairment is justifiable. Filip et al. (2015) show that US firms identified as "suspects" of avoiding necessary goodwill impairment manipulate their cash flows upward through REM activities compared to the control group. Besides, the engagement in REM activities to achieve the cash flow manipulation was detrimental to the firm's future performance⁶⁷.

Filip et al. (2015) provide evidence on the engagement of cash flow management by firms to conceal the "true" economic performance of goodwill. However, their study is on firms in the U.S. market where fair-value estimation is the main approach. On the other hand, there has been evidence that most firms operating in non-US countries utilise the value-in-use method when estimating goodwill impairments (ESMA 2013; Amiraslani et al. 2013).⁶⁸ This study provides evidence on cash flow management behavior and lack of timeliness of goodwill impairments in jurisdictions with different enforcement environments, namely, the Asia-Pacific region. Such an investigation can provide a change for international comparison and is important for regulatory reform.

⁶⁷ It is noted that Filip et al. (2015) identify suspected non-impairers by matching with competitors in same industry that exhibit closest lagged market-to-book and that impair goodwill. Such identification strategies may result in excessive numbers of firms identified as Suspect firms (i.e., carrying economically impaired goodwill) since it also covers non-impairers without market impairment indicators.

⁶⁸ ESMA (2013) and Amiraslani et al. (2013) report regarding European countries. Also refers to Appendix B for Asia-Pacific countries.

6.3 Hypotheses Development and Empirical Design

6.3.1 Hypotheses development

While the IAS 36 impairment test allows firms to adopt the higher of fair value less disposal cost and value-in-use for determining recoverable amounts, studies have shown that value-in-use based on cash flow projection is the prevailing method in countries outside the US. Under this approach, firms are able to use their own data to develop unobservable inputs within the DCF models. These inputs reflect a degree of managerial discretion, and are hard to verify (Watts 2003a). Therefore, Filip et al. (2015) argue that the monitors of the firm may question the forecasts at the starting point of the DCF model, that is, the current period cash flow. Noting Penman (2006)'s argument that current cash flow levels act as the leadoff of any valuation, they explicate that current cash flow levels have a significant impact on the amount of future cash flows and the terminal value used to project cash flows following the explicit business plan. Using Tversky and Kahneman (1974) and Epley and Gilovich (2006)'s notion of anchoring-and-adjustment, a widely adopted notion in economics, they argue that cash flow forecasting starts with an implicitly suggested current cash flow information and then adjusts until a plausible estimate can be obtained. Auditors and other monitors of the firm's financial reporting processes, they conjecture, will eventually question managers' discretion if the projected DCF-related parameters are not reasonably consistent with the current performance presented by the level of cash flows. In other words, the impairment test result is affected by the current period cash flows. I therefore also posit that a firm vulnerable to recognition of goodwill impairment (but that chose not to book an impairment) may take various real activities strategies to improve its current cash flows level. Likewise, the following hypothesis is stated in the alternative form:

H1: *Ceteris paribus*, firms vulnerable to recognition of goodwill impairment are more likely to manipulate the level of current period cash flow.

The international accounting literature has provided evidence that the institutional environment is associated with financial reporting quality (Ball et al. 2000; Ball et al. 2003; Bushman and Piotroski 2006; Leuz 2010), and the strength of country-level enforcement arrangements determines whether the IFRS introduction results in higher quality financial reporting and positive effects on capital market (Li 2010; Florou and Pope 2012; Daske et al. 2008; Christensen et al. 2013; Kabir and Laswad 2015). Strong enforcement will likely ensure greater compliance with the goodwill impairment requirements following IAS 36. From this perspective, firms in relatively stronger enforcement countries have a greater tendency to implement impairment tests on a strict basis, and therefore, to write off goodwill on a more timely basis than firms in relatively weaker enforcement countries. Further, managers in strong enforcement countries may find it difficult to manipulate accounting numbers in the presence of high-quality auditors and heightened scrutiny of accounting practice (Houqe et al. 2012; Cai et al. 2014). These earlier findings imply that firms in strong enforcement countries are less likely to implement sub-optimal or opportunistic decisions in real operations in order to support the delay in booking goodwill impairment losses. Kim and Sohn (2013) find evidence that managers in strong institutional environments facing the threat of discipline might avoid REM activities to achieve desirable targets. However, strict regulations may also impose strong monitoring of opportunistic behaviours. In this case, firms who are under pressure to recognise goodwill losses and fear the risks created by stringent regulators would opt for more cash flow manipulation through REM so as they are able to make stronger justifications for their delay in write-offs. Enomoto et al. (2015) and (Chi et al. 2011) find that strong enforcement, especially

high-quality auditors, leads to higher levels of REM. Since it is difficult to predict the sign of the effect of enforcement on the association between firms facing pressure to recognise goodwill impairment losses and cash flow management by REM, I state the following hypothesis in the non-directional form:

H2: *Ceteris paribus*, the relative degree of engagement in cash flow manipulation by firms to justify the non-recognition of goodwill impairment is associated with the strength of country-level enforcement arrangements.

6.3.2 Empirical design.

6.3.2.1 Model

To test the hypotheses, I estimate the following model:

$$\begin{aligned}
 M = & \alpha + \beta_1 \text{SUSPECT} + \beta_2 \text{AEM} + \beta_3 \text{Q} + \beta_4 \text{SIZE} + \beta_5 \Delta \text{ROA} + \beta_6 \Delta \text{SALE} + \quad (1) \\
 & \beta_7 \text{SHARES} + \beta_8 \text{LEV} + \beta_9 \text{DISSUE} + \beta_{10} \text{EISSUE} + \beta_{11} \text{GDP} + \\
 & \beta_{12} \text{CONCENTR} + \beta_{13} \text{ENF} + \text{SECTOR FIXED EFFECTS} + \text{YEAR} \\
 & \text{FIXED EFFECTS} + \text{COUNTRY FIXED EFFECTS} + \varepsilon
 \end{aligned}$$

where M is either: 1) cash flows management through over-production of inventory and cutting costs, RPD; or 2) operating cash flows management, RCFO; or 3) free cash flows management, RFCF. Following the identification strategy (Section 6.3.2.3), SUSPECT equals 1 for Suspect firms (i.e., non-impairers) and 0 for Benchmark firms (i.e. impairers).

6.3.2.2 Dependent variable

The dependent variable is real activities proxies to increase current cash flows (M). Following prior literature (Roychowdhury 2006), I utilize three metrics: 1) REM through overproduction and cutting discretionary expenditures (RPD), (2) REM

through manipulating operating cash flow (RCFO), and (3) REM through manipulating free cash flow (RFCF)⁶⁹.

I first examine real activities across two strategies: reducing cost of goods sold (COGS) by overproducing inventory, as measured by an abnormal level of production costs, and cutting discretionary expenditures, as measured by an abnormal level of discretionary expenditures.

The following normal level of production costs is estimated:

$$\begin{aligned} \text{PROD}_t = & \alpha_0 + \alpha_1(1/ \text{TA}_{t-1}) + \alpha_2(\text{SALE}_t/ \text{TA}_{t-1}) + \alpha_3(\Delta\text{SALE}_t/ \text{TA}_{t-1}) + \\ & \alpha_4(\Delta\text{SALE}_{t-1}/ \text{TA}_{t-1}) + \varepsilon_t \end{aligned} \quad (2)$$

where PROD_t is the sum of COGS in t and the change in inventory from $t-1$ to t divided by total assets in $t-1$ (adjusted for goodwill balance), TA_{t-1} ; SALE_t is net sales in t ; and ΔSALE_t is the change in net sales from $t-1$ to t . Model (2) is estimated cross-sectional for each sector-year by country and with at least 7 observations. The abnormal level of production costs (RPROD) is measured as the estimated residual from Model (2). The higher residual indicates larger amounts of over-production and greater increases in earnings through economies of scale. Nevertheless, firms incur production costs and holding costs on the over-produced items, which results in lower cash flows from operations than normal at given sale levels (Roychowdhury 2006). The residuals are multiplied by (-1) such that a higher RPROD indicates a higher level of operating cash flows than normal.

The following normal level of discretionary expenditures is also estimated:

$$\text{DISX}_t = \alpha_0 + \alpha_1(1/ \text{TA}_{t-1}) + \alpha_2(\text{SALE}_t/ \text{TA}_{t-1}) + \varepsilon_t \quad (3)$$

where DISX_t is the discretionary expenditures (i.e. the sum of R&D, advertising, and SG&A) in t divided by total assets in $t-1$, TA_{t-1} . Similarly, Model (3) is estimated

⁶⁹ Subsequent studies using the same metrics (Cohen et al. 2008; Cohen and Zarowin 2010; Zang 2011) provide further evidence of the construct validity of these proxies. While these three measures may sometime overlap they allow cash flow management to be captured across several dimensions.

cross-sectional for each sector-year by country and with at least 7 observations. The abnormal level of discretionary expenditures (RDISX) is measured as the estimated residual from Model (3), and is multiplied by (-1) such that higher RDISX indicates greater amounts of discretionary expenditures cut by firms to increase cash flows.

Consistent with Zang (2011), I aggregate the two real activities proxies, RPROD and RDISX, into one proxy, RPD, by taking their sum.

Second, I investigate the pattern of cash flows from operations. Managers can manipulate current-period cash flows upward by accelerating the collection of account receivables, or stretching suppliers' payables, or cutting operating cash expenses. The normal level of operating cash flows is estimated as follows:

$$CFO_t = \alpha_0 + \alpha_1(1/TA_{t-1}) + \alpha_2(SALE_t/TA_{t-1}) + \alpha_3(\Delta SALE_t/TA_{t-1}) \quad (4)$$

where CFO_t is the net operating cash flows in t divided by total assets in $t-1$, TA_{t-1} . Model (4) is run cross-sectional for each sector-year by country and with at least 7 observations. The abnormal level of operating cash flows (RCFO) is measured as the estimated residual from Model (4) so that the higher the residual, the greater level of operating cash flows management.

Third, following Filip et al. (2015), I extend the investigation by estimating the abnormal level of current free cash flows given that discounted free cash flows are also the basis of the DCF model. Penman (2006) documents that free cash flows can be obtained by operating cash flows minus capital expenditure. Therefore, the abnormal free cash flow level is computed as the difference between abnormal operating cash flows and abnormal capital expenditures. The normal level of capital expenditures is estimated as a linear function of sales, change in sales and gross plant, property and equipment (PPE) in the current period as follows:

$$CAPEX_t = \alpha_0 + \alpha_1(1/TA_{t-1}) + \alpha_2(SALE_t/TA_{t-1}) + \alpha_3(\Delta SALE_t/TA_{t-1}) + \alpha_4(GPPE_t/TA_{t-1}) + \varepsilon_t \quad (5)$$

where $CAPEX_t$ is capital expenditures in t divided by total assets in $t-1$, TA_{t-1} Model (5) is estimated cross-sectionally for each sector-year by country and with at least 7 observations. The abnormal level of CAPEX (RCAPEX) is measured as the residuals of model (5), whereas the abnormal level of free cash flows (RFCF) is measured as RCFO minus RCAPEX. At a given level of RCFO, the higher RFCF indicates higher free cash flows obtained by cutting discretionary investments.

6.3.2.3 Selection of non-impairment Suspect firm-years.

I rely on a strategy similar to Ramanna and Watts (2012) to identify firms that met the threshold of economic impairments, but decided to avoid impairment recognition as Suspect firms (SUSPECT). An above-one BTM ratio indicates a decrease in both recognised and unrecognised economic rents, and triggers the event of goodwill impairment. Consistent with this argument, regulators and standard setters such as the IASB suggest a decline in market capitalisation below book value is a strong signal of performance deteriorations of the acquired firm (IAS 36.12). Several academic studies (Li and Sloan 2017; Kabir and Rahman 2016; Ramanna and Watts 2012; Beatty and Weber 2006; Hayn and Hughes 2006) provide evidence to support the hypothesis that an above-one BTM ratio indicates market expectation of impairment. However, managers may not consider a BTM ratio greater than 1 over a short period to be an indicator for impairment.⁷⁰ Firms whose market values remain depressed below book values for an extended period of time can rationally be considered as carrying impaired goodwill (Ramanna and Watts 2012; Roychowdhury and Martin 2013). Therefore, Suspect firms are taken as those that: (1) carry goodwill, (2) did not book an impairment, and (3) exhibit a BTM⁷¹ greater than 1 for two consecutive years (Method

⁷⁰ Alternatively, a BTM ratio greater than 1 over a short period could imply that managers have favorable private information about the true economic value of goodwill and that the market is potentially inefficient.

⁷¹ Again, in this study, book value is calculated before the effect of goodwill impairment, but after the effect of other asset write-offs.

1). As a robustness check, I consider Suspects firms that have a BTM ratio greater than 1 for three consecutive years (Method 2).⁷² Finally, firms are considered Benchmark firms if they experience similar market impairment indicators (that is, a BTM ratio above 1 for two or three consecutive years) and book an impairment.

