

AUDIT COMMITTEE INDEPENDENCE AND A CONTRACTING PERSPECTIVE ON GOODWILL IMPAIRMENT: SINGAPOREAN EVIDENCE

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Abstract. This study examines factors influencing and constraining the decision to recognize zero goodwill impairment in a sample of 52 Singaporean listed firms from 2010–2012. Using binary logistic regressions, the results reveal that firms that are approaching violation of their debt covenants have a higher likelihood of exercising the recognition choice, while a higher proportion of audit committee independence constrains this choice. The policy implication of this study is that to improve the quality of the financial statements, the relevant authorities need to monitor firms' reporting incentives closely. This study contributes to the literature on IFRS by providing evidence that supports the applicability of the debt hypothesis in explaining the decision of Singaporean listed firms to recognize zero goodwill impairment.

Keywords: IFRS, recognition choice, contracting perspective, audit committee independence, managerial discretion, goodwill impairment.

JEL Classification: M41.

Introduction

The International Financial Reporting Standards (IFRS) have been dispersed worldwide; the standards are being applied in varying degrees by more than one hundred jurisdictions in six different continents (Daske et al. 2013, Danjou 2015). One of the driving forces for the world-wide implementation of the IFRS is the globalization of capital markets, which, in turn, creates increasing demand for transparent and comparable financial reporting by various stakeholders (Glaum et al. 2013).

A number of initiatives were proffered by the International Accounting Standards Board (IASB) to reduce alternative accounting methods with the hope of improving the comparability of financial statements. One example of these initiatives is the issuance of IFRS 3 Business Combinations and the revision of IAS 36 Impairment of Assets, which are related to acquired goodwill. In 2005, the IASB eliminated alternative accounting methods for acquired goodwill and required firms to implement an impairment-only approach to goodwill because the board believed that comparability would be affected when there are alternative accounting methods to acquired goodwill (Fabi et al. 2014).

To date, most research on IFRS implementation tends to focus on listed firms in European countries (e.g., Murphy 2000, Jaafar and McLeay 2007, Yip and Young 2012, Cascino and Gassen 2015). This study attempts to address this gap in the literature by investigating IFRS implementation focusing on goodwill impairment by listed firms in Singapore, a developed country that belong to the Association of South East Asian Nations (ASEAN). Specifically, this study examines factors influencing and constraining the decision to recognize zero goodwill impairment in a sample of 52 Singaporean listed firms from 2010–2012.

To examine factors influencing and constraining the decision to recognize zero goodwill impairment, this study selected firms that encountered book-to-market ratios above one for three consecutive years. With book-to-market

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ratios persistently above one for three continuous years, these firms have indications that goodwill may be impaired, yet they reported zero goodwill impairment. This study selected Singapore as an institutional setting for the analysis of the decision to recognize zero goodwill impairment because it is one of the few ASEAN countries that have fully implemented IFRS related to goodwill impairment. More importantly, since ASEAN has become a vital economic entity (Saudagaran and Diga 1998) and is keen on integrating the region through the establishment of the ASEAN Economic Community (AEC) (ASEAN 2008), it is imperative to understand the potential drivers and constraints to IFRS implementation within this region. This study focuses on IFRS 3 Business Combinations, which is related to goodwill impairment¹, due to the increasing focus from regulators, practitioners and academics (e.g., Beatty and Weber 2006, Godfrey and Koh 2009, Ramanna and Watts 2012, Abdul Majid 2015, 2017).

The remainder of this paper is structured into four sections. Section 1 highlights the prior literature and describes the development of the hypotheses. Section 2 outlines the research design. Section 3 presents and discusses the empirical findings. Section 4 summarizes this study and presents its conclusion.

1. Prior literature and hypotheses development

The harmonization of accounting standards through an IFRS implementation has garnered increasing interest from regulators, academics, and practitioners, both in developed and developing countries (Baker and Barbu 2007, Yip and Young 2012). One of the expectations of an IFRS implementation is to achieve the comparability of financial statements, which, in turn will facilitate international transactions and minimize exchange costs (Cairns et al. 2011, Phuong and Nguyen 2012, Yip and Young 2012).

