A NON-PARAMETRIC APPROACH IN MEASURING THE VARIANCES OF COMPLIANCE LEVELS OF GOODWILL IMPAIRMENT TESTING

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Abstract:

The aim of this study is to contemplate the degree to which Singaporean firms comply with the highly technical disclosure requirements under FRS 36 specific to goodwill impairment testing. Singapore is chosen because of its advanced and economically significant economy in the heart of Asia, with a highly skilled professional workforce and strong institutional and financial infrastructure to support quality financial reporting. This research examined large listed firms reporting goodwill in three consecutive years, to establish compliance levels and disclosure quality post-transition. The study found that there was a slight improvement in the rate of compliance with accounting requirements over the investigation period.

A significant Friedman test implies that the change was significant and the development is statistically significant. Findings indicated that compliance levels and disclosure quality, although better than prior studies would have suggested, are still sporadic and unpredictable. However, the overall results of the analysis in this study suggest that in the majority of cases the levels of compliance and disclosure quality among the Singaporean listed firms are low. This is particularly so for the cash-generating unit definition and goodwill allocation, and key input variables employed in estimating recoverable amounts of cash generating units (especially on discount rates selection). Based on these results, the majority of Singaporean firms face a high degree of difficulty in the translation from idea to action in implementing the requirements of the standard. Further, questions are raised about the quality of accounting information among goodwill-intensive firms in Singapore and the robustness of regulatory oversight institutions operating within Singapore.

Keywords: *Impairment Testing, FRS 36, Financial Reporting, Singapore.*

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1. Introduction

The issue of goodwill has been a topic of intense debate among the business, legislative and academic communities throughout the world. Substantial homogenization of fundamental goodwill accounting practice has emerged across the globe over the past decade. Both US GAAP and International

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Financial Reporting Standards (IFRS) have dispensed with the long tradition of periodic amortization of goodwill against earnings and instead substituted a process of periodic impairment testing. The new standard on impairment of goodwill provides reporting firms the unique opportunity to provide more transparent, comparable and consistent financial disclosures (Sevin *et al.*, 2007).

The FASB/IASB and groups such as the International Organization of Securities Commissions (IOSCO) and International Federation of Stock Exchanges (FIBV/WFE) have actively promoted greater disclosure around the world for enhancing the quality and the comparability of financial statements, thereby promoting consistency and reliability in financial reporting and facilitating the raising of capital. In order to improve financial reporting quality and increase transparency, comparability and consistency of financial statements, it is important to measure the current practice of compliance levels with Financial Reporting Standard No. 36 (FRS 36) - *Impairment of Assets* and disclosure quality among Singapore listed firms.

For the purpose of this study, the terms "disclosure" will refer to the mandatory requirements of firms in complying with the requirements under FRS 36 which facilitates the making of investment decisions. Disclosure implies the presentation of a minimum amount of information in corporate reports, sufficient to permit a reasonable evaluation of the relative merits and risks of listed securities (Griffith & William, 1960; Belkaoui, 1985). Conceptually, disclosure of information is considered "adequate" if it is relevant to the needs of group users, capable of fulfilling those needs, and released in a timely fashion (Buzby, 1974). In other words, adequate disclosure is a function of the quantity and quality of information disclosed therein, the form in which they are presented and how well it informs users (Owusu-Ansah, 1998).

With the introduction of the new standard, the new goodwill and intangible assets accounting should offer group users with enhanced information with which to assess the value of those assets over time, thereby improving the ability to assess future profitability and cash flows. However, with the new standard, there is a higher degree of complexity pertaining to the conceptualising, measuring and reporting on goodwill which makes the scholars of accounting concerned with the difficulties associated with. An annual impairment testing of goodwill is viewed very complicated to implement. Previous studies on firms in three different geographical samples which are listed in U.S. Securities and Exchange Commission (SEC), Australia Stock Exchange (ASX) and FTSE Bursa Malaysia (BURSA) prove that firms have had difficulties in fully complying with new financial reporting standards of goodwill impairment (Sevin et al., 2007; Carlin et al., 2014; Carlin et al., 2009). The new accounting treatment for goodwill is filled with subjectivity and ambiguity for financial reporting preparers and users, and potentially has serious impacts on financial reports. Therefore, while firms may be claiming full compliance with IFRS especially in impairment of goodwill standard, significant deviations still exist.