6.3.2.4 Control variables

Prior literature has documented the use of both REM and accrual-based earnings management (AEM) by firms (Zang 2011; Cohen et al. 2008; Enomoto et al. 2015). Zang (2011) finds that if using AEM is more costly and less efficient than using REM then managers will substitute the use of REM for AEM. Other studies show that firms use both AEM and REM, but tend to switch to more REM under strong enforcement environments (Enomoto et al. 2015; Cohen et al. 2008). Therefore, I include AEM as a control variable to control for the possible substitution or complementary effects wof REM. Following prior studies (Dechow et al. 1998; Roychowdhury 2006), the normal level of accruals is estimated:

$$ACC_t = \alpha_0 + \alpha_1(1/TA_{t-1}) + \alpha_2(\Delta SALE_t/TA_{t-1}) + \alpha_3(GPPE_t/TA_{t-1}) + \varepsilon_t \quad (6)$$

where ACC_t is the earnings before extraordinary items and goodwill charges minus the operating cash flows in *t* divided by total assets in *t-1*, TAt-1. Model (6) is estimated cross-sectionally for each sector-year by country and with at least 7 observations. The estimated residual captures discretionary accruals, and is a proxy for AEM.

The variables change in ROA, change in sale, firm size and BTM ratio are added to control for variations in firm performance, size and growth opportunities, respectively. Proxies for earnings management activities might include measurement errors that are correlated with these firms' characteristics (Fields et al. 2001; Healy and Wahlen 1999).

⁷² I note that the selection methods are in line with the findings in the previous study, which shows that goodwill impairment lags market impairment indicators of BTM ratio for two to three consecutive periods (Chapter 5, Section 5.6.2)

I estimate firm size, SIZE, as the natural logarithm of year-end total assets adjusted for goodwill. The firm's change in rate of returns, ΔROA , is the ratio of change in ROA from $t-1$ to t to total assets in $t-1$, and the firm's change in sales, $\Delta SALES$, is the ratio of change in net sales from $t-1$ to t to total assets in $t-1$. The Tobin-Q (Q) represents growth opportunities and is the market value of equity plus book value of debt divided by total assets.

I include incentive-related variable leverage (LEV), measured as the total debt over total market value of equity. The debt hypothesis predicts that firms have an incentive to engage in financial accounts manipulations and delay goodwill impairments if they are subject to debt covenant constraints (Riedl 2004; Ramanna and Watts 2012; Beatty and Weber 2006), resulting in a positive association between LEV and REM upward to delay impairment. However, I note that the marginal cost of deviating from optimal business strategies is likely to be higher for firms in poor financial health (Graham et al. 2005; Zang 2011). In this regard, LEV may have a negative relation with REM. I also include another two incentive-related variables that revolve around the issuance of new capital. The debt issuance, D_ISSUE, equals 1 if total debt increases by more than 10%; 0 otherwise. The equity issuance, E_ISSUE, equals 1 if total equity increases by more than 10%; 0 otherwise.

Following Barton and Simko (2002) and Zang (2011), I include the natural log of shares outstanding, SHARES. A greater number of shares outstanding may induce greater earnings management to achieve the target or discourage earnings management because the target is more difficult to achieve. Since it is not clear whether the share effect would induce REM, no discretionary prediction about SHARES is made.

I control other country-level variables that may impact the financial reporting quality. I include market liquidity ratio, T_GDP, measured by the total value of market trading as a percentage of a country's GDP, as a control for the difference in financial

market development across sample countries.⁷³ I further include ownership concentration, CONCENTR, to control for the effects of ownership structure on accounting choices made by firms across countries, and measure it as the median percentage of common shares owned by the top three shareholders in the ten largest private-owned non-financial firms in a given country (La Porta et al. 1998). Finally, I include Brown et al. (2014)'s audit and accounting enforcement index, ENF, since prior studies indicate that financial accounts manipulations are constrained by the scrutiny of the auditing and financial reporting environment (Zang 2011).

Other controls include country, sector and year fixed effects. The country and sector fixed effects are to justify the variation in development levels, government regulations, asset structures and competitiveness among countries and industries. The year dummies are to capture the influences of aggregate trends as well as unexpected variation or special events that may affect outcome variables.

6.3.2.5 Enforcement

This study tests the impact of country-level enforcement on the incidence of cash flow management over the goodwill impairment test procedure by dividing the sample into observations from relatively weak- and strong-enforcement environments based on the median of an enforcement proxy, and estimating model (1) separately for each group. The enforcement proxy, ENF, is the aggregate index for the strength of auditing and public enforcement of financial reporting in 2008 developed by Brown et al. (2014).⁷⁴ They developed this composite measure based on the weighing of nine items

Soderstrom and Sun (2007) and Leuz et al. (2003) suggest that the market participants' demand for financial information provide incentives for firms to enhance the accounting quality, and firms in countries with developed capital markets provide higher quality financial information. For a robustness check, I utilise the country's market capitalisation of listed domestic companies to GDP (M_GDP) as alternative market development variable and obtain similar results (not reported).

⁷⁴ Brown et al. (2014)'s index of auditing and accounting enforcement is developed for the periods 2005 and 2008. In this study, I employ the 2008 index. For a robustness check, I apply the average index from 2005 to 2008, rather than the index for only 2008 as proxy of enforcement. The results remain qualitatively unchanged

related to regulation of the audit profession and six items related to regulations of financial reporting. High values of ENF indicate strict accounting and auditing enforcement.

Prior empirical studies have utilised a range of proxies to control for the variation in enforcement levels across countries (Berkowitz et al. 2003; La Porta et al. 1998; Djankov et al. 2002; Kaufmann et al. 2011). These measures generally relate to countries' legal systems and institutions, and thus may not capture the enforcement in relation to accounting standards. To address this concern, I utilise an enforcement proxy, ENF, based on Brown et al. (2014)'s. The proxy ENF captures the strength of institutional oversight towards financial reporting enforcement in relation to promoting firms' compliance with accounting standards. Since the requirements of the impairment test underlying IAS 36 are complex and the fair-value or value-in-use estimation process is hard for stakeholders to verify, the role of the auditing and enforcement mechanism that are supposed to constrain managers' opportunistic discretion when implementing goodwill impairment tests is important. The design of Brown et al. (2014)'s index makes it particularly suitable for this study. Further, its measure is timelier than the proxies of enforcement used in earlier studies and is available for all of the sample countries.

6.4 Sample and Data

6.4.1 Sample and data collection

The financial data are collected from Osiris and Thomson Reuters DataStream Advance, and enforcement data from Brown et al. (2014). Table 6.1 reports the definitions of the model variables and the sources of data.

Table 6.1 about here

The initial sample comprises 5,173 non-financial firms⁷⁵ that were listed on the exchange mainboards of Australia, Hong Kong, Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand from 2011 to 2014.⁷⁶ This results in 20,692 firm-year observations. Of these, I exclude 2,096 firm-year observations due to missing data and 8 firm-year observations due to inconsistent accounting policies on goodwill accounting.⁷⁷ I also exclude 440 firm-year observations with a negative book value of equity since these firms are likely to be in financial distress (Amir and Lev 1996). To mitigate the effect of the extreme observations, I winsorise each continuous variable at the top and bottom 0.5% of its distribution. This data selection process generates a sample of 18,148 firm-year observations for the estimations of real activities and accrual proxies (hereafter, full sample). Of these, there are 5,790 firm-year observations with a goodwill balance. The selection strategy (Section 6.3.2.3) results in 2,417 (2,119) firm-year observations of impairers (Benchmark) and non-impairers (Suspect) with BTM ratio greater than 1 for two (three) consecutive years.

Table 6.2 delineates the sample selection process. The full sample for estimating real activities and accrual proxies is dominated by firms in Australia, Malaysia and Korea. composition of the sample by GICS classification shows that the firms in the materials sector (22.64%) and industrials sector (21.32%) are most common. Telecommunication services and utilities each make up less than 2% of the sample.

⁷⁵ Financial firms (bank and financial services firms) are excluded from this study because their unique financial characteristics would render comparison with firms in other industries senseless.

⁷⁶ Starting from 2011, the impairment-only approach aligned with IFRS 3 and IAS 36 was evenly implemented across the sample countries (Appendix C). The period under investigation in this study is, therefore, 2011 - 2014.

⁷⁷ I identify the goodwill accounting policy of each sample company from the accounting policy notes to its financial statements. I exclude 2 Malaysian firms (8 firm-year observations) that, under special permissions, applied the straight-line amortisation approach on their goodwill balance until 2011.

Table 6.2 about here

6.4.2 Descriptive statistics and basis analysis

Table 6.3 provides the summary statistics for the main variables of the full sample. In Panel A, the mean values of abnormal production and discretionary expenditures (RPD), operating cash flows (RCFO), free cash flows (RFCF), and accruals (AEM), by construction, are close to zero. The number of observations that carry positive goodwill balance at the end of the fiscal year is 31.904% of the full sample. Goodwill on average makes up 7.700% of the lagged total assets. Panel B presents the full sample breakdown for goodwill balance and impairment. Of these, 31.689% carried goodwill in $t-1$ ⁷⁸, 4.684% booked an impairment in t ; and 27.788% had goodwill at $t-1$ without impairment recognition in t . In addition, 0.782% of the observations booked an impairment without carrying goodwill balance in $t-1$.⁷⁹

Table 6.3 about here

Table 6.4 presents the frequency and magnitude of the impairment-firm observations over a three-year window. Of these impairments, 60.536% booked a single impairment. The write-off amount is, on average, 35.300% of the lagged goodwill balance. On the other hand, 26.820% of the impairment-firm observations booked two impairments with a mean value of 31.100% of the lagged goodwill balance; and the

⁷⁸ The number of observations that carry goodwill in $t-1$ ($n=5,885$) is slightly fewer than that in t ($n=5,990$)

⁷⁹ These are the write-off on newly acquired goodwill that arises from business combinations in year t . These 142 observations with new acquisitions are also eliminated from the sample.

remaining 12.644% impairment observations represented impairments during each of three years with a mean value of 25.400% of the lagged goodwill balance. Explicitly, one-time write-off goodwill (over three years) made up for more than half of the impairment observations. Also, the magnitude of these write-offs is relatively comparable after two or three years. Thus, it is likely that most firms postpone the recognition of economic impairment until goodwill is eventually impaired, and then book a one-time impairment. Such a pattern is consistent with Hayn and Hughes (2006)'s argument that the time lag between the deterioration in the performance of the acquired goodwill and actual impairment write-off is a "waiting period", given that "some business would reasonably be expected to recover from short periods of poor financial performance" (p. 226).

Table 6.4 about here

Table 6.5 presents the statistics for Suspect and Benchmark firms in accordance with the selection strategy defined in Section 6.3.2.3. Panel A depicts the number of observations in accordance with the market impairment indicator, BTM ratio. Among observations with a BTM ratio greater than 1 for two consecutive years, only 19.859% recognise goodwill impairments. The percentage of impairment-firm observations is greater when BTM is greater than 1 for three consecutive year (26.428%). The pattern confirms the results from Table 6.4 that firms likely postpone the recognition of economic impairments until there are permanent economic impairment indications. Panel B indicates that there is no significant difference in the BTM and lagged BTM ratios across the two groups of firms (i.e., Suspect versus Benchmark) over the sample period. There is also no significant difference in leverage, debt and equity issuance, and

tobin-Q. Suspect firms however appear to be relatively larger in size, have more change in ROA and sales, and higher level of AEM, but lower number of shares outstanding than those of Benchmark firms. Overall, the identification approach of this study adequately controls for the level of the firms' financial performance and financial position between the two groups.

Table 6.5 about here

Table 6.6 reports the Pearson (below diagonal) and Spearman (above diagonal) correlations where Suspect firms are defined as firms that exhibit BTM ratio greater than 1 for two consecutive years and do not recognise goodwill impairment.⁸⁰ The highest correlation is observed between RCFO and RFCF, which is reasonable. Finally, Table 6.7 presents country-level enforcement index. Countries with a high value of aggregate ENF index in 2008, indicating strict enforcement of financial reporting and auditing, are Australia (52) and Hong Kong (52). Countries with a low index value are Taiwan (18) and Thailand (23).

Table 6.6 and Table 6.7 about here

⁸⁰ I find similar results of correlations where Suspect firms are defined as firms exhibit a BTM ratio greater than 1 for three consecutive years and do not recognise goodwill impairment (untabulated)

6.5. Empirical Results

6.5.1 Test of hypothesis 1

The main test of the study investigates whether Suspect firms present significantly larger levels of abnormal cash flows than the Benchmark firms. Table 6.8 reports the results of estimating model (1). The multivariate regressions are performed using firm-level clustering for robust-standard errors to mitigate the effect of heteroscedasticity (Petersen 2009).

Table 6.8 about here

I first focus on the sample of Suspect and Benchmark firms that have a BTM ratio greater than 1 in two consecutive year. In column (3), the coefficients of SUSPECT against RDP are reported positively as expected, but not significant. Thus, there is no evidence that Suspect firms manage current cash flows through the reduction of discretionary expenses or the management of production levels. Rather, as in columns (4) and (5), the coefficients (values) of SUSPECT against RCFO and RFCF are positive and significant at 0.021 (5.904) and 0.019 (4.213) at 1% level of significance. Similar results are obtained for the sample of Suspect and Benchmark firms having a BTM ratio greater than 1 in three consecutive year (column 6 to 8). Thus, firms with market impairment indications that delay the impairment recognition for two to three years exhibit significant abnormal level of operating cash flows and free cash flows, suggesting that these firms manage cash flows upward through various real activities, such as stretching payables, accelerate receivables, or cutting capital investments.

Among control variables, the coefficients AEM are significant and negatively related to all REM proxies at 1% level of significance, confirming prior studies on the

substitution effects between AEM and REM (Cohen and Zarowin 2010; Zang 2011). Other control variables yield results consistent with the expectations and findings in prior research on goodwill impairment and earnings management.