Nevertheless, an improvement in financial statements comparability does not depend entirely on the application of a uniform set of accounting standards (DeFond et al. 2011). Factors such as firms' reporting incentives, the level of discretion afforded by specific accounting standards and the strength of regulatory enforcement of the standards may impact the comparability of the financial statements (Ball et al. 2003, Daske et al. 2008). For example, Ball et al. (2003) report that firms' reporting incentives appear to play an important role in the application of accounting standards for listed firms in Singapore. In the context of goodwill impairment, prior studies have examined the determinants of goodwill impairment losses in various countries, such as the US (e.g., Ramanna and Watts 2012), Australia (e.g., Godfrey and Koh 2009), the UK (e.g., AbuGhazaleh et al. 2011), and Malaysia (e.g., Abdul Majid 2015). These studies provide mixed findings regarding factors that influence the reporting of impairment losses. One group of studies reported that the impairment loss is influenced by managers' reporting incentives while another group of studies showed that the economic impairment of goodwill drives such reporting behavior (Abdul Majid 2015: 199).

The above mixed results provide an opportunity for this study to examine the issue of goodwill impairment. In analyzing the factors that influence and constrain the decision to recognize zero goodwill impairment, this study focuses on the literature related to the contracting perspective of accounting choice, ownership concentration and corporate governance.

1.1. Contracting perspective

The contracting perspective was developed by Watts and Zimmerman (1986). This perspective extends the agency theory model of Jensen and Meckling (1976) by emphasizing the role of accounting numbers in the contract (Watts and Zimmerman 1986). The contracting perspective suggests that managers choose a particular accounting option to influence the accounting numbers employed in the contracts (Watts and Zimmerman 1990). This study explores the application of the contracting perspective by testing two hypotheses, i.e., debt hypothesis and CEO reputation.

Debt hypothesis

From the contracting perspective, the motives for exercising an accounting choice is to influence firms' contractual arrangement with the debt-holders (Fields et al. 2001). By exercising the accounting choice, these firms are intending to lessen the accounting-based restrictions stipulated in the debt covenants (Smith 1993), hence avoiding violation of the covenants (Dichev and Skinner 2002). In the context of goodwill impairment, prior studies investigating firms' decisions in reporting goodwill impairment postulate that firms that are approaching violation of their debt covenants have a lower likelihood of reporting goodwill impairment losses (Beatty and Weber 2006, Abdul Majid 2015).

In this study, similar to Abdul Majid (2015), leverage (LEVERAGE), which is measured as debt to total assets, is employed as a proxy for the closeness of firms to violating their debt covenants. Consistent with the debt hypothesis, this study tests the relation between leverage (LEVERAGE) and the decision to recognize zero goodwill impairment in an alternative form as follows:

¹ In IFRS 3 Business Combinations, goodwill is an asset that arises from other assets that are acquired in a business combination. Goodwill impairment occurs when the carrying amount of the goodwill reported on the financial statement is lower than its recoverable amount. In other words, companies are required to report goodwill impairment losses (and hence reduce their reported earnings) when the value of goodwill reported on the financial statement drops below its recoverable amount.

 H_{1a} : Ceteris paribus, there is a significant positive association between leverage (LEVERAGE) and the decision to recognize zero goodwill impairment.

CEO reputation

Prior studies argue that existing top managers may not have reported goodwill impairment losses (by reporting zero goodwill impairment) when their firms' book-to-market ratio was above one because of concern for their personal reputations (Beatty and Weber 2006, Masters-Stout et al. 2008, Ramanna and Watts 2012). The top managers who were directly involved in the creation of goodwill through business combinations may be reluctant to write-off the goodwill as doing so would imply that they were unable to realize the expected synergies from the business combinations (Lapointe-Antunes et al. 2008, Masters-Stout et al. 2008).