Therefore, this study investigates the compliance levels by comparing the actual disclosures of goodwill impairment testing of large Singapore listed firms in the Singapore

Exchange (SGX) with the disclosure requirements of FRS 36 in some consecutive years. As analyzed before, Singapore Accounting Standards Council (ASC) made the requirements of the FRS 36 *Impairment of Assets* mandatory progressively since 1 July 2004 for some or all listed firms, one of the most innovative standards both in theory and in terms of impact on firm's performance. Given the Singaporean regulatory background presented above, and considering that Singapore has been stating the goal of accounting harmonization since 2000, it is interesting to analyze which firms were already anticipating FRS requirements, especially with respect to goodwill impairment disclosure under FRS 36.

2. Literature Review

The main feature of FRS 36 is principle-based rather than rule-based. This implies that managers are provided with significant discretion with respect to the application of the standard. Since financial reporting on goodwill impairment conveys managers' private information on their firm's performance, the standard itself permits managers to exercise judgment in their financial reporting and to have discretion over reporting the financial information. This is consistent with Alshabani (2001) when he stated that managers can be selective in their information disclosure. As noted by Elliot and Shaw (1988), asset impairments "differ from most financial statement information because of greater discretion as to their magnitude and timing". Clearly, managers can exercise their discretion especially over the calculation of the value in use by exaggerating the expected future cash flows and/or understating the discount rates.

The test for goodwill impairment under the FRS 36 is carried out at the level of the cash generating unit (CGU) or a group of CGUs which is representing the lowest level at which internal managements monitor goodwill. The FRS 36 also stipulates that the level for assessing impairment must never be more than a business or a geographical segment. According to Carlin et al., (2014), the level of aggregation of CGUs is of prime significant in the process of goodwill impairment testing because it has the capacity to impact on the likelihood of an impairment loss being recognized.

Prior research has suggested that one great challenge faced by reporting firms in conducting FRS 36 is the manner in which goodwill is allocated between CGUs for the purposes of impairment testing. Wines et al., (2007) conducted a research in investigating the implications of the IFRS goodwill accounting treatment in Australian firms. They agreed that the first potential difficulty to implement the goodwill accounting treatment involves in identifying the CGUs. Further, Cearns (1999) found that the identification of an asset's CGU in impairment testing of goodwill is a subjective and so the process is open to be abused.

The identification of a CGU could be difficult in cases where a firm has acquired another entity and the latter consists of a number of separate subsidiaries, divisions and/or branches. Lonergan (2007) added that a minimize future impairment write downs many corporate will naturally seek to report on the basis of larger or combined CGUs rather than smaller CGUs because acquired goodwill can be offset against the unrecognized value of internally generated goodwill or other

recognized identifiable intangible assets of the more profitable parts of the CGU or of the different CGUs. Therefore, it creates a huge impact in the disclosure requirements in the firm annual report which affects the usefulness of this information. As a result, the requirement to allocate the goodwill into the CGUs needs a careful assessment by the firms.

The allocation of goodwill to CGU is a crucial process as the number of CGUs to which goodwill is allocated has the capacity to impact an impairment loss being recognized. The risk relating to allocate goodwill to CGU's is known as the CGU aggregation problem (Carlin et al., 2014 and Carlin et al., 2013), where too few CGUs are defined in the process of allocation of goodwill to CGUs. The inappropriate of the CGU aggregation lead to the risk that impairment charges which should occur are avoided, or at least inappropriately delayed. This is important because various types of operations may have differing prospects of growth, rates of profitability, and also the degrees of risk.

In addition, the test for impairment is a one stage process wherein the recoverable amount of the CGU is calculated on the basis of the higher of (a) the fair value less costs to sell or (b) the value in use, and then compared to the carrying amount. In case the assessed value is lesser than the carrying cost, an appropriate charge is made to the profit and loss account. The goodwill appropriated to the CGU is reduced *pro rata*. The FRS 36 requires detailed disclosures to be published in the firm's annual report regarding the annual impairment tests. These include the assumptions made for these tests (assumptions employed in estimating recoverable amount), and the sensitivity of the results of the impairment tests to changes in these assumptions.