6.5.2 Test of hypothesis 2

The second hypothesis considers the impact of country-level enforcement on the strategy of manipulating real activities by Suspect firms to support the delay in goodwill write-offs. Table 6.9 reports the results of estimating model (1) for sub-samples of strong and weak enforcement environments. Strong (weak) enforcement countries are those with the ENF proxy at or above (below) the median for all countries.

Table 6.9 about here

Panel A presents the results against the sample of firms having a BTM ratio greater than 1 for two consecutive years. I again observe no significant association between SUSPECT and RPD in both in strong- and weak-enforcement countries. Rather, in columns (4) and (5), the coefficients (values) of SUSPECT are significantly associated with RCFO and RFCF in strong enforcement countries by 0.020 (4.429) and 0.018 (3.281), respectively, at 1% significance level. In weak enforcement countries, the coefficients (values) of SUSPECT against RCFO and RFCF are also positive at 0.015 (2.472) and 0.013 (1.741) respectively, but at lower significance level relative to those in strong enforcement countries. Panel B presents the results against the sample of Suspect and Benchmark firms having a BTM ratio greater than 1 for three consecutive years. The variables SUSPECT are significant and positively associated with RCFO and

RFCF in strong enforcement countries, but not significant in weak enforcement countries.

Thus, relative to non-impairers in weak enforcement countries, their counterparts in strong enforcement countries are more likely to manage current cash flow levels through the manipulation of operating and free cash flow. The finding implies an unintended consequence of higher enforcement strength: Suspect firms are under pressure from more stringent monitoring of regulatory authorities and, therefore, resort to greater cash flow manipulation to strongly justify the non-recognition of goodwill impairment. In contrast, without stringent regulatory scrutiny, firms are able to ignore the impairment requirements and less likely to conduct cash flow manipulations to justify their non-impairments.

Among control variables, the coefficients for AEM are again significant for firms in both strong and weak enforcement countries. The variable Q is positively related to all REM proxies in the strong enforcement sub-sample; whereas SIZE is positively related to RCFO in the weak enforcement sub-sample. The impact of enforcement on the association between REM and Δ SALE, Δ ROA, LEV, D_ISSUE and E_ISSUE is indifferent in strong- versus weak-enforcement countries.

6.6. Additional Tests and Robustness Checks

6.6.1 Analysis of future performance

I further investigate the effects of REM to improve current cash flows on the performance in firms with delayed goodwill impairments. Recent research has examined the effect of management's discretionary activities by altering the timing and scale of operating decisions on the future performance of firms (see, e.g. Bhojraj et al. (2009), Gunny (2010), Cohen and Zarowin (2010), Jiang et al. (2018)). Departures from

optimal business strategies to improve current cash flows reduce firms' set of investment opportunities, and thus, are unlikely to enhance firms' long-term value (Roychowdhury 2006). However, the threat of having to recognise a write-off may discipline managers to use available resources more efficiently (Gunny 2010). Under this approach, real activities to improve current period cash flows could finally reflect efficient resource allocation, resulting in favourable reactions from stock market participants.

Panel A and B, Table 6.10 compares the mean adjusted ROA growth, ROAG, and stock market return, RET, over the subsequent k years for firms that are likely to carry impaired goodwill and choose not to book an impairment for two and three years and those in the benchmark group. ROAG is measured as change in mean adjusted ROA from $t-1$ to ROA in t , and RET is measured as the firm's annual stock return adjusted for dividends and stock splits.

Table 6.10 about here

In Panel A, the mean ROAG of Suspect firms is negative and significantly lower than that of Benchmark firms in the subsequent two years. Such a pattern is higher for firms in stronger enforcement countries. In particular, the difference in ROAG between these group is 0.128 (0.425) in $t+1$ ($t+2$) for strong enforcement countries and only 0.055 (0.248) for weak enforcement countries. I also find evidence that Suspect firms present a smaller increase in RET relative to Benchmark firms over years, although the difference in RET between the Benchmark and Suspect firms only become significant in the second year for the full sample and strong enforcement sub-sample. Panel B presents similar patterns. Overall, cash flow management by non-impairers tends to be

detrimental to future performance. Such unfavourable consequences are more severe for Suspect firms in strong enforcement environments relative to their counterparts in weak enforcement countries.

6.6.2 Can firm extend the delay in goodwill impairment?

In particular, I analyse the percentage of Suspect firms that recognise goodwill impairment in $t+1$ and $t+2$ after the delay of impairment in year t , and then observe the levels of RCFO and RFCF for Suspect and Benchmark firms over these years.⁸¹ Panel A (B) of Table 6.11 provides the statistics of RCFO and RFCF in $t+1$ and $t+2$ for Suspect and Benchmark firms with BTM greater than 1 for two (three) consecutive years.

Table 6.11 about here

In Panel A, only 8.209% of Suspect firms impair goodwill in $t+1$ and 6.195% impair in $t+2$. The abnormal free cash flows of Suspect firms are significantly positive in the next two years, with the mean RFCF 0.009 in $t+1$ and 0.006 in $t+2$. I also observe consistently higher positive RCFO and RFCF in Suspect firms than in the Benchmark firms in $t+1$. Additionally, the differences in abnormal cash flows are greater across firms in strong enforcement countries than in firms in weak enforcement countries. I however do not find significant difference in the mean abnormal level of cash flows between Suspect and Benchmark firms in $t+2$. Panel B reports similar results. Overall, the findings suggest that a significant fraction of Suspect firms continue the

⁸¹ I do not report RPD proxy results as I do not find evidence that Suspect firms manipulate production levels or cut discretionary expenditures to manage current period cash flows upward in the prior analysis (Section 6.5). The descriptive statistics also show no significant difference in RPD between Suspect and Benchmark firms in $t+1$ and $t+2$.

implementation of cash flow management to support the non-impairment decisions. Also, firms in strong enforcement countries have a greater capacity to continue the engagement in REM activities after the delay in impairment in t , even though their capacity to do so appears to diminish in the subsequent second year.

6.6.3 Alternative measures of real activities management

Following Kothari et al. (2005), recent studies (Cohen et al. 2016; Kim and Park 2013) argue that REM measures would be misspecified due to a mechanical relationship between estimated earnings management metrics and performance. To overcome this potential problem, I follow Cohen et al. (2016)'s suggestion to construct variables adjusted by performance to test the robustness of the study for alternative REM measures. First, I re-estimate models (2) to (6) after including ROA in the prior year, ROAt-1. Second, I employ a performance-match procedure as suggested by Cohen et al. (2016). I identify a control firm for each treatment firm in the same industry, year, country, and ROA within +/- 20 percent, and then compute REM metrics for the treatment firms as the difference in the REM proxies between the treatment and the control. The results (untabulated) from re-estimating model (1) with these alternative proxies leads to qualitatively similar results.

6.6.4 Accrual-based earnings management

I further examine whether Suspect firms also engage in AEM activities since a number of studies indicates that delayed asset impairments can be associated with "smooth" or "big-bath" accounting (Riedl 2004; Jordan and Clark 2004; Ramanna and Watts 2012; Roychowdhury and Martin 2013; Glaum et al. 2018). In addition, the previous study of this thesis shows that managers' decision to recognise an impairment

loss is also based on accounting indicators of performance. I re-estimate model (1) with AEM as a dependent variable as follows, and include REM proxies, M, to control for the substitution effects between REM and AEM. Other control variables remain the same as model (1).

$$\begin{aligned} \text{AEM} = & \alpha + \beta_1 \text{SUSPECT} + \beta_2 \text{M} + \beta_3 \text{Q} + \beta_4 \text{SIZE} + \beta_5 \Delta \text{ROA} + \beta_6 \Delta \text{SALE} + \\ & \beta_7 \text{SHARES} + \beta_8 \text{LEV} + \beta_9 \text{DISSUE} + \beta_{10} \text{EISSUE} + \beta_{11} \text{GDP} + \\ & \beta_{12} \text{CONCENTR} + \beta_{13} \text{ENF} + \text{SECTOR FIXED EFFECTS} + \text{YEAR} \\ & \text{FIXED EFFECTS} + \text{COUNTRY FIXED EFFECTS} + \varepsilon \end{aligned} \quad (7)$$

The results are reported in Table 6.12. Columns (3) to (5) present findings for the sample of Suspect and Benchmark firms having a BTM ratio greater than 1 for two consecutive years. I find the coefficient (value) of SUSPECT against AEM is significant at 0.039 (8.599) at 1% level of significance, suggesting that lagged goodwill impairment over two years in Suspect firms also relates to accrual-based earnings management. In the sub-sample analyses, the coefficients (values) of SUSPECT are statistically significant at 0.049 (8.173) at 1% significance level in strong enforcement countries, but not significant in weak enforcement countries. Among the control variables, REM is significantly and negatively related to AEM, confirming the substitution effects of these earnings management strategies. Similar results are obtained for the sample of Suspect and Benchmark firms having a BTM ratio greater than 1 for three consecutive years. These results are presented in columns (6) to (8). Overall, the findings indicate that, besides REM, firms with impaired goodwill also engage in AEM strategies, and at a higher level in stronger enforcement countries.

Table 6.12 about here

6.6.5 Country and industry sector sensitivity checks

Additional tests are conducted to check the robustness of the main findings. I first assess whether the inferences generalise across sample industry sectors, or whether particular industry sectors are unduly influential. I form nine industry sub-samples by excluding one industry from the full sample at a time, and re-estimate model (1) for each of these sub-samples. Untabulated findings from the nine sub-sample estimations reveal qualitatively similar inferences.

I also control for country sensitivity. Korea (South) has fully adopted IFRS since 2011. It could be argued that the inclusion of this country generates confounding effect resulted from the adoption year⁸². In order to test whether the findings are not attributable to Korea, I re-estimate model (1) after excluding Korea from the sample and continue to find support for the primary analysis for full sample and enforcement sub-samples.

Australia is highly developed and has more rigorous enforcement regime than the remaining sample countries. In order to assess whether Australia is unduly influential, I again re-estimate model (1) after eliminating Australian observations and obtain qualitative similar results to the main findings.

6.7. Conclusion

The study in this chapter investigates whether managers delay the recognition of economic impairments of goodwill by managing upward current period cash flow levels. I follow Ramanna and Watts (2012) and identify Suspect firms and Benchmark firms for the study analyses. Compared to firms in the Benchmark group, Suspect firms

⁸² In particular, the incentives during the first-year adoption of new accounting standards could have been different from the years afterward since there is a trade-off between booking a write-off in the adoption year and facing uncertain impairments in the later periods (Beatty and Weber 2006).

are likely to manage their cash flows upward through real activities, such as stretching payables, accelerating receivables, or cutting investments. Findings from separate estimations for strong and weak enforcement countries show that Suspect firms in stronger enforcement countries engage in more cash flow manipulation. I interpret this result as these firms being under more stringent regulatory scrutiny and, therefore, needing stronger evidence to validate the absence of goodwill impairments. Additional tests further add that, although Suspect firms continue manipulating cash flow to support the lack of timeliness of impairment, their capacity to do so appears to diminish in the subsequent years. These non-impairers also experience lower future performance, and such adverse effects are more severe in stronger enforcement countries. Overall, this study suggests an unintended consequence of strong enforcement level is to motivate cash flow manipulation through real operations, namely, Suspect firms resorting to even more costly REM for higher cash flow and stronger justification of non-impairments.

This study has its share of limitations. First, the study does not cover firm-level ownership structure and corporate governance arrangements which, as observed in previous corporate governance studies, also have implications for real activities manipulation by firms. Because of historical and institutional differences, ownership structure and corporate governance features can vary significantly between countries (Porta et al. 1998), investigating the effects of these features on goodwill impairment practices warrants separate studies in different country jurisdictions. Second, the study utilises REM as proxies for cash flow manipulations. In practice, it is difficult to disentangle firms' REM behaviour from the normal course of managerial decision making. Managers REM activities may be their rational response to economic circumstances (Roychowdhury 2006). In addition, the research relies on Roychowdhury (2006)'s models that are designed to measure earnings management.

Roychowdhury (2006) has drawn connection between these measures and their cash flow consequences, but the connection is not necessarily exact. Future research could be implemented based on a stronger theoretical explanation for REM in different contexts. Notwithstanding these limitations, this study is important to the standard setters and regulators in evaluating reporting practices under the impairment-only approach in countries with different enforcement levels.