Similar to prior studies (e.g., Beatty and Weber 2006, Ramanna and Watts 2012, Abdul Majid 2013: 112), this study employs CEO tenure (CEOTENURE) as a proxy for whether the CEO was responsible for the existence of goodwill. In this study, following Beatty and Weber (2006: 271) and Abdul Majid (2013: 321), CEO tenure (CEOTENURE) is measured as the number of years that the CEO has held the position. This study tests the relation between CEO tenure (CEOTENURE) and the decision to recognize zero goodwill impairment in an alternative form as follows:

 H_{1b} : Ceteris paribus, there is a significant positive association between CEO tenure (CEOTENURE) and the decision to recognize zero goodwill impairment.

1.2. Ownership concentration

Prior studies argue that the ownership concentration influences the accounting method choice (e.g., Dhaliwal et al. 1982, Niehaus 1989). When shareholders hold a small proportion of the ownership interest, due to high monitoring costs, they may have fewer incentives to monitor the managers. Thus, greater discretion may be exercised by managers in firms with dispersed ownership (Niehaus 1989). However, the exercise of managerial discretion may decrease as the ownership interests of the shareholders increase. This is because when shareholders hold a large proportion of the ownership interest, the benefit of monitoring the management increases and tends to offset the costs (Niehaus 1989, Astami and Tower 2006, Abdul Majid 2013).

In this study, ownership concentration (OWNCON) is measured as the ratio of the number of ordinary shares held by the five largest shareholders to the total number of ordinary shares. This study tests the relation between ownership concentration (OWNCON) and the decision to recognize zero goodwill impairment in an alternative form as follows: H_2 : Ceteris paribus, there is a significant negative association between ownership concentration (OWNCON) and the decision to recognize zero goodwill impairment.

1.3. Constraints to the recognition choice: corporate governance mechanism

Prior studies suggest that effective governance mechanisms act as a constraint to managerial opportunism related to reporting goodwill impairment (Lapointe-Antunes et al. 2008, Abdul Majid 2015). Corporate governance mechanisms are normally regarded to be effective when there are a high proportion of audit committee members who are independent (AUDITCOM) (Lapointe-Antunes et al. 2008).

In this study, similar to Abdul Majid (2015), audit committee independence (AUDITCOM) is measured as the proportion of independent nonexecutive directors on the audit committee. This study tests the relation between the audit committee independence (AUDITCOM) and the decision to recognize zero goodwill impairment in an alternative form as follows:

 H_3 : Ceteris paribus, there is a significant negative association between the proportion of audit committee members who are independent (AUDITCOM) and the decision to recognize zero goodwill impairment.

1.4. Economic factors of impairment and control variables

To control for the economic factors of impairment, consistent with prior studies (e.g., Riedl 2004, AbuGhazaleh et al. 2011, Abdul Majid 2015), this study incorporates the change in operating cash flows (ΔOCF). Similar to AbuGhazaleh et al. (2011) and Abdul Majid (2015: 212), the change in operating cash flows (ΔOCF) is measured as the change in operating cash flows from the prior year to the current year, divided by total assets at the end of the prior year.

In addition, following Abdul Majid (2015: 212), this study controls for the effect of company-specific factors by incorporating the size of firms (SIZE), the relative size of the goodwill balance (GWB), and the book-to-market ratio (BTM) into the regression model. Detailed definitions for these variables are presented in Section 2.1.

2. Research design

This study takes a positivist research approach in analyzing the factors that influence and constrain the decision to recognize zero goodwill impairment. The approach is considered appropriate as this study is concerned with testing theory.

In this study, the dependent variable is a binary variable, equal to one for firms that are regarded as choosing to recognize zero goodwill impairment, and zero otherwise. Due to the binary nature of the dependent variable, this study has applied a binary logistic regression, a multiple regression. The logistic regression includes a dependent variable, which is a categorical dichotomy and independent variables, which are categorical or continuous (Field 2005: 218, Abdul Majid 2013: 160).