In term of assumptions used in determining recoverable amount through the discounted cash flow modeling, the selection of discount rates and other variables are key factors contributed to the outcome of impairment assessment especially when using the value in use method. The cash flows are estimated with certain assumption which is reflecting to all financial variables. Furthermore, the cash flow information is useful to annual report users in order to evaluate the ability of a firm to generate cash in the future and also in valuing the firm's performance.

Under the new standard of accounting for goodwill impairment, goodwill on the accounting book is more challenging and less predictable. For financial information providers' view, goodwill becomes a more risky asset in that its value can impair abruptly, due to the accounting assumptions or market situation changes. On the other hand, for financial report users' view, the process of charging goodwill to expenses becomes less transparent and more unpredictable in that the measurement and reporting are more subjective to management's assessment. The difficulties faced by the financial information providers as well as the financial statement users make accounting standards setters think ahead to refurbish and also straighten the enforcement when firms report the impairment of goodwill process in their annual report. Unlike earlier contributions on this theme, this research concentrates on the situation in Singapore, an advanced and economically significant economy and capital market in the heart of Asia, with a highly skilled professional workforce and strong institutional and financial infrastructure to support quality financial reporting. Difference from the previous studies, this research investigates the compliance levels of goodwill impairment testing of large

listed firms after consecutive years' adoption of FRS 36 by testing the actual disclosure quality in the note-form of financial statements and then comparing with the accounting requirements of this issue in the FRS 36.

3. Data Collection and Methodology

3.1. Data Collection

The sample and data used in this research are obtained primarily from the Worldscope Datastream Database and have publicly available information in three consecutive years from 2005. The process of construction of research sample focuses on the 562, 593 and 623 firms listed in the SGX as at 2005, 2006 and 2007 respectively. Then firms having no goodwill as comprising an element of their asset base in their consolidated financial statements were excluded in the sample. For having a better understanding of the firm's financial position and operational results, this research selected the repeated firms that have reported goodwill in three consecutive years (repeated sample). As a result, 168 large listed firms have been chosen in the final sample.

Table 1 – Overview of Research Sample

Sector	Total Goodwill (SGD$ Million)			Average Value of Goodwill (SGD$ Million)			Goodwill as % of Total Assets			% Δ in Goodwill	
	2005	2006	2007	2005	2006	2007	2005	2006	2007	2006	2007
Commerce and Diversified (n=9)	229	219	314	25	24	35	1.8%	1.4%	1.7%	-4.5%	43.6%
Construction (n=17)	407	373	305	24	22	18	5.2%	3.6%	2.8%	-8.4%	-18.2%
Drugs, Cosmetics, Healthcare and Chemicals (n=8)	35	39	68	4	5	9	2.4%	2.5%	3.4%	10.1%	74.6%
Electrical and Electronic (n=22)	242	813	871	11	37	40	3.0%	8.9%	9.0%	235.4%	7.1%
Financials (n=13)	7,743	13,273	13,154	596	1,021	1,012	1.4%	2.2%	1.9%	+71.4%	-0.9%
Food and Beverages (n=8)	89	87	94	11	11	12	5.0%	3.7%	3.9%	-2.5%	7.9%
Machinery and Equipment (n=14)	310	241	278	22	17	20	14.2%	10.9%	11.2%	-22.4%	15.4%
Manufacturing (n=18)	5,627	4,418	4,850	313	245	269	24.2%	15.4%	17.9%	-21.5%	9.8%
Metal Product Manufacturers (n=13)	136	148	146	10	11	11	2.3%	2.9%	2.1%	9.0%	-2.0%
Miscellaneous (n=17)	1,114	3,313	2,367	66	195	139	6.6%	17.0%	9.5%	197.5%	-28.6%
Retailers, Textiles and Apparel (n=10)	429	629	628	43	63	63	15.0%	18.1%	16.0%	46.8%	-0.1%
Utilities and Transportation (n=19)	10,656	10,681	10,690	561	562	563	12.4%	12.9%	12.1%	0.2%	0.1%
Total (n=168)	***27,018***	***34,234***	***33,763***	***161***	***204***	***201***	***3.8%***	***4.4%***	***3.8%***	***26.7%***	***-1.4%***

Table 1 shows that the total amount of goodwill increased by 3.8% in 2005 to 4.4% in 2006, which indicates that the amount of goodwill is an important element as an asset on the firm's balance sheet. Specifically, firms in the machinery and equipment, manufacturing, retailers, textiles and apparel and utilities and transportation sectors, have goodwill representing more than 10% of their total assets.[1] Clearly it shows that goodwill is too important asset to be overlooked.