Table 6.1*Description of Variables*

Variables	Notation	Definition/Calculation	Data source
<i>Dependent variables</i>			
Abnormal production & discretionary expenditure	RPD	Real activities manipulation through over production and cutting discretionary expenditure for firm i in year t , measured as the sum of the residuals of Model (2) (3) and Model (3), multiplied by (-1)	Model (2) and model (3)
Abnormal operating cash flows	RCF	Real activities manipulation through operating cash flows management for firm i in year t , measured as the residuals of Model (4)	Model (4)
Abnormal free cash flows	RFCF	Real activities manipulation through free cash flows management for firm i in year t , measured as the difference between the residuals of Model (4) and Model (5)	Model (4) and (5)
<i>Independent variables</i>			
Discretionary expenditures	DISX	Sum of R&D, advertising and SG&A for firm i in year t , divided by total assets in $t-1$	Thompson Reuters & Osiris
Production costs	PROD	Sum of cost of goods sold of firm i in year t and change in inventory of firm i in year $t-1$ to t , divided by total assets in $t-1$	Thompson Reuters & Osiris
Cash flow from operations	CFO	Cash flow from operations reported on the statement of cash flows for firm i in year t , divided by total assets in $t-1$	Thompson Reuters & Osiris
Capital expenditures	CAPEX	Capital expenditures reported on the statement of cash flows for firm i in year t , divided by total assets in $t-1$	Thompson Reuters & Osiris
Abnormal capital expenditures	RCAPEX	Real activities manipulation through cutting capital expenditures for firm i in year t , measured as the residuals of model (5)	
Accruals	ACC	Earnings before extraordinary items and discontinued operations minus the operating cash flows (before goodwill impairment) for firm i in year t , divided by total assets in $t-1$	Thompson Reuters & Osiris
Accrual-based earnings management	AEM	Accruals earnings management for firm i in year t , measured as the residuals of model (6)	Model (6)
Book-to-market ratio	BTM	Ratio of book value of equity to market value of equity for firm i in year t	Thompson Reuters & Osiris
Lagged book-to-market ratio	BTMt-k	Ratio of book value of equity to market value of equity for firm i in year $t-k$	
Tobin-Q	Q	Ratio of market value of equity plus book value of debt divided by total assets	
Firm size	SIZE	Natural logarithm of total assets (before goodwill impairment) for firm i in year t	Thompson Reuters & Osiris

Firm shares outstanding	SHARES	Natural logarithm of number of shares outstanding for firm <i>i</i> in year	
Firm leverage	LEV	Total interest-bearing debts to market value of equity (before goodwill impairment) for firm <i>i</i> in year <i>t</i>	Thompson Reuters & Osiris
Debt issuance	D_ISSUE	Debt issuance for firm <i>i</i> in year <i>t</i> , equals 1 if total debt increases by more than 10% and 0 otherwise	Thompson Reuters & Osiris
Equity issuance	E_ISSUE	Equity issuance for firm <i>i</i> in year <i>t</i> , equals 1 if the par value of common equity increases by more than 10% and 0 otherwise	Thompson Reuters & Osiris
Accounting rate of return	ROA	Return on assets (before goodwill impairment) for firm <i>i</i> in year <i>t</i>	Thompson Reuters & Osiris
Change in rate of return	ΔROA	Change in ROA of firm <i>i</i> from year <i>t-1</i> to year <i>t</i> , divided by total assets in year <i>t-1</i>	Thompson Reuters & Osiris
Change in sales	ΔSALE	Change in sales of firm <i>i</i> from year <i>t</i> to year <i>t-1</i> , divided by total assets at year <i>t-1</i>	Thompson Reuters & Osiris
Impairment to Asset	IMPt/TAt-1	Ratio of goodwill impairment for firm <i>i</i> in year <i>t</i> to total assets at year <i>t-1</i>	Thompson Reuters & Osiris
Impairment to Goodwill	IMPt/GWt-1	Ratio of goodwill impairment for firm <i>i</i> in year <i>t</i> to goodwill at year <i>t-1</i>	Thompson Reuters & Osiris
Goodwill intensity	GWt/TAt-1	Ratio of goodwill (before goodwill impairment) for firm <i>i</i> in year <i>t-1</i> to total assets in year <i>t-1</i>	Thompson Reuters & Osiris
Growth in rate of return	ROAG	Change in mean adjusted ROA from year <i>t-1</i> to <i>t</i> to ROA in <i>t</i>	Thompson Reuters & Osiris
Stock market return	RET	Annual stock return of firm <i>i</i> in year <i>t</i> adjusted for dividends and stock splits	Thompson Reuters
Market liquidity	T_GDP	Total value of market trading as a percentage of GDP in a given country	World Bank and Securities websites
Ownership concentration	CONCENTR	Ownership structure, measured as the median percentage of common share owned by the top three shareholders in the ten largest private-owned non-financial firms in a given country. High values stand for high ownership concentration	La Porta et al (1998)
Audit and accounting enforcement index	ENF	Index of the strength of public enforcement of financial reporting and auditing.	Brown, et al. (2014)

Table 6.2**Sample****Panel A Sample selection process**

Description	No. of firms	No. of firm-years
Non-financial listed firms/firm-years on mainboards of stock exchanges 2011 - 2014	5,173	20,692
Less: firms/firm-years applying inconsistent goodwill accounting rule	(2)	(8)
Less: firms/firm-years with insufficient data or stop trading	(524)	(2,096)
Less: firms/firm-years reporting negative book value of equity	<u>(51)</u>	<u>(440)</u>
Full sample for estimating REM and AEM	<u>4,596</u>	<u>18,148</u>
Firms/firm-years reporting goodwill balance	1,781	5,790
Firms/firm-years non-impaired (Suspect) and impaired (Benchmark) if BTM>1 in 2 consecutive years		2,417
Firms/firm-years non-impaired (Suspect) and impaired (Benchmark) if BTM>1 in 3 consecutive years		2,119

Panel B Full sample for estimating REM and AEM proxies by country and industry

Sectors	Total	Australia	Hong Kong	South Korea	Malaysia	Philippines	Singapore	Taiwan	Thailand
Energy	1030	557	14	31	140	52	144	12	80
Consumer discretionary	3230	518	156	631	501	127	322	568	407
Consumer staples	1427	224	28	298	387	90	108	116	176
Healthcare	975	430	20	179	84	12	82	80	88
Industrials	3869	481	92	639	860	112	724	552	409
Information technology	2926	663	36	227	360	56	192	1244	148
Materials	4109	2094	48	592	452	112	128	392	291
Telecommunication services	229	68	8	16	44	14	31	16	32
Utilities	<u>353</u>	<u>82</u>	<u>20</u>	<u>48</u>	<u>48</u>	<u>47</u>	<u>20</u>	<u>16</u>	<u>72</u>
Total:									
No. of firm-years	<u>18,148</u>	<u>5,117</u>	<u>422</u>	<u>2,661</u>	<u>2,876</u>	<u>622</u>	<u>1,751</u>	<u>2,996</u>	<u>1,703</u>
No. of firms	<u>4,596</u>	<u>1,309</u>	<u>138</u>	<u>656</u>	<u>723</u>	<u>153</u>	<u>442</u>	<u>748</u>	<u>427</u>

Table 6.3*Descriptive Statistics*

Panel A. Full sample for estimating REM and AEM proxies

Variable	Obs.	Mean	S.D.	p25	Med	p75
DISX	18,148	0.154	0.229	0.030	0.090	0.180
PROD	18,148	0.666	0.671	0.190	0.510	0.900
CFO	18,148	0.006	0.221	-0.030	0.040	0.100
CAPEX	18,148	0.069	0.114	0.010	0.030	0.080
ACC	18,148	-0.049	0.166	-0.080	-0.030	0.010
RPD	18,148	0.000	0.250	-0.060	0.010	0.080
RCFO	18,148	0.000	0.160	-0.050	0.010	0.070
RFCF	18,148	0.000	0.185	-0.060	0.010	0.090
AEM	18,148	0.000	0.154	-0.050	0.010	0.060
Q	18,148	1.220	1.361	0.057	0.820	1.310
SIZE	18,148	18.503	2.111	17.160	18.490	19.800
ΔROA	18,148	-0.020	3.620	-0.070	-0.020	0.250
ΔSALE	18,148	0.037	0.266	-0.050	0.010	0.090
SHARES	18,148	18.902	1.815	17.930	18.990	20.000
LEV	18,148	0.568	1.358	0.000	0.170	0.600
D_ISSUE	18,148	0.527	0.499	0.000	1.000	1.000
E_ISSUE	18,148	0.343	0.475	0.000	0.000	1.000
T_GDP	18,148	0.918	0.737	0.480	0.810	1.270
CONCENTR	18,148	0.352	0.141	0.230	0.280	0.490
ENF	18,148	35.431	12.783	23.000	32.000	52.000
Observations with positive goodwill in <i>t</i> (31.904%)						
GWt/TAt-1	5,790	0.077	0.126	0.000	0.020	0.080

Panel B. Observations breakdown by goodwill and goodwill impairments

	Obs.	%
Goodwill in <i>t-1</i> and impairment in <i>t</i>	708	3.901%
Goodwill in <i>t-1</i> and no impairment in <i>t</i>	5,043	27.788%
No goodwill in <i>t-1</i> and impairment in <i>t</i>	142	0.782%
No goodwill in <i>t-1</i> and no impairment in <i>t-1</i>	12,255	67.528%
Total	18,148	100.000%
Observations with impairment in <i>t</i>	850	4.684%
Observations with goodwill in <i>t-1</i>	5,751	31.689%

Note: Variables as defined in Table 1

Table 6.4*Number of Goodwill Impairments over three-year Windows (for Sub-sample with Impairment in t and Goodwill in t-1)*

Variable	Obs.	%	Mean	S.D.	0.25	Med	0.75
# IMP = 1							
IMPt/TA _{t-1}	474	60.536%	0.016	0.016	0.000	0.010	0.040
IMPt/GW _{t-1}	474	60.536%	0.353	0.370	0.030	0.170	0.680
# IMP =2							
IMPt/TA _{t-1}	210	26.820%	0.015	0.016	0.000	0.010	0.040
IMPt/GW _{t-1}	210	26.820%	0.311	0.353	0.020	0.130	0.460
# IMP =3							
IMPt/TA _{t-1}	99	12.644%	0.012	0.015	0.000	0.010	0.020
IMPt/GW _{t-1}	99	12.644%	0.254	0.303	0.030	0.120	0.350
Total	783	100.000%					

Note: Variables as defined in Table 6.1

Table 6.5.*Descriptive Statistics across Suspect and Benchmark Firms*

Panel A. Observation breakdown according to BTM and impairments

Number of observations	benchmark (impairers)		suspect (non-impairers)		Total
BTM > 1 in two consecutive years	480	19.859%	1,937	78.337%	2,417
BTM > 1 in three consecutive years	560	26.428%	1,559	73.572%	2,119

Panel B. Comparison across Suspect firms and Benchmark firms

Variable	BTM > 1 in two consecutive years					BTM > 1 in three consecutive years				
	benchmark		suspect		Difference	benchmark		suspect		Difference
	Mean	Med	Mean	Med		Mean	Med	Mean	Med	
BTM	2.204	1.780	2.163	1.770	0.041	2.308	1.930	2.239	1.820	0.068
BTMt-1	2.115	1.750	2.130	1.740	-0.015	2.267	1.890	2.234	1.840	0.033
BTMt-2	2.052	1.720	2.092	1.710	-0.040	2.329	1.870	2.273	1.850	0.056
BTMt-3	2.243	1.790	2.359	1.850	-0.116	2.412	1.950	2.536	1.980	-0.124
AEM	-0.035	-0.010	0.004	0.000	-0.039***	-0.022	-0.001	0.002	0.000	-0.024***
Q	0.537	0.530	0.545	0.560	-0.008	0.527	0.510	0.535	0.550	-0.008
SIZE	19.332	19.110	19.652	19.520	-0.321***	19.350	19.100	19.653	19.520	-0.303***
ΔROA	-0.009	0.010	0.024	0.020	-0.034*	-0.001	0.010	0.025	0.020	-0.026*
ΔSALE	-0.011	-0.010	0.026	0.010	-0.037***	-0.010	-0.001	0.032	0.010	-0.042***
SHARES	19.048	19.210	18.741	18.900	0.308***	18.942	19.150	18.645	18.830	0.297***
LEV	1.177	0.680	1.265	0.760	-0.088	1.227	0.720	1.333	0.770	-0.106
D_ISSUE	0.400	0.000	0.387	0.000	0.013	0.389	0.000	0.387	0.000	0.002
E_ISSUE	0.292	0.000	0.253	0.000	0.039	0.277	0.000	0.257	0.000	0.020
T_GDP	0.827	0.590	0.990	0.810	-0.163***	0.855	0.590	0.965	0.810	-0.110***
CONCENTR	0.389	0.490	0.354	0.280	0.035***	0.389	0.490	0.360	0.280	0.029***
ENF	38.568	40.000	34.583	32.000	3.984***	37.988	40.000	34.591	32.000	3.397***

Note: Variables are defined as in Table 6.1

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 6.6*Pearson (Below Diagonal) and Spearman (Above Diagonal) Correlations*