2.1. Logistic regression model

To examine factors influencing and constraining the decision to recognize zero goodwill impairment by Singaporean listed firms, this study employs the following logistic regression model:

$$GWIL(0,1) = \infty + \beta_1 LEVERAGE + \beta_2 CEOTENURE + \beta_3 OWNCON + \beta_4 AUDITCOM + \beta_5 GWB + \beta_6 OCF + \beta_7 SIZE + \beta_8 BTM + \varepsilon,$$
(1)

where: LEVERAGE = Debt ratio, measured as total debts at the end of the prior year divided by total assets at the end of the prior year; CEOTENURE = CEO tenure, which is based on the number of years that the CEO has held the position; OWNCON = Ownership concentration refers to the number of ordinary shares held by the five largest shareholders, divided by the total number of issued and paid up ordinary shares; AUDITCOM = The proportion of independent nonexecutive directors on the audit committee; GWB = Relative size of the goodwill balance, which is measured as the opening goodwill balance in the current year divided by total assets at the end of the prior year; $\triangle OCF$ = Change in operating cash flows from the prior year to the current year, divided by total assets at the end of the prior year; SIZE = Natural logarithm of total assets at the end of the prior year; *BTM* = Book-to-market ratio, computed as the book value of equity divided by the market value of equity at the end of the current year. These variable definitions are adopted from Abdul Majid (2013: 319-321) and Abdul Majid (2015: 212).

Following Abdul Majid (2013), the dependent variable, *GWIL* (0,1) is the choice to recognize zero goodwill impairment for firms that have book-to-market ratios above one for three consecutive years (i.e., 2010–2012). Similar to Abdul Majid (2013: 259–260), these firms are referred to as a test group; they are tested against a control group of firms. The control group is a group of firms that experienced a similar market condition, in that their book-to-market ratio is above one for three consecutive years; however, they reported goodwill impairment losses at the end of the third year. To perform the analysis, the test group is coded as one, and the control group is coded as zero. Accordingly, the dependent variable is a dichotomous variable, which is equal to one for the test group, and zero for the control group.

2.2. Sample selection

To obtain the total population of listed firms in Singapore that implemented IFRS 3 from 2010-2012 and that had a book-to-market ratio above one for three consecutive years, two criteria are imposed. First, the study selected all firms listed on Singapore stock exchanges that have a goodwill balance at the year-end from 2010-2012. A total of 800 firms are listed on the Singapore stock exchange in 2010 of which 241 firms have a goodwill balance. Second, the study selected firms that experienced book-to-market ratio above one for three consecutive years from 2010-2012. Firms that had a book-to-market ratio above one had market values that dropped below the book values of the net assets. According to IAS 36 Impairment of Assets, this incidence is one of the external indications that goodwill may be impaired. Of the 241 firms, 86 firms reported a book-to-market ratio above one for three consecutive years. Nevertheless, 34 firms are excluded due to incomplete data to run the regression analysis. Overall, based on these two selection criteria, there are 52 firms with complete data.

Data on goodwill impairment are hand-collected and compared with the annual reports before transforming them into a binary variable. Similarly, data on CEO tenure, ownership concentration and corporate governance mechanism are manually collected from annual reports. Financial data, such as $\triangle OCF$, BTM and SIZE, are generated from Datastream.

3. Results and discussion

3.1. Descriptive statistics

Table 1 reports the descriptive statistics for all variables tested in the model. The table indicates that the Singaporean listed firms examined have high book-to-market ratios. On average, the book-to-market ratio (BTM) is 2.169.

Table 1 shows that on average, the five largest shareholders (OWNCON) owned 24.881% of the Singaporean firms, which suggests that the ownership structure of these firms is concentrated. In addition, the length of CEO tenure

Table 1. Descriptive statistics for all variables

	Mean	Median	SD
LEVERAGE	0.204	0.168	0.150
CEOTENURE	13.388	10.875	9.562
OWNCON	24.881	22.555	12.851
AUDITCOM	0.936	1.000	0.125
GWB	0.056	0.018	0.089
ΔOCF	-0.006	0.004	0.113
SIZE	12.268	12.136	1.283
BTM	2.169	1.878	1.237

(CEOTENURE) is high, at 13 years on average. Also, on average, goodwill (GWB) represent 5.6% of the total assets, suggesting that the amount of goodwill is small relative to the total assets. With regard to firms' governance structures, the table shows that 93.6% of the audit committee members are independent (AUDITCOM). The high proportion of independent directors on the audit committee for these firms indicates a strong governance structure.