3.2. Research Methodology

This research has an objective to evaluate whether there is an improvement of compliance levels of goodwill impairment by comparing the actual disclosure quality with the accounting requirements of large listed firms in Singapore context.

Following earlier research on the compliance issue in other jurisdictions, two key groups of compliance related issues are subject to investigation. The first relates to the role of CGUs as key devices determining the shape and impact of the impairment testing process. The second pertains to the inspection of key assumptions based upon which the recoverable amount of CGU assets has been estimated. A dual layered comparative/ evaluative methodology is employed for this study.

The first comparative/evaluative methodology requires a comparison to be made between the content of a firm's impairment testing disclosure with a checklist of requirements derived from the text of FRS 36. Through this comparison, firm disclosures are categorized according to a bi-modal "*comply*" or "*non-comply*" taxonomy. The steps of the first comparative/evaluative methodology are:

1. Compare each firm's total goodwill balance with the total disclosed CGU goodwill allocation. If the total disclosed goodwill of the firm is less than the total value of goodwill allocated to CGUs, the quality and completeness of disclosure is classified as lower, and vice versa.

2. Compare the number of CGUs and business segments for firms on an industry by industry basis. The important aspect in this process is to look at the level of aggregation of CGUs by those firms. This data assists with the development of insight into the level of compliance with basic disclosure requirement set out in FRS 36.

3. The frequency with which sample firms used either the fair value less costs to sell or value in use methods in determining the recoverable amount.

Then, the second layer of the methodology looks beyond distribution of disclosures into the basic categories of "*comply*" and "*non-comply*" and recognizes that within the "comply" category an additional element of the methodology employed is the construction of multi-category disclosure quality taxonomies, which provide a more nuanced perspective on disclosure practice than a binomial "*comply*" versus "*non-comply*" categorization. This methodology employed is able to assess the quality of disclosures pertaining to goodwill impairment requirements, especially the key

[1] Goodwill as % of total assets for machinery and equipment sector at 11.2% (2007), 10.9% (2006) and 14.2% (2005), manufacturing sector at 17.9% (2007), 15.4% (2006) and 24.2% (2005), retailers, textiles and apparel at 16.0% (2007), 18.1% (2006) and 15.0% (2005), utilities and transportation at 12.2% (2007), 12.9% (2006) and 12.4% (2005).

assumptions used to estimate the recoverable amount. The lists of the four elements of multi-category disclosure quality taxonomies are as (i) multiple explicit rates; (ii) single explicit rates; (iii) range of rates; and (iv) no effective disclosure.

The key assumptions of the discount rates and growth rates have been scrutinised for developing a deeper understanding of the operation of goodwill reporting regime. An additional analysis on the issues of compliance levels particularly in CGU allocation and the disclosure quality of the key assumptions and their compliance over years are further analyzed to ascertain which of the taxonomy categories are perceived as significant or less significant and to arrive at logical conclusion on the sample data. The further analysis is performed by the Friedman test and was analyzed using SPSS statistical software. The Friedman test is the non-parametric alternative to the one-way repeated measures analysis of variance. The Friedman test can be employed as a substitute for the analysis of variance when the observations are not normally distributed, since it does not require normally distributed data (Patuelli *et al.*, 2007). This method is employed when the same samples of subjects or cases are measure at three or more points in time.

4. Results and Discussion

Table 2 demonstrates that firms for three consecutive years were categorized as fully compliant or non-compliant with the disclosure requirements under FRS 36. The first and dominant cluster comprised 95, 120 and 125 firms for which firms are fully comply with FRS 36 for 2005, 2006 and 2007 respectively, which means they allocated the total amount of goodwill to the total defined CGU. In 2007 and 2006 in comparison to 2005, the rate of compliance among the Singapore listed firms increased from 56.6% in 2005 to 71.4% (2006) and 74.4% (2007), conclusively indicating improvements in the rate of compliance with this requirement over the period of the study.