	SUSPECT	RPD	RCFO	RFCF	AEM	Q	SIZE	ΔROA	ΔSALE	SHARES	LEV	DIFF_D	DIFF_E	T_GDP	CONCENTR	ENF
SUSPECT	1.000	0.020	0.021	0.013	0.092*	0.039*	-0.027*	0.040*	0.032*	-0.072*	-0.083*	0.072*	0.011	0.086*	-0.121*	-0.105*
RPD	0.015	1.000	0.574*	0.477*	-0.025*	0.061*	-0.081*	0.099*	-0.083*	-0.056*	-0.158*	-0.082*	0.015	-0.009	-0.107*	0.168*
RCFO	0.026*	0.548*	1.000	0.787*	-0.392*	-0.003	-0.125*	0.152*	-0.025*	-0.068*	-0.234*	-0.106*	0.036*	-0.052*	-0.016	0.217*
RFCF	0.019	0.500*	0.844*	1.000	-0.280*	-0.049*	-0.113*	0.065*	0.005	-0.029*	-0.173*	-0.178*	-0.007	-0.045*	-0.017	0.185*
AEM	0.096*	0.141*	-0.247*	-0.127*	1.000	0.009	-0.017	0.226*	0.034*	-0.024	-0.068*	0.190*	0.148*	-0.018	-0.031*	0.096*
Q	-0.002	-0.028*	-0.021*	-0.044*	-0.039*	1.000	0.112*	0.146*	0.028*	0.117*	0.130*	-0.003	0.038*	0.064*	-0.084*	-0.207*
SIZE	-0.047*	0.027*	0.061*	0.049*	0.048*	-0.260*	1.000	0.263*	0.085*	0.159*	0.462*	-0.157*	0.076*	0.452*	-0.289*	-0.422*
ΔROA	0.024*	0.023*	0.014	0.020*	0.047*	0.020*	0.003	1.000	0.264*	-0.019	-0.015	-0.069*	0.339*	0.081*	0.103*	-0.213*
ΔSALE	0.062*	-0.022*	0.002	0.000	0.001	0.052*	0.053*	0.008	1.000	-0.043*	0.054*	0.140*	0.270*	0.053*	0.027*	-0.020
SHARES	-0.062*	0.006	0.006	-0.005	0.018*	0.086*	0.286*	0.006	0.025*	1.000	-0.022	-0.040*	-0.064*	-0.148*	0.279*	0.078*
LEV	-0.020	-0.031*	-0.069*	-0.038*	-0.016*	-0.168*	0.228*	0.000	-0.024*	-0.105*	1.000	-0.238*	0.010	0.165*	-0.072*	-0.257*
DIFF_D	0.060*	-0.054*	-0.090*	-0.153*	0.061*	0.117*	-0.206*	-0.001	0.114*	-0.041*	-0.115*	1.000	0.033*	-0.014	-0.002	0.129*
DIFF_E	0.009	-0.013	-0.005	-0.082*	0.130*	0.112*	-0.021*	0.000	0.293*	-0.001	-0.068*	0.077*	1.000	0.071*	0.014	-0.015
T_GDP	0.040*	0.000	0.001	0.001	0.000	-0.090*	0.328*	-0.001	0.021*	0.070*	0.063*	-0.042*	0.008	1.000	-0.744*	-0.544*
CONCENTR	-0.101*	0.000	0.000	0.000	0.000	-0.014	-0.049*	0.000	0.045*	0.342*	-0.024*	-0.033*	0.028*	-0.204*	1.000	0.548*
ENF	-0.081*	0.000	0.000	0.000	0.000	0.134*	-0.377*	-0.002	-0.015*	-0.062*	-0.108*	0.167*	0.053*	-0.188*	0.142*	1.000

Note: Variables are defined as in Table 6.1. The correlation matrix is based on the sample of Suspect and Benchmark firms that exhibit a BTM ratio greater than 1 for two consecutive years. Similar results are obtained where Suspect and Benchmark firms are identified as those exhibit a BTM ratio greater than 1 for three consecutive years.

* denotes significance at less than 5%

Table 6.7*Audit and Accounting Enforcement Index by Country*

Country	Audit index			Accounting Enforcement index			Audit and Accounting Enforcement index (ENF)		
	2005	2008	avg. 2005-08	2005	2008	avg. 2005-08	2005	2008	avg. 2005-08
Australia	30.000	30.000	30.000	22.000	22.000	22.000	52.000	52.000	52.000
Hong Kong	22.000	30.000	26.000	8.000	22.000	15.000	30.000	52.000	41.000
Korea (South)	14.000	18.000	16.000	10.000	10.000	10.000	24.000	28.000	26.000
Malaysia	9.000	21.000	15.000	8.000	19.000	13.500	17.000	40.000	28.500
the Philippines	8.000	11.000	9.5000	16.000	16.000	16.000	24.000	27.000	25.500
Singapore	20.000	20.000	20.000	12.000	12.000	12.000	32.000	32.000	32.000
Taiwan	10.000	10.000	10.000	8.000	8.000	8.000	18.000	18.000	18.000
Thailand	11.000	11.000	11.000	15.000	12.000	13.000	26.000	23.000	24.500
Median	12.500	19.000	15.500	11.000	14.000	13.500	25.000	30.000	27.250

Note: The audit and accounting enforcement index is from Brown et al (2014)'s study. The median of composite index for audit and accounting enforcement index in 2008 by country is used for classification of strong and weak enforcement countries.

Table 6.8*Cash Flow Management by Suspect firms*

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
VARIABLES	Predicted sign	BTM1 > 1 in two consecutive years			BTM1 > 1 in three consecutive years		
		RPD	RCFO	RFCF	RPD	RCFO	RFCF
		Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)
Constant		-0.011** (-0.183)	-0.083** (-2.456)	-0.127*** (-3.026)	-0.009*** (-0.140)	-0.095** (-2.578)	-0.149*** (-3.215)
SUSPECT	+	0.001 (0.222)	0.021*** (5.904)	0.019*** (4.213)	0.002 (0.249)	0.015*** (4.337)	0.016*** (3.798)
AEM	±	-0.106*** (-3.879)	-0.381*** (-24.646)	-0.337*** (-17.411)	-0.094*** (3.207)	-0.360*** (-22.265)	-0.322*** (-15.835)
Q	-	0.007*** (3.144)	0.003** (2.123)	0.001 (0.271)	0.008*** (3.343)	0.003** (2.515)	0.001 (0.925)
SIZE	+	-0.001 (-0.055)	0.001 (1.006)	0.001 (0.438)	-0.001 (-0.372)	0.001 (0.898)	0.001 (0.488)
ROAG	+	0.000 (0.534)	0.001 (1.517)	0.001 (-1.036)	0.000 -0.560	0.000* (1.818)	0.001 (-0.877)
ΔSALES	+	-0.091*** (-7.532)	-0.014** (-2.090)	0.045*** (5.247)	-0.098*** (-7.477)	-0.011 (-1.561)	0.046*** (5.091)
SHARES	±	-0.002 (-1.025)	0.001 (0.425)	0.001 (0.830)	-0.003 (-1.278)	0.001 (0.396)	0.001 (0.685)
LEV	±	-0.003* (-1.678)	-0.006*** (-6.489)	-0.007*** (-6.397)	-0.002 (-1.269)	-0.005*** (-5.941)	-0.007*** (-6.009)
D_ISSUE	±	-0.028*** (-5.510)	-0.017*** (-5.773)	-0.036*** (-10.108)	-0.029*** (-5.193)	-0.014*** (-4.619)	-0.035*** (-9.155)
E_ISSUE	±	0.016*** (2.619)	0.023*** (6.688)	0.011** (2.577)	0.015** (2.141)	0.021*** (5.484)	0.008* (1.748)
T_GDP	±	0.009 (0.613)	-0.005 (-0.603)	0.008 (0.742)	0.021 (1.252)	0.001 (0.136)	0.018 (1.513)
CONCENTR	±	-0.027 (-0.364)	-0.036 (-0.856)	-0.055 (-1.035)	-0.001 (-0.006)	-0.021 (-0.468)	-0.040 (-0.710)
ENF	±	0.003*** (6.524)	0.002*** (8.238)	0.004*** (12.063)	0.003*** (6.236)	0.002*** (8.104)	0.004*** (11.521)
Year fixed effects		Included	Included	Included	Included	Included	Included
Sector fixed effects		Included	Included	Included	Included	Included	Included
Country fixed effects		Included	Included	Included	Included	Included	Included
R-squared		0.135	0.314	0.306	0.135	0.304	0.296
Observations		2,417	2,417	2,417	2,119	2,119	2,119

Note: Variables are defined as in Table 6.1

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 6.9*Enforcement Effect on Cash Flow Management by Suspect Firms*

Panel A. Sample selection based on Method 1: Suspect and Benchmark firms having BTM>1 in two consecutive years

Column 1	Column 2	Column 3	Column 4	Column 5	Column 7	Column 8	Column 9
VARIABLES	Predicted sign	Strong ENF			Week ENF		
		RPD	RCFO	RFCF	RPD	RCFO	RFCF
		Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)	Coefficient (<i>t</i> -statistics)
Constant		0.351*** (5.617)	0.115*** (3.452)	0.192*** (4.671)	-0.307*** (-3.032)	-0.179*** (-2.794)	-0.146* (-1.740)
SUSPECT	+	-0.004 (-0.444)	0.020*** (4.429)	0.018*** (3.281)	0.011 (1.136)	0.015** (2.472)	0.013* (1.741)
AEM	±	-0.083** (-2.305)	-0.327*** (-17.026)	-0.296*** (-12.540)	-0.171*** (-4.002)	-0.575*** (-21.302)	-0.495*** (-13.972)
Q	±	0.010*** (3.190)	0.004*** (2.611)	0.003* (1.257)	-0.001 (-0.513)	-0.002 (-1.252)	-0.005 (-2.304)
SIZE	±	-0.002 (-0.513)	0.000 (-0.267)	-0.001 (-0.725)	0.002 (0.989)	0.003* (1.893)	0.002 (1.015)
ΔROA	±	0.001 (0.650)	0.000 (1.415)	0.000 (-1.196)	0.001 (0.411)	0.000 (0.349)	0.000 (0.077)
ΔSALES	±	-0.067*** (-3.786)	0.003 (0.268)	0.065*** (5.647)	-0.140*** (-9.502)	-0.053*** (-5.649)	0.002 (0.172)
SHARES	±	-0.005 (-1.377)	0.001 (0.534)	0.003 (1.223)	0.002 (0.753)	0.001 (0.360)	0.000 (0.144)
LEV	±	-0.005* (-1.778)	-0.007*** (-4.714)	-0.009*** (-4.676)	-0.003** (-2.043)	-0.006*** (-6.395)	-0.007*** (-5.604)
D_ISSUE	±	-0.036*** (-4.816)	-0.022*** (-5.399)	-0.040*** (-8.185)	-0.017*** (-2.787)	-0.007* (-1.933)	-0.029*** (-5.691)
E_ISSUE	±	0.017* (1.845)	0.027*** (5.390)	0.013** (2.154)	0.014* (1.930)	0.019*** (4.238)	0.012* (1.936)
T_GDP	±	-0.010 (-0.443)	-0.015 (-1.261)	-0.003 (-0.176)	0.044* (1.8140)	0.003 (0.216)	0.006 (0.293)
CONCENTR	±	-0.416*** (-7.057)	-0.263*** (-8.371)	-0.452*** (-11.691)	0.726*** (2.983)	0.420*** (2.735)	0.395* (1.960)
Year fixed effects		Included	Included	Included	Included	Included	Included
Sector fixed effects		Included	Included	Included	Included	Included	Included
Country fixed effects		Included	Included	Included	Included	Included	Included
R-squared		0.121	0.315	0.344	0.109	0.391	0.276
Observations		1,340	1,340	1,340	1,077	1,077	1,077

Note: Variables are defined as in Table 6.1

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 6.9*Enforcement Effect on Cash Flow Management by Suspect Firms*

Panel B. Sample selection based on Method 1: Suspect and Benchmark firms having BTM>1 in three consecutive years

Column 1	Column 2	Column 3	Column 4	Column 5	Column 7	Column 8	Column 9
VARIABLES	Predicted sign	Strong ENF			Weak ENF		
		RPD	RCFO	RFCF	RPD	RCFO	RFCF
		Coefficient	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
		(<i>t</i> -statistics)	(<i>t</i> -statistics)	(<i>t</i> -statistics)	(<i>t</i> -statistics)	(<i>t</i> -statistics)	(<i>t</i> -statistics)
Constant		0.393*** (5.681)	0.132*** (3.745)	0.198*** (4.508)	-0.357*** (-3.105)	-0.224*** (-3.005)	-0.188* (-1.943)
SUSPECT	+	-0.005 (-0.581)	0.015*** (3.481)	0.015*** (2.865)	0.004 (0.424)	0.007 (1.221)	0.010 (1.452)
AEM	±	-0.081** (-2.070)	-0.309*** (-15.530)	-0.281*** (-11.387)	-0.130*** (-2.880)	-0.554*** (-18.963)	-0.483*** (-12.720)
Q	±	0.011*** (3.311)	0.005*** (3.066)	0.004* (1.744)	-0.001 (-0.339)	-0.002 (-1.339)	-0.005 (-2.024)
SIZE	±	-0.003 (-0.941)	-0.001 (-0.591)	-0.002 (-0.829)	0.003 (1.120)	0.003** (2.084)	0.002 (1.114)
ΔROA	±	0.001 (0.664)	0.000* (1.753)	0.000 (-0.972)	0.001 (-0.610)	0.000 (0.352)	0.000 (0.037)
ΔSALES	±	-0.074*** (-3.785)	0.005 (0.540)	0.066** (5.310)	-0.149*** (-9.578)	-0.052*** (-5.138)	0.006 (0.426)
SHARES	±	-0.006 (-1.406)	0.001 (0.495)	0.003 (1.105)	0.001 (-0.523)	0.001 (0.584)	0.000 (0.046)
LEV	±	-0.005* (-1.718)	-0.007*** (-4.246)	-0.009*** (-4.388)	-0.002 (-1.515)	-0.006*** (-6.018)	-0.007*** (-5.300)
D_ISSUE	±	-0.035*** (-4.288)	-0.017*** (-4.066)	-0.036*** (-6.925)	-0.021*** (-3.209)	-0.008* (-1.946)	-0.032*** (-5.862)
E_ISSUE	±	0.015 (1.434)	0.023*** (4.390)	0.010* (1.550)	0.013* (1.670)	0.018*** (3.638)	0.009* (1.401)
T_GDP	±	0.006 (0.235)	-0.010 (-0.710)	0.004 (0.244)	0.058** (2.196)	0.010 (0.572)	0.017 (0.779)
CONCENTR	±	-0.431*** (-6.488)	-0.273*** (-8.061)	-0.451*** (-10.724)	0.889*** (3.172)	0.518*** (2.850)	0.507** (2.143)
Year fixed effects		Included	Included	Included	Included	Included	Included
Sector fixed effects		Included	Included	Included	Included	Included	Included
Country fixed effects		Included	Included	Included	Included	Included	Included
R-squared		0.143	0.315	0.344	0.089	0.379	0.285
Observations		1,266	1,266	1,266	853	853	853