To detect the issue of multicollinearity, the test for Pearson correlation coefficients is performed between the variables employed in the study. Table 2 shows that the highest pair-wise correlation coefficient is 0.41. This correlation is not considered a major concern because it is not excessively strong, i.e., not more than 50% (Vaus 2002). Thus, the results of the correlation coefficients suggest that multicollinearity is not an issue in this study.

3.2. Multivariate analysis

Table 3 presents the logistic regression results for the regression model, which analyses the potential drivers and constraints to the decision to recognize zero goodwill impairment by listed firms in Singapore. All of these listed firms had a book-to-market ratio above one for three consecutive years.

The results, which are based on the full model (Model 1), indicate a Nagelkerke R square of 35.5% with a Chi-square of 12.515 (at p-value < 10%). The marginally significant result of the Chi-squares tests indicates the lack of fit for the full model. According to Menard (1995), the lack of fit of a regression model could be due to two reasons, i.e., a small number of observations and a large number of variables in the model.

The issue of the lack of fit of the model is addressed using two approaches. First, this study runs diagnostic tests by eliminating control variables that are least significant. In Model 2, this study removes the least significant control variable, i.e., ΔOCF ; in Model 3, the three least significant control variables (Δ OCF, SIZE, and BTM) are removed. After the diagnostic tests, the results of Model 2 show a Nagelkerke R square of 35.4% with a Chi-square of 12.475 (at p < 5%). The statistically significant results of the Chisquares test suggest that Model 2 fits significantly better than an empty model. The second approach in overcoming the issue of the lack of fit of the model is by performing a stepwise regression (see Model 4). The results reveal that the regression model improved further, it achieved a Nagelkerke R square of 21.5% and a Chi-square of 7.195 (at p < 1%).

3.3. Discussion of the findings

In H1a, this study tests the debt hypothesis. The result shows that in all of the models, the coefficient on the LEVERAGE is positive and statistically significant. The positive direction for the LEVERAGE result provides support to the debt hypothesis, which is formulated in H1a. Consistent with Beatty and Weber (2006), this result suggests that the higher the LEVERAGE, the higher the likelihood of firms to exercise the choice in recognizing zero goodwill impairment although they had a book-to-market ratio above one for three consecutive years.

In H1b, this study tests the association between the CEO tenure and the decision to recognize zero goodwill impairment. The results in Model 1 to Model 3, show that the coefficient on CEOTENURE is non-significant. Unlike the findings of prior studies (e.g., Beatty and Weber 2006), this study could not provide sufficient evidence to support H1b.

In H2, the study tests the influence of ownership concentration (OWNCON, measured as a percentage of shares held by the five largest shareholders) on the decision to recognize zero goodwill impairment. Unlike the findings of prior studies (e.g., Astami and Tower 2006), this study finds that the coefficient on OWNCON is non-significant in all of the models.

In H3, this study tests factors constraining firms' decision to recognize zero goodwill impairment, using the

	Variable	1	2	3	4	5	6	7	8
1	GWIL (0,1)	1.00							
2	LEVERAGE	0.21	1.00						
3	CEOTENURE	-0.14	0.13	1.00					
4	OWNCON	0.02	0.18	-0.06	1.00				
5	AUDITCOM	-0.27*	0.17	0.02	-0.16	1.00			
6	GWB	0.07	-0.24	-0.16	-0.14	-0.32*	1.00		
7	ΔOCF	0.00	-0.07	0.07	-0.18	-0.04	0.53	1.00	
8	SIZE	-0.01	0.41**	0.10	-0.04	-0.09	-0.04	-0.23	1.00
9	BTM	-0.14	-0.11	-0.15	-0.01	0.19	-0.19	-0.13	0.18

Table 2. Pearson correlation coefficients

*, ** denote significance at the 0.05, and 0.01 level, respectively (two-tailed)