The second cluster comprised 73, 48 and 43 firms where it was not possible in any meaningful way to draw a link between the value of reported goodwill and any of the firm's defined CGUs for a multi year sample. In other words, these firms failed to comply with the basic disclosure requirement of FRS 36 requiring reconciliation between the total goodwill on the balance sheet and the amount of goodwill disclosed as having been allocated to CGUs. The basic impact of the lack of capacity to trace goodwill to the CGU level is to remove the capacity of user groups to make self-valuation assessments of goodwill value, since the most forensic disclosure requirements of FRS 36 are at the CGU level. The number of firms in the second cluster is high; comprising approximately 43.5% (2005), 28.6% (2006) and 25.6% (2007). This result is consistent with previous studies by Wines *et al.* (2007), Dagwell *et al.* (2004), and Cearns (1999) where the allocation of goodwill to CGU or group of CGUs is a crucial process in impairment testing.

While some firms made no disclosures on the identity or nature of their defined CGUs, in some cases, they do provided details but failed to specify the dollar amount of goodwill allocated to each of the CGUs. Based on this scenario, it is possible to explain the high frequency with which firms failed to provide the basic information. In 61, 39 and 36 of the 168 firms where no meaningful CGU goodwill allocation disclosures were made, goodwill

represented below 5% of total assets, a relatively small amount was reported in 2005, 2006 and 2007 respectively.

However, it is clearly specified in FRS 36 that the relevant value benchmark against which to determine materiality for the purposes of impairment testing disclosures are not total assets, but total intangible assets.[1] The application of this benchmark suggests that no materiality based disclosure exclusion should have applied to the financial reports of these firms. A further 12, 9 and 7 firms in 2005, 2006 and 2007 respectively of the non complying firms failed to provide meaningful disclosures pertaining to the allocation of goodwill to CGUs even though goodwill as a proportion of their balance sheets was very material (where the percentage of goodwill to total assets is above 5%). Hence, it is difficult to understand the existence of any basis upon which these firms might have relied for not producing disclosures in accordance with the requirements of FRS 36.[2] An obvious problem which arises where this information is not provided is the lack of capacity on the part of the user groups toward better understanding on how goodwill is distributed across a business, where it is concentrated and with what types of underlying business activities it is principally associated.

Further statistical test used to analyze the issues of compliance levels particularly in CGU allocation to ascertain which of the taxonomy categories are perceived as significant or less significant. The results of the Friedman Test is shown in Table 3 and indicated that there

Table 2 – CGU Allocation Compliance by Sector

Sector	Fully Compliant (number of firms)			Non-Compliant (number of firms)		
	2005	2006	2007	2005	2006	2007
Commerce and Diversified (n=9)	5	7	6	4	2	3
Construction (n=17)	8	11	12	9	6	5
Drugs, Cosmetics, Healthcare and Chemicals (n=8)	5	4	3	3	4	5
Electrical and Electronic (n=22)	14	16	15	8	6	7
Financials (n=13)	10	10	10	3	3	3
Food and Beverages (n=8)	5	5	5	3	3	3
Machinery and Equipment (n=14)	6	9	11	8	5	3
Manufacturing (n=18)	11	14	13	7	4	5
Metal Product Manufacturers (n=13)	7	9	11	6	4	2
Miscellaneous (n=17)	9	11	15	8	6	2
Retailers, Textiles and Apparel (n=10)	5	8	8	5	2	2
Utilities and Transportation (n=19)	10	16	16	9	3	3
TOTAL (n=168)	***95***	***120***	***125***	***73***	***48***	***43***
Percentage of overall sample (%)	***56.5***	***71.4***	***74.4***	***43.5***	***28.6***	***25.6***

[2] Paragraph 134 of FRS 36.

[3] It is not notable that none of the audit reports of these firms was qualified in any way.

was a statistically significant difference in the level of compliance across the three years, $\chi^2(2,n=168) = 28.70, p<.005)$. This is indicated by a Sig. Level of .000 (which really means less than .0005). Comparing the Mean Ranks for the three years, it appears that there was a decrease in level of compliance over time. Simultaneously, percentage of fully compliant firms is showing an increasing trend over years. A significant Friedman test implies that the change was significant and it implies that the development is statistically significant.