Note: Variables are defined as in Table 6.1

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 6.10*Additional test: Performance of Suspect and Benchmark Firms after t*

Panel A. Sample selection based on Method 1: Suspect and Benchmark firms having BTM>1 in two consecutive year

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
		t + 1			t + 2		
		Full sample	Strong ENF	Weak ENF	Full sample	Strong ENF	Weak ENF
ROAG	Benchmark	0.091*** (7.483)	0.114*** (7.958)	0.013 (0.613)	0.052 (0.318)	0.093 (0.459)	-0.094 (-0.522)
	Suspect	-0.026*** (-5.737)	-0.014*** (-2.535)	-0.043*** (-5.774)	-0.336*** (-4.132)	-0.333*** (-3.024)	-0.341*** (-2.853)
	Difference	0.117*** (9.002)	0.128*** (8.331)	0.055*** (2.487)	0.388** (2.132)	0.425** (1.846)	0.248 (1.147)
RET	Benchmark	0.226*** (2.967)	0.236*** (2.429)	0.191*** (3.935)	0.259*** (3.305)	0.293*** (2.922)	0.143*** (3.063)
	Suspect	0.177*** (11.412)	0.163*** (7.074)	0.195*** (10.151)	0.155*** (10.207)	0.158*** (6.782)	0.151*** (8.770)
	Difference	0.049 (0.624)	0.073 (0.736)	-0.005 (-0.096)	0.104* (1.304)	0.135* (1.308)	-0.007 (-0.150)

Panel B. Sample selection based on Method 2: Suspect and Benchmark firms having BTM>1 in three consecutive year

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
		t + 1			t + 2		
		Full sample	Strong ENF	Weak ENF	Full sample	Strong ENF	Weak ENF
ROAG	Benchmark	0.054*** (2.902)	0.078 (2.316)	-0.017 (1.748)	-0.179 (-0.851)	-0.178 (1.434)	-0.183 (1.041)
	Suspect	-0.024 (1.436)	-0.012 (1.123)	-0.040 (0.902)	-0.291 (-3.248)	-0.323 (-2.834)	-0.246 (-1.710)
	Difference	0.078*** (1.824)	0.090*** (1.301)	0.023 (1.305)	0.112 (0.735)	0.146 (0.152)	0.063 (1.665)
RET	Benchmark	0.243*** (3.729)	0.248*** (2.892)	0.227*** (4.772)	0.253*** (3.764)	0.285*** (3.212)	0.158*** (7.752)
	Suspect	0.171*** (9.650)	0.157*** (5.940)	0.190*** (8.576)	0.145*** (11.333)	0.144*** (8.280)	0.149*** (3.552)
	Difference	0.071 (1.056)	0.091 (1.019)	0.036 (0.688)	0.107* (1.556)	0.141* (1.559)	0.009 (0.181)

Note: ***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 6.11*Additional test: Cash Flow Management in Year t+1 and t+2*

Panel A. Sample selection based on Method 1: Suspect and Benchmark firms having BTM>1 in two consecutive year

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
		t + 1			t + 2		
		8.209%			6.195%		
Percentage of impairers for Suspect firms		Full sample	Strong ENF	Weak ENF	Full sample	Strong ENF	Weak ENF
		Mean	Mean	Mean	Mean	Mean	Mean
		(t-test)	(t-test)	(t-test)	(t-test)	(t-test)	(t-test)
RCFO	Benchmark	-0.036**	-0.041**	0.007	0.003	0.000	0.011
		(-1.895)	(-1.936)	(0.372)	(0.216)	(0.005)	(0.421)
	Suspect	0.002	0.004	0.008**	-0.003	0.000	-0.007**
		(0.800)	(1.077)	(3.129)	(-0.997)	(-0.063)	(-1.756)
	Difference	-0.038**	-0.044**	-0.001	0.006	0.000	0.018
		(-1.794)	(-2.078)	(-0.798)	(0.452)	(0.025)	(0.663)
RFCF	Benchmark	-0.026	-0.028	0.000	0.013	0.016	0.003
		(-1.215)	(-1.222)	(0.009)	(0.940)	(1.056)	(0.084)
	Suspect	0.009***	0.019***	0.003	0.006*	0.010***	-0.001
		(3.597)	(5.065)	(0.759)	(0.486)	(1.873)	(-0.158)
	Difference	-0.035*	-0.047**	-0.003	0.008	0.006	0.003
		(-1.652)	(-2.023)	(-0.118)	(0.531)	(0.359)	(0.106)

Panel B. Sample selection based on Method 2: Suspect and Benchmark firms having BTM>1 in three consecutive year

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
		t + 1			t + 2		
		7.505%			5.965%		
Percentage of impairers for Suspect firms		Full sample	Strong ENF	Weak ENF	Full sample	Strong ENF	Weak ENF
		Mean	Mean	Mean	Mean	Mean	Mean
		(t-test)	(t-test)	(t-test)	(t-test)	(t-test)	(t-test)
RCFO	Benchmark	-0.035	-0.040**	0.002	0.000	-0.003	0.013
		(-1.784)	(-1.801)	(0.086)	(0.020)	(-0.238)	(0.461)
	Suspect	0.002	0.003	0.008*	0.000	0.003	-0.003
		(0.698)	(0.776)	(2.464)	(-0.000)	(0.603)	(-0.780)
	Difference	-0.037**	-0.042**	-0.006	0.000	-0.006	0.017
		(-1.679)	(-1.907)	(-0.519)	(0.020)	(-0.404)	(0.576)
RFCF	Benchmark	-0.026	-0.027	-0.010	0.010	0.012	0.002
		(-1.197)	(-1.157)	(-0.449)	(0.720)	(0.817)	(0.045)
	Suspect	0.011***	0.018***	0.001	0.009***	0.012***	0.003
		(3.470)	(4.208)	(0.170)	(2.383)	(2.411)	(0.716)
	Difference	-0.036**	-0.045**	-0.011	0.001	-0.001	-0.002
		(-1.674)	(-1.892)	(-0.473)	(0.075)	(-0.033)	(-0.057)

Note: Variables are defined as in Table 6.1

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

Table 6.12*Additional test: Accrual-based Earnings Management*

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
VARIABLES	Predicted sign	BTM1 > 1 in two consecutive years			BTM1 > 1 in three consecutive years		
		Strong ENF		Week ENF	Strong ENF		Week ENF
		Coefficient (t_statistics)	Coefficient (t_statistics)	Coefficient (t_statistics)	Coefficient (t_statistics)	Coefficient (t_statistics)	Coefficient (t_statistics)
Constant		-0.214*** (-4.932)	-0.122*** (-2.669)	-0.128* (-1.766)	-0.176*** (-3.581)	-0.096* (-1.892)	-0.104 (-1.223)
SUSPECT	+	0.039*** (8.599)	0.049*** (8.173)	0.010 (1.463)	0.024*** (5.430)	0.032*** (5.362)	0.005 (0.883)
M	±	-0.361*** (-17.411)	-0.365*** (-12.540)	-0.369*** (-13.972)	-0.362*** (-15.835)	-0.367*** (-11.387)	-0.368*** (-12.720)
Q	-	0.001 (0.512)	-0.001 (-0.468)	-0.004** (-2.195)	0.001 (0.302)	0.001 (0.410)	-0.004* (-1.818)
SIZE	+	0.003** (2.391)	0.004** (1.978)	0.001 (0.765)	0.003* (1.856)	0.004* (1.820)	0.001 (0.276)
ROAG	+	0.002 (0.004)	-0.001 (-0.025)	0.001 (-0.479)	0.002 (0.271)	0.003 (0.420)	0.003 (-0.614)
ΔSALES	+	-0.029*** (-3.261)	-0.005 (-0.368)	-0.056*** (-5.400)	-0.023** (-2.404)	0.003 (0.208)	-0.054*** (-4.836)
SHARES	±	0.003* (1.706)	0.006** (2.075)	-0.001 (-0.283)	0.002 (1.378)	0.004 (1.418)	-0.001 (-0.336)
LEV	±	-0.006*** (-5.175)	-0.005** (-2.354)	-0.007*** (-5.755)	-0.006*** (-5.149)	-0.006** (-2.428)	-0.007*** (-5.591)
D_ISSUE	±	0.007* (1.828)	0.009 (1.540)	0.006 (1.315)	0.006 (1.450)	0.009 (1.500)	0.004 (0.726)
E_ISSUE	±	0.039*** (8.684)	0.054*** (8.095)	0.021*** (4.096)	0.038*** (7.713)	0.057*** (7.730)	0.017*** (3.087)
T_GDP	±	0.002 (0.189)	-0.02 (-1.179)	0.013 (0.762)	0.004 (0.321)	-0.024 (-1.207)	0.018 (0.949)
CONCENTR	±	-0.026 (-0.485)	-0.240*** (-5.377)	0.319* (1.829)	-0.041 (-0.689)	-0.211*** (-4.211)	0.278 (1.346)
ENF	±	0.002*** -5.792			0.002*** (4.362)		
Year fixed effects		Included	Included	Included	Included	Included	Included
Sector fixed effects		Included	Included	Included	Included	Included	Included
Country fixed effects		Included	Included	Included	Included	Included	Included
R-squared		0.201	0.224	0.256	0.181	0.2	0.258
Observations		2,417	1,340	1,077	2,119	1,266	853

Note: Variables are defined as in Table 6.1. In this table, I utilize RCFO as measure of REM proxies (M). I do not report the results where M is measured as RPD and RFCF proxies since the results are qualitatively similar.

***, ** and * denote significance at less than 1%, 5% and 10%, respectively

CHAPTER 7

CONCLUSION

7.1 Research Summary and Main Findings

This thesis includes three separate but related empirical studies on accounting treatment of goodwill, a topic of much controversy in the accounting discipline. While International Financial Reporting Standards prohibit the amortisation of goodwill but instead requires goodwill to be tested for impairment periodically, there is a debate on the relative merits of the goodwill impairment regime vis-à-vis the amortisation approach. The IASB argues that financial information under the impairment regime is more relevant and reflects the underlying economic value of goodwill better than the systematic amortisation approach. My thesis empirically investigates this claim and seeks for evidence of the effects of country-level enforcement on these accounting alternatives. Prior studies on goodwill accounting are based on developed economies with institutional settings that are different from Asia-Pacific countries. Since IFRS are being implemented across the world, it is important to have evidence on the relative merits of alternative goodwill accounting approaches from diverse settings. This thesis seeks to fill this gap in the goodwill accounting literature and provide evidence from diverse institutional settings of the Asia-Pacific region.

The first study, entitled “Goodwill accounting with amortisation or with impairment?”, investigates the comparative value relevance to investors of goodwill measures reported by firms across a sample of Asia-Pacific countries that have adopted and countries that have not adopted the IFRS-based impairment-only approach. The value relevance test is implemented over a sample of 8,433 firm-year observations from 2011 to 2014. The study shows that goodwill reported under the impairment-only

approach, rather than the amortisation-based approach, is more value-relevant information to investors on capital markets. The second study, entitled “Is goodwill impairment under IFRS timely?”, investigates whether the incidence of goodwill impairments is associated with a decline in economic values of goodwill. The sample covers 5,790 firm-year observations spanning 2011 to 2014 from Asia-Pacific firms that follow the IFRS-based impairment approach. The study reports that the likelihood of goodwill impairment is not associated with current market indicators of impairment, but with contemporaneous accounting indicators of impairment, consistent with the arguments that firms are likely to use the value-in-use method to test for impairment. However, this study also shows a significant association between goodwill impairment incidence and lagged market indicators of impairment, providing evidence of price leading accounting information. Taken together, these findings suggest that firms are not entirely responsive to economic performance in a timely manner. Another likely explanation is that firms may engage in financial accounting manipulations and delay the booking of goodwill impairments. The third study, entitled “Do firms manipulate cash flows to delay goodwill impairment losses?”, investigates whether managers are able to camouflage the lack of timely recognition of goodwill impairments by managing upward cash flow levels through REM activities. The sample is from a set of 18,148 firm-year observations from Asia-Pacific countries following the IFRS-based impairment approach. The study suggests that those firms that are under the pressure of having to recognise impairment for two to three years but have not impaired their goodwill exhibit significantly higher abnormal cash flow levels relative to the impairing firms. Additional tests show that non-impairers continue to implement cash flow management to justify the delay in goodwill impairment, even though their capacity to do so diminishes in the subsequent years. The sub-optimal operational decisions by non-

impairers to delay goodwill impairment are found to have negatively impacted on their future performance.