	Model 1 (full model)		Model 2 (After diagnostic test 1)		
Variables	Beta Wald		Beta	Wald	
Intercept	14.849	3.166*	14.817	3.112*	
Potential drivers		1	1	1	
LEVERAGE	9.851	4.896**	9.880	4.860**	
CEOTENURE	-0.006	1.655	-0.006	1.710	
Constraints		1	1	1	
OWNCON	-0.008	0.063	-0.007	0.054	
AUDITCOM	-9.499	4.391**	-9.576	4.428**	
Control variables					
GWB	-1.421	0.072	-1.560	0.089	
ΔOCF	-0.965	0.039	_	_	
SIZE	-0.669	1.731	-0.664	1.708	
BTM	-0.414	0.421	-0.396	0.391	
Model summary					
Hosmer-Lemeshow		0.937		0.943	
Chi-square		12.515		12.475*	
–2 Log likelihood		35.401		35.441	
Cox & Snell R square		21.4%		21.3%	
Nagelkerke R square		35.5%		35.4%	
	Model 3 (After diagnostic test 2)		Model 4 (Stepwise regression)		
	diagnost	ic test 2)	regre	ssion)	
Variables	diagnost Beta	ic test 2) Wald	regree Beta	ssion) Wald	
Variables Intercept	-	1	-	1	
	Beta	Wald	Beta	Wald	
Intercept	Beta	Wald	Beta	Wald	
Intercept Potential drivers	Beta 4.385	Wald 1.885	Beta 3.195	Wald 1.653*	
Intercept Potential drivers LEVERAGE	Beta 4.385 5.949	Wald 1.885 4.013**	Beta 3.195	Wald 1.653*	
Intercept Potential drivers <i>LEVERAGE</i> <i>CEOTENURE</i>	Beta 4.385 5.949	Wald 1.885 4.013**	Beta 3.195	Wald 1.653*	
Intercept Potential drivers <i>LEVERAGE</i> <i>CEOTENURE</i> Constraints	Beta 4.385 5.949 -0.006	Wald 1.885 4.013** 1.620	Beta 3.195	Wald 1.653*	
Intercept Potential drivers <i>LEVERAGE</i> <i>CEOTENURE</i> Constraints <i>OWNCON</i>	Beta 4.385 5.949 -0.006 -0.001	Wald 1.885 4.013** 1.620 0.001	Beta 3.195 5.186 -	Wald 1.653* 3.567** -	
Intercept Potential drivers <i>LEVERAGE</i> <i>CEOTENURE</i> Constraints <i>OWNCON</i> <i>AUDITCOM</i>	Beta 4.385 5.949 -0.006 -0.001	Wald 1.885 4.013** 1.620 0.001	Beta 3.195 5.186 -	Wald 1.653* 3.567** -	
Intercept Potential drivers <i>LEVERAGE</i> <i>CEOTENURE</i> Constraints <i>OWNCON</i> <i>AUDITCOM</i> Control variables	Beta 4.385 5.949 -0.006 -0.001 -7.083	Wald 1.885 4.013** 1.620 0.001 4.364**	Beta 3.195 5.186 -	Wald 1.653* 3.567** -	
Intercept Potential drivers <i>LEVERAGE</i> <i>CEOTENURE</i> Constraints <i>OWNCON</i> <i>AUDITCOM</i> Control variables <i>GWB</i>	Beta 4.385 5.949 -0.006 -0.001 -7.083	Wald 1.885 4.013** 1.620 0.001 4.364**	Beta 3.195 5.186 -	Wald 1.653* 3.567** -	
Intercept Potential drivers <i>LEVERAGE</i> <i>CEOTENURE</i> Constraints <i>OWNCON</i> <i>AUDITCOM</i> Control variables <i>GWB</i> ΔOCF	Beta 4.385 5.949 -0.006 -0.001 -7.083	Wald 1.885 4.013** 1.620 0.001 4.364**	Beta 3.195 5.186 -	Wald 1.653* 3.567** -	
Intercept Potential drivers <i>LEVERAGE</i> <i>CEOTENURE</i> Constraints <i>OWNCON</i> <i>AUDITCOM</i> Control variables <i>GWB</i> Δ <i>OCF</i> <i>SIZE</i>	Beta 4.385 5.949 -0.006 -0.001 -7.083	Wald 1.885 4.013** 1.620 0.001 4.364**	Beta 3.195 5.186 -	Wald 1.653* 3.567** -	
Intercept Potential drivers <i>LEVERAGE</i> <i>CEOTENURE</i> Constraints <i>OWNCON</i> <i>AUDITCOM</i> Control variables <i>GWB</i> ΔOCF <i>SIZE</i> <i>BTM</i>	Beta 4.385 5.949 -0.006 -0.001 -7.083	Wald 1.885 4.013** 1.620 0.001 4.364**	Beta 3.195 5.186 -	Wald 1.653* 3.567** -	
Intercept Potential drivers <i>LEVERAGE</i> <i>CEOTENURE</i> Constraints <i>OWNCON</i> <i>AUDITCOM</i> Control variables <i>GWB</i> Δ <i>OCF</i> <i>SIZE</i> <i>BTM</i> Model summary	Beta 4.385 5.949 -0.006 -0.001 -7.083	Wald 1.885 4.013** 1.620 0.001 4.364** 0.027 - - - -	Beta 3.195 5.186 -	Wald 1.653* 3.567** 4.742**	
Intercept Potential drivers <i>LEVERAGE</i> <i>CEOTENURE</i> Constraints <i>OWNCON</i> <i>AUDITCOM</i> Control variables <i>GWB</i> Δ <i>OCF</i> <i>SIZE</i> <i>BTM</i> Model summary Hosmer-Lemeshow	Beta 4.385 5.949 -0.006 -0.001 -7.083	Wald 1.885 4.013** 1.620 0.001 4.364** 0.027 - - - 0.394	Beta 3.195 5.186 -	Wald 1.653* 3.567** - 4.742** - - - - - 0.883	
Intercept Potential drivers LEVERAGE CEOTENURE Constraints OWNCON AUDITCOM Control variables GWB ΔOCF SIZE BTM Model summary Hosmer-Lemeshow Chi-square	Beta 4.385 5.949 -0.006 -0.001 -7.083	Wald 1.885 4.013** 1.620 0.001 4.364** 0.027 - - - 0.394 9.216	Beta 3.195 5.186 -	Wald 1.653* 3.567** - 4.742** - - - - 0.883 7.195**	