Analyses from separate estimations on strong and weak enforcement countries in these studies reveal interesting findings. Firms operating under the impairment approach in strong enforcement countries are more responsive to economic performance and provide more relevant goodwill information (vis-à-vis the amortisation-based approach). The benefits of IFRS-impairment adoption have not occurred in countries where regulatory enforcement mechanisms are not yet strengthened to guarantee actual implementation as intended by the standard setters and regulators. In weak enforcement countries that adopt the impairment approach, goodwill is less relevant to investors, and the likelihood of impairment recognition by firms is solely attributable to lagged accounting-based indicators and a “big-bath” incentive proxy. This suggests that, without strong enforcement, management is more likely to report goodwill opportunistically as well as able to ignore impairment indicators. Relative to firms with impaired goodwill in weak enforcement countries, their counterparts in strong enforcement countries are under more stringent regulatory scrutiny, and therefore, tend to engage in more cash flow manipulations through real operations to make stronger justifications for the delay in booking the impairments; even though the detrimental effects on their future performance are found to be more severe. In other words, the adoption of the impairment approach in strong enforcement countries results in an unintended consequence where firms have to resort to more costly sub-optimal business practices to camouflage the lack of timely write-offs. In sum, findings in these studies emphasize that the impact that the adoption of the IFRS-based impairment approach has on the financial reporting quality of firms in Asia-Pacific countries can vary significantly with the country-level enforcement environments.

7.2 Implications

The findings from studies in this thesis provide critical implications for regulators and investors. First, they provide an opportunity to carry out international comparison on the benefits of adoption of the IFRS-based impairment-only approach and guide assessment to potential revisions of existing standards relating to goodwill from business combination. Second, they show that strengthened country-level enforcement environments are crucial to reaping the benefits from the adoption of the IFRS-based impairment approach, at least in term of value relevance and timeliness of accounting information. Stronger political and regulatory connections in the region may contribute to improvement in legal environments among countries. However, it should be noted that the impairment approach may also lead to greater cash flow manipulations, especially in strong enforcement countries. Thus, this study also calls for the attention of the enforcement bodies to improve the reporting regulations for financial reporting that limit the different forms of financial accounts manipulation including real activities management. Finally, the results also have implications for capital market participants, as they need to be aware that there exist differences in firms' opportunistic behaviour and the quality of accounting information in different enforcement environments.

7.3 Limitations and Suggestions for Future Research

As far as the empirical analyses are concerned, the first limitation refers to the scope of the studies, which are constrained by the sample country selection and possibly industry coverage. The studies have included firm-level and country-level specific fixed effects in the models and implement several robustness tests. Readers, however, should be aware that there may be other factors at work, which are specific to the participant countries and firms. For example, these studies do not cover firm-level ownership

structure and corporate governance arrangements. These factors have been observed in previous corporate governance studies as having strong implications for opportunistic behaviours and financial accounts manipulation by firms. In addition, ownership structure and corporate governance features can vary significantly between countries due to variations in countries' legal histories and institutions (Porta et al. 1998). While not all of these factors, or changes in these factors, are sources of exogenous variation, further investigations into the effects of these features on goodwill impairment practices warrant separate studies in different country jurisdictions.

The second limitation refers to the research designs. The issues have been discussed in each empirical study. Specifically, in the first study, "Goodwill with amortisation or with impairment?", caution needs to be exercised in interpreting the results as the sample comprises only two countries – Japan and Vietnam – using the amortisation-based approach. In the second study, "Is goodwill impairment under IFRS timely?", the research only controls for economic and other relevant factors influencing the likelihood of goodwill impairment at the firm level, rather than the CGU level due to the lack of availability of such data in the sample countries. If available in the future, this could be a subject of future research. In the third study, "Do firms manipulate cash flows to delay goodwill impairment losses?", the study utilises REM as proxies for cash flow manipulations. However, separating firms' REM behaviour from the normal course of managerial decision making is challenging, given that managers' REM activities may also reflect their rational response to real economic circumstances and events (Roychowdhury 2006). In addition, Roychowdhury (2006)'s models on REM proxies are designed to measure earnings management, rather than cash flow management. Roychowdhury (2006) has drawn a connection between these measures and their cash flow consequence. The connection, however, is not necessarily exact as two of the three

measures are accruals. Future research could be implemented based on a stronger theoretical explanation for REM and cash flows manipulations in different contexts.

The third limitation refers to measures of enforcement levels. The studies in this thesis have selectively utilised a number of updated enforcement measures conditional upon their availability for the sample countries, including: (i) the Brown et al. (2014)'s audit and accounting enforcement index that has the focus on institutional oversights of accounting standards compliance, and (ii) the WGI governance index whereby the "enforcement" term relates to country's legal systems and institutions in general. The difference in enforcement proxies applied in different studies may limit the interpretation of the implications resulting from these studies as a whole. International studies in the future can update the institutional variables to form stronger indices to examine the institutional environments of these countries.

Notwithstanding these limitations, the studies in this thesis generates important insights into the goodwill impairment debate. They also provide useful cross-country evidence for comparison with other institutional settings applying IFRS, and thus, are of potential interest to the IASB and other national standard setters.

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APPENDIX A – The World Governance Indicators Definitions (WGIs)

Index		Governance Index Measurements
Voice & Accountability	VA	Perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.
Political Stability and Absence of Violence	PO	Perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism.
Government Effectiveness	GO	Perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.
Regulatory Quality	RE	Perceptions of the ability of government to formulate and implement sound policies and regulations that permit and promote private sector development.
Rule of Law	RL	Perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.
Control for Corruption	COR	Perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.

Note: The WGI reports the governance indicators for over 200 countries and territories over the period 1996 – 2017 for six dimensions of governance and draws on four different type of data: (i) Surveys of households and firms, including the Afrobarometer surveys, Gallup World Poll, Global Competitiveness Report Survey; (ii) Commercial business information providers, including the Economist Intelligence Unit, Global Insight, Political Risk Services; (iii) Non-governance organisations, including Global Integrity, Freedom House, Reporters Without Borders; and iv) Public sector organisations, including the CPIA assessments of World Bank and regional development banks, the EBRD Transition Report, French Ministry of Finance Institutional Profile Database. Data retrieved on 15/12/2017 from: <http://info.worldbank.org/governance/wgi/#home>

APPENDIX B – Audit and Accounting Enforcement Index – Items and Data Sources

Item	Possible Scores	Weight	Max Score	Enforcement Proxy (2002/2005/2008)	Data sources
AUDIT					
1	0,2	1	2	Auditors must be licensed	FEE (2001), IFAC (2011), Item 76
2	0,2	1	2	More extensive license requirements	FEE (2001), IFAC (2011), Item 78
3	0,2	1	2	On-going professional development	FEE (2001), IFAC (2011), Item 79
4	0,2	1	2	Quality assurance program is in place	IFAC (2011), Item 124
5	0,2	2	4	An audit oversight body has been set up	FEE (2001), IFAC (2011), Item 111
6	0,2	2	4	The oversight body can apply sanctions	FEE (2001), IFAC (2011), Item 111
7	0,2	2	4	Audit (firm or partner) rotation is required	FEE (2001), IFAC (2011), Item 42
8	0,1,2	3	6	Level of audit fees (0 = low, 1 = medium; 2 = high, based on total audit fees / number of listed firms)	Worldscope WC1801 for individual firms in each countries
9	0,1,2	3	6	Level of litigation risk for auditors (0 = low, 1 = medium; 2 = high, based on Wingate Index)	Wingate (1997) sources data from insurers in each countries
			32	Subtotal	
ENFORCE					
1	0,2	1	2	Security market regulator or other body monitors financial reporting	FEE (2001), CESR (2007; 2009), IFAC (2011), Item 106, 110, 123
2	0,2	1	2	The body has power to set accounting and auditing standards	IFAC (2011), Item 108
3	0,2	2	4	The body reviews financial statements	IFAC (2011), Item 108; CESR (2007; 2009), Annual reports (2002-2008)
4	0,2	2	4	The body provides a report about its review of financial statements	Annual reports (2002-2008)
5	0,1,2	3	6	The body has taken enforcement action re financial statements	Annual reports (2002-2008)
6	0,1,2	3	6	Level of resourcing (0 = low, 1 = medium; 2 = high, based on number of staff employed by the security market regulator)	Courtis (2006); Jackson and Roe (2009), Horakova (2011)
			24	Subtotal	
			56	Total	

Note: The audit and accounting enforcement index was developed by Brown et al. (2014). The data was hand-collected from publicly available resources, including Federation des Experts Comptables Europeens (FEE) 2001, International Federation of Accountants (IFAC) 2011, surveys of professional accounting bodies, CESR (2007, 2009), report of compliance from ESMA, annual reports on websites of security market regulators, the World Bank reports.

APPENDIX C – Accounting regulations in Asia – Pacific

Australia

Regulatory framework

Pre-1989

- Before 1984, the Australian Accounting Research Foundation (AARF), established in 1965 by the National Councils of the Institute of Chartered Accountants (ICAA)⁸³ and the Australian Society of Certified Practising Accountants (ASCPA), was responsible for setting accounting standards (AASs). AARF encompassed the Accounting Standard Board (ASB) and the Public Sector Accounting Standard Board (PSASB).

- In 1984, the Accounting Standard Review Board (ASRB) was established by the Ministerial Council for Companies and Securities. The ASRB and ASB merged in 1988, with the ASRB continuing to take the role of issuance of accounting standards.

Post-1989

- The ASRB was replaced by the Australian Accounting Standards Board (AASB) in 1989 under the supervision of the Financial Reporting Council (FRC). In 2002, the FRC called for the adoption of pronouncements issued by the IASB.

- In July 2004, the AASB formally announced its fully convergence to IFRSs. The Australian equivalent of IFRSs (A-IFRS) became mandatory applying to annual reporting periods beginning on or after 1 January 2005.

Financial reporting on business combination and goodwill

Pre 1984

- No reporting standard dealing with goodwill existed.

1984 – 2005

- The AAS 18 – Accounting for Goodwill, issued in March 1984, required goodwill to be capitalised and amortised over its useful life not exceeding 20 years.

- In 1988, ASRB 1013 – Accounting for Goodwill, the statutory-backed by force of law, was introduced. ASRB 1013 superseded AAS 18 and also required the amortisation of goodwill.

- When the AASB replaced ASRB, the ASRB 1013 morphed into AASB 1013 – Accounting for Goodwill. AASB 1013 was refined to precisely dictate an amortisation with the mandatory straight-line method. It also required a year-end review of goodwill and recognition of “expense if future benefits are no longer probable” (AASB 1013, para 5.4).

- Following the IFRS adoption in 2005, the AASB 3 – Business Combinations and AASB 136 – Impairment of Assets were issued to incorporate IFRS 3 and IAS 36. These standards superseded AASB 1013, abolishing the amortisation approach and replacing this rule with the impairment-only regime embodied in AASB 136.

Hong Kong SAR⁸⁴

Regulatory framework

Pre-1973

- Financial reporting system was patterned after the UK standards.

1973-1982

- In 1973, the Hong Kong Institute of Certified Public Accountants (HKICPA) (formerly the Hong Kong Society of Accountants, HKSA) was set up as the statutory accounting professional body under the Professional Accountants Ordinance, Law of Hong Kong. The accounting standards during this period

⁸³ ICCA was later known as CA ANZ), following the merger with New Zealand Chartered Accountants in 2014.

⁸⁴ Hong Kong Special Administrative Region

were non-mandatory and essentially the reissuance of the U.K. Statement of Standard Accounting Practices (SSAP).

Post-1982

- In 1982, HKICPA established the Financial Accounting Standard Committee (FASC) which was responsible for regulating the accountancy profession and standard setting. Formal set of Hong Kong Accounting Standards (HKSSAP) (later known as HKAS for short) was issued based on the UK standards.

- From 1992, the HKICPA switched to IAS as the model for accounting standards.

- In 2005, Hong Kong completed full convergence with IAS/IFRS. The term Hong Kong Financial Reporting Standards (HKFRS) includes HKFRS and HKAS.

Financial reporting on business combination and goodwill

Pre 1984

- The dominant treatment method was the direct write-off of goodwill against an account in the shareholders' equity section, reflecting the influence of the UK SSAPs.

1984-2001

- In 1984, the regulation of goodwill reporting was set in SSAP 1 – Presentation of Financial Statements and the Accounting Guideline 2.204 – Accounting for Goodwill. These standards allowed firms to either write off goodwill against reserves upon acquisition or amortise goodwill to the P&L account over its economic life.

Post-2001

- In 2001, the HKSSAP 30 – Business Combinations and HKSSAP 31 – Impairment of Assets were issued to incorporate IAS 22 and IAS 36. These standards superseded SSAP 1 and Accounting Guideline 2.204 and eliminated the direct write-off method. Rather, goodwill was required to be capitalised by acquisition and amortised on a straight-line basis over its useful life not exceeding 20 years. In case the useful life was more than 20 years then an impairment test was required.

- Following the IFRS convergence in 2005, Hong Kong introduced HKFRS 3 – Business Combinations and HKAS 36 – Impairment of Assets to supersede HKAASP 30 and HKAASP 31 and dictate all requirements of the IFRS 3 / IAS 36 on the goodwill impairment-only testing framework.

Korea (South)

Regulatory framework

Pre-1998

- Starting from 1997, the Securities and Commissions (SEC) and the Securities Supervisory Board (SSB) were established, later known as the Financial Supervisory Commission (FSC), to account for accounting standard issuance and securities issuance regulations.

Post-1998

- After the financial crisis in 1998, the agreement with the International Monetary Fund (IMF) and the international Bank for Reconstruction and Development (IBRD) for relief loans pressured the privatisation of the accounting standard setting body in Korea.

- The Korea Accounting Institute (KAI), delegated by the FSC (merged from the former FSC and FSS), was finally settled as an independent private-sector standard setting organisation. KAI has carried out, through the Korea Accounting Standard Board (KASB) nested within KAI, the responsibility for setting the Korean accounting standards.