Table 3. Regression results

*, ** denote significance at the 0.05, and 0.01 level, respectively (two-tailed test)

proportion of independent directors on the audit committee as a test variable (AUDITCOM). The findings show that in all the models, the coefficient on AUDITCOM is negative and statistically significant. Similar to Lapointe-Antunes et al. (2008), this result supports H3. The result suggests that, as the proportion of independent directors on the audit committee increases, there is a lower likelihood for the sample firms in Singapore to exercise the choice in recognizing zero goodwill impairment. This study finds control variables, such as SIZE and BTM, to be non-significant.

Summary and conclusion

Overall, this study examines factors influencing and constraining the decision to recognize zero goodwill impairment using a sample of 52 Singaporean listed firms from 2010–2012. Listed firms in this ASEAN country implemented IFRS developed by the IASB and they had a bookto-market ratio above one for three consecutive years. The regression results reveal that the decision to recognize zero goodwill impairment by Singaporean listed firms is driven by the desire to avoid debt covenant violation, supporting the debt hypothesis. However, a high proportion of independent directors on the audit committee is more likely to constrain this recognition choice.

In conclusion, the findings of this study contributes to the literature on IFRS by providing evidence to support the applicability of the debt hypothesis, which was developed in an advanced market with firms that have dispersed ownership, in explaining the decision to recognize zero goodwill impairment by Singaporean listed firms. The results of this study also contributes to the corporate governance literature by supporting the results of prior studies that found effective governance mechanisms acts as a constraint to managerial opportunism related to reporting goodwill impairment.

This study provides important implications for managers, policy makers and relevant authorities. To enhance the quality of the financial statements, especially for Singaporean listed companies, the relevant authorities need to closely monitor firms' reporting incentives and further strengthen corporate governance mechanisms.

This study is subjected to at least one limitation, especially regarding thoroughly testing the contracting perspective. Specifically, the lack of data on management compensation plans has hindered this study in testing the bonus plan hypothesis. Future research could conduct a survey questionnaire enquiring whether such management compensation plans are applied by Singaporean listed firms. In addition, future research could extend this study by utilizing comparative study approaches among the ASEAN countries that have fully implemented IFRS.

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