- In 2006, the KASB launched “the IFRS adoption Task Force” requiring listed firms to report financial statements under IFRS in 2011. In 2007, the FSC issued a practical guideline that required firms to disclose IFRS adoption effect in the financial footnotes two years prior to IFRS adoption. Early adoption was allowed since 2009.

- In 2011, Korea fully adopted IFRS without any modifications. The new set of accounting standard is a word-by-word translation of IFRS to the Korea IFRS (KIFRS).

Financial reporting on business combinations and goodwill

Pre-2011

- KGAAP required goodwill from acquisition to be capitalised, coupled with the application of the straight-line amortisation method on goodwill over its useful life not exceeding 20 years.

Post-2011

- Following its fully adoption to IFRS in 2011, the KASB issued KIFRS 3 – Business Combinations and KAS 36 – Impairment of Assets, both of which were word-to-word identical to the IFRS 3 and IAS 36, respectively.

Malaysia

Regulatory framework

Pre-1957

- Accounting practices originated from the U.K. SSAPs, reflecting the 80-year colonial and economic ties with the UK.

1957-1997

- Two accounting bodies existed: the Malaysian Association of Certified Public Accountants (MACPA) set up in 1958 as a private association for accounting standard setting, and the Malaysia Institute of Accountants (MIA) set up in 1967 as a statutory body to regulate accountancy professions. Such dual existence complicated the notion of interest as each stroved to dominate the standard setting process.

Post-1997

- The reporting framework was formally constituted under the Financial Reporting Act (FRS) 1997. Under FRA 558, two bodies were formed: the Malaysian Accounting Standard Board (MASB) that took over the standard setting role of MIA, and the Financial Reporting Foundation (FRF) that acted as an oversight body of MASB.

- Starting from 2006, the MASB issued Financial Reporting Standards (FRS) that are identical to the IFRS as commitment to achieve harmonisation with the international practice (Carlin et al. 2009).

- In 2012, the MASB issued the Malaysian FRS (MFRS) to replace the former FRS and sealed the plan for IFRS convergence. This framework is equivalent to the set of IAS/IFRS and has the same effective date.

Financial reporting on business combination and goodwill

Pre-2006

- No bidding standard governing goodwill reached the point of implementation. In 1993, the MIA and MACPA drafted the Malaysia Accounting Standard (MAS) 6 – Goodwill that required goodwill to be recognised as an asset and amortised over the period not exceeding 25 years. The standard was not approved due to pervasive objections from large corporate and Big-6 audit firms and from the State.

- In 2001, the MASB issued MAS 22 – Business Combinations. This standard however lacked of detailed coverage on goodwill treatment and left the issue tangential to practice.

- In 2002, the MASB issued an exposure draft (ED) 28 that required goodwill to be recognised and amortised, but it was then withdrawn with the revelations that the FASB has approved the issuance of SFAS 141 and SFAS 142, and its analogue IASB with the issuance of IFRS 3 and IAS 36 in 2004, that abolished the amortisation method and shifted to the “test for impairment” system.

Post-2006

- Following the changes in the international domain, and reflecting the IFRS convergence process, the MASB issued FRS 3 – Business Combinations and FRS 36 – Impairment of Assets (later known as MFRS 3 and MFRS 136) in 2005 (effective from 01 January 2006). These standards essentially

reflected IFRS 3 and IAS 36. Goodwill accounting practice has ultimately settled after years dominated by the laissez-fair approach in Malaysia.

the Philippines

Regulatory framework

Pre-1981

- The accounting system was strongly influenced by the US-GAAP (Marquis 2017).

1981-1976

- In 1981, the Board of Accountancy (BOA), through the Philippines Institute of Certified Public Accountants (PICPA), established the Accounting Standard Council (ASC) as an independent accounting standard setting body.

Post-1996

- From 1996, the ASC, later folded as the Financial Reporting Standard Council (FRSC) in 2006, started the move away from US influences towards IAS/IFRS. The set of Philippines Accounting Standard (PAS, and later the Philippines Financial Reporting Standard (PFRS), essentially mirrored the IAS/IFRS.

- In 2005, the Philippines announced its completion of fully adoption of IAS/IFRS with very minor modifications, such as the effective dates.

Financial reporting for business combination and goodwill

Pre-2004

- No existence of accounting standard on goodwill

Post-2004

- In 2004, the ASC issued PFRS 3 – Business Combinations and PAS 36 – Impairment of Assets which are completely equivalent to the IFRS 3 and IAS 36, respectively. Thus, the goodwill and standards regulate its measurement and reporting in the Philippines has moved in accordance with the internationalised practice era.

Singapore

Regulatory framework

Pre-1987

- The accounting standards were mainly the reissuance of the UK standards, reflecting the colonial history of Singapore.

Post-1987

- In 1987, the Singapore Institute of Certified Public Accountant (ICPAS) was established and took the responsibility for accounting standard setting, with the IASC as its main guidance.

- In 2007, the Council on Corporate Disclosure and Governance (CCDG) replaced the ICPAS as the accounting standard setter. CCDG was later replaced by the Accounting standard Council (ASC). The CCDG, and later the ASC, substantially adopted all IFRSs issued by the IASB. The enforcement of compliance remained the prerogative of the Accounting and Corporate Regulatory Authority (ACRA) under the Ministry of Finance.

- Since 2008, the ASC has issued a set of Singaporean Financial Accounting Standards (FRS) and interpretations that are almost identical to the prevailing set of IAS/IFRS.

Financial reporting on business combination and goodwill

Pre-2004

- Goodwill reporting was based on IAS standards. The SAS 22 – Business Combinations issued on 31 December 1994 was equivalent to IAS 22.

Post-2004

- Following the IASB's introduction of IAFRS 3 and IAS 36, the ASC introduced FRS 103 – Business Combinations and FRS 36 – Impairment of Assets (effective from 01 July 2004) to govern goodwill accounting practice in Singapore. These standards superseded SAS 22 and embraced the impairment-only regime, inhabiting a high level of convergence with the IFRS 3 and IAS 36.

Taiwan

Regulatory framework

Pre-2004

- The accounting framework was regarded as the U.S. GAAP-based. In 1984, the Accounting Research and Development Foundation (ARDF) was established. The ARDF, through the Financial Accounting Standard Committee (FASC) nested within ARDF, was responsible for issuing Taiwanese Statement of Financial Accounting Standards (SFAS). The standards were endorsed by the Financial Supervisor Commissions (FSC) under the Ministry of Finance.

Post-2004

- The period was regarded as IFRS convergence era. From 2004, the ARDF has revised and amended the SFAS to be in line with the international standards, with the IFRS being served “as a primary reference” (Roadmap, ARDF, 2009).

- In 2013, Taiwan announced its completion of full convergence with IFRS. The set of the Taiwanese version of IFRS (T-IFRS) has been applicable to all listed firms, including financial and intermediate institutions, since 01 January 2013. In the meantime, the ARDF has also issued and translated the T-IFRS into traditional Chinese.

Financial reporting on business combinations and goodwill

Pre-2004

- Goodwill accounting was governed by SFAS 25 – Business Combinations, which embraced the amortisation –based approach underlying IAS 22.

Post -2004

- Following the IASB's introduction of IFRS 3 and IAS 36 in 2004, the FASC revised SFAS 25 to keep it in line with IFRS 3, and in the meantime, issued the new standard to account for the impairment test, SFAS 35 – Accounting for Impairment of Assets. Both the SFAS 25 and SFAS 35 are in alignment with IFRS 3 and IAS 36, and became effective in 1 January 2006.

Thailand

Regulatory framework

Pre-1987

- In 1984, the Institute of Certified Accountants and Auditors of Thailand (ICAAT) was established, being responsible for setting Thai accounting standards; whereas formal approval was required from the Board of Supervision of Auditing Practices (BASP) under the Ministry of Commerce. Financial reporting standards within this period were promulgated under the influence of the UK and the US standards and practice.

Post-1987

- Since 1987, Thailand has returned to IAS for guidance in its accounting standard setting. The Federation of Accounting Professions (FAP), established under the Accounting Professions Act 2004, is the official accounting standard-setting body through its Accounting Standards Committee (ASC). The issuance of accounting standards requires approval from the Oversight Board of Accounting Professions (Kor Kor Bor). By this, Thai government directly involves in the accounting Standard setting process.

- Starting from 2005, the FAP has issued (and revised) the set of financial reporting standards (Thai GAAP) that are almost converged with the set of IAS/IFRS (with the exception of the financial instruments standards). The term Thai-GAAP refers to both the Thai Accounting Standards (TAS) and Thai Financial Reporting Standards (TFRS).

Financial reporting on business combinations and goodwill

Pre-2007

- Thai firms were required to recognise acquired goodwill at “cost less accumulated amortisation” following the TAS 43 – Business Combinations. Also, TAS 43 required the straight-line amortisation over the period not exceeding 20 years.

Post-2007

- In 2007, the FAP published FAP Notification No. 62/2550 and 38/2550 to revise TAS 43, the context of which was largely based on IFRS 3. The effective period is for the accounting period on or after 1 January 2008 (PWC 2008). The TAS 36 – Impairment on Assets was also revised in accordance with the IAS 36. The TAS 43 was then revised as TFRS 3 – Business Combinations in 2014 to reflect all the revision of IFRS 3 since then.

Japan

Regulatory framework

Pre-2001

- Drastic change have been implemented since 1996, marked by the inauguration of the Japanese “Accounting Big Bang”. In 2000, the Financial Supervisory Agency (FSA) was set up to ensure the stability and transparency of the Japanese financial and securities market.

Post-2001

- In 2001, the Financial Accounting Standard Foundation (FASF) was established, consisting of the Accounting Standard Board of Japan (ASBJ) as the private-sector accounting standard-setting body.

- Since 2005, the ASBJ has pursued harmonisation initiatives with the IAS. In 2007, it signed the Tokyo Agreement with the IASB to converge the Japanese accounting standards (JGAAP) with the IFRS. The JGAAP have been found to be equivalent to IFRS as adopted by the EU since 2008.

- In 2009, the Japanese “designated-IFRS” (the IFRS as designated by the FAS) was introduced. Starting from 2010, eligible listed firms are permitted to use either JGAAP or designated-IFRS in their consolidated financial statements.

- In June 2015, the ASBJ and the Working Group for Endorsement issued a set of Japan’s Modified International Accounting Standard (JMIS, that is, accounting standards comprising IFRSs and the ASBJ modifications.

- Currently, Japanese firms are permitted to follow either JGAAP, designated-IFRS, JMIS, or U.S. GAAP for their financial reporting, if certain eligibility requirements are met.

Financial reporting on business combinations and goodwill

- Prior 2006, goodwill was defined in the Commercial Code (rev. 1997).

- In 2006, the ASBJ issued ASBJ 7 – Accounting Standard for Business Divestiture and ASJ Guidance 10 – Guidance on Accounting Standard for Business Combinations and Business Divestitures to account for business combination and goodwill.

- In 2008, the ASBJ published ASBJ 21 – Accounting Standard for Business Combinations and ASBJ 22 – Accounting Standard for Consolidated Financial Statements, applicable for all business combinations undertaken on or after 01 April 2010.

- In 2015, the ASBJ further published JMIS 1 – Accounting for Goodwill that contains modifications to IFRS 3 and IAS 28.

- Overall, the ASBJ consistently argue against the non-amortisation of goodwill. Firms that follow either JGAAP, designated-IFRS, JMIS for their consolidated financial reporting are required to

amortise goodwill over its useful life of not more than 20 years, and to recognise impairment losses when a specific threshold is met.

Vietnam

Regulatory framework

- The accountancy profession was recognised in 2003 with the enactment of the Law of Accounting. The Ministry of Finance (MOF), through its Department of Accounting and Auditing Policy, is responsible for the setting and enforcement of financial reporting standards.

- In 2006, the MOF completed the issuance of the set of 26 Vietnamese Accounting Standards (VAS), plus a mandatory implementation guidance known as the “Circular”. These standards have been largely based on the 2003 version of the IAS, and therefore, are found to deviate critically from the rules prescribed in the current IAS/IFRS.

Financial reporting on business combinations and goodwill

Pre-2001

- No existence of accounting standard on goodwill

Post-2001

- In 2001, the goodwill issue was first brought up in VAS 04 – Intangible Non-current Assets yet its definition on goodwill was tangential and limited to the inertia concept.

- In 2005, the MOF issued VAS 11 – Business Combination and Circular 21 – Implementation Guidance for VAS 11, effective from 01 January 2006. These standards were based on the 2003 version of the IAS 22 that consistently mandated the application of the straight-line amortisation approach on goodwill balance over the period up to ten years.

- Since then, the Vietnamese standard setter hardly shows commitment to further move in line with the set of IFRS or revise its standard on goodwill reporting.

Note: Information in this table is obtained from the following source: Ma R (1997), Financial reporting in the Pacific Asia region, World Science Publishing Singapore; Cook TE and Parker RH (1994), Financial reporting in the West Pacific Rim, Routledge New York; Saudagaran SM and Diga J (1997), Accounting regulation in ASEAN: A choice between the global and regional paradigms of harmonization, Journal of International Financial Management and Accounting 8, 1-32; Ernst & Young’s International Business Series; Price Waterhouse Information Guide on “Doing Business in” each of these countries; The websites of standard setting body in each of these countries; The IASB on IFRS adoption in each of these countries, retrieved from: <https://www.iasplus.com/en/jurisdictions/> and <https://www.ifrs.org/use-around-the-world/use-of-ifrs-standards-by-jurisdiction/>.