Table 3 – Friedman Test for Compliance Level Analysis

Ranks	
	Mean Rank
Compliance Level 2007	1.90
Compliance Level 2006	1.94
Compliance Level 2005	2.16

Test Statistics[a]	
N	168
Chi-Square	28.704
df	2
Asymp. Sig.	.000
a. Friedman Test	

Further investigation on firms' compliance levels is needed to examine the problem related to the aggregation of goodwill to CGU. The allocation of goodwill to CGU or a group of CGUs is a crucial process as it affects the impairment charges being recognized. Defining too few CGUs can result in "*creative accounting*" and "*opportunistic behavior*" in impairment expenses. According to paragraph 80 of FRS 36, CGU or groups of CGUs to which goodwill is allocated for the purpose of impairment testing represent the lowest level within the entity at which goodwill is monitored for internal management purposes. However, the CGUs defined are not to be larger than segments as reported by the entity pursuant to FRS 14 - *Segment Reporting*.

In order to provide clearer picture of current practice among the Singapore listed firms in relation to the CGU aggregation issue, data pertaining to the number of entities controlled by each of the firms, the number of business segments those firms reported and the number of CGUs defined by each of the firms in the sample is analyzed. Given the requirements of FRS 36 in relation to the size of CGUs relative to defined business segments, the relationship between the aggregate levels of CGUs and segments defined by sample firms is a matter of particular interest. In essence, the motivation behind this approach is that over a sufficiently large sample, the aggregate number of defined segments should set a baseline for the expected aggregate number of CGUs. Material deviation below this expectation could suggest the presence of a CGU aggregation problem.

Table 4 contains data which bears on this issue. Of the 168 firms in the sample which provided sufficient disclosures to permit identification of their CGUs for 2005, 2006 and 2007, only 10.1% (2005), 14.9% (2006) and 16.1% (2007) of the firms in the sample defined more CGUs than business segments (suggesting a lower risk of aggregation concerns), while in a further 8.9% (2005), 11.3% (2006) and 16.7% (2007) as many CGUs as business segments were defined. Based on those results, firms failed to disclose the same rate of CGUs within the period of the study.

The results also reveal the existence of a high proportion of firms which disclosed fewer

CGUs than business segments (approximately half the sample firms in each year) and a substantial (though falling) proportion of firms which provided no effective disclosure in relation to CGUs. The high number of firms which defined fewer CGUs than segments suggests that among the total research sample, there likely exist firms where the low CGU definition rates were driven by factors other than a narrow incidence of goodwill. In some cases, as few as one CGU was defined, suggesting a heightened risk of inappropriate CGU aggregation, with all the implications for the rigor of goodwill impairment testing which flow from that phenomenon.

Next, Table 5 extends the analysis of defined CGUs versus business segments in looking at the risk of inappropriate CGU aggregation problem, by calculating the CGU to business segment ratio for the research sample. Consistent with the result sets out in Table 4, a similar pattern, whereby on average fewer CGUs than business segments are defined. Average CGU and business segment

Table 4 - Business Segments and CGU Aggregation by Sector

Sector	No. CGUs > No. Segments			No. CGUs = No. Segments			No. CGUs < No. Segments			No Effective Disclosure		
	2005	**2006**	**2007**	**2005**	**2006**	**2007**	**2005**	**2006**	**2007**	**2005**	**2006**	**2007**
Commerce and Diversified (n=9)	1	3	2	1	-	1	4	5	5	3	1	1
Construction (n=17)	2	3	2	1	4	6	5	6	6	9	4	3
Drugs, Cosmetics, Healthcare and Chemicals (n=8)	2	2	1	1	1	1	3	2	3	2	3	3
Electrical and Electronic (n=22)	2	4	4	3	1	4	9	11	7	8	6	
Financials (n=13)	1	2	2	1	2	2	9	6	6	2	3	3
Food and Beverages (n=8)	1	-	2	2	2	2	3	4	3	2	2	1
Machinery and Equipment (n=14)	1	1	1	1	1	1	4	8	10	8	4	2
Manufacturing (n=18)	2	1	2	1	3	4	9	11	10	6	3	2
Metal Product Manufacturers (n=13)	-	-	-	1	3	3	6	8	9	6	2	1
Miscellaneous (n=17)	1	2	3	-	-	2	9	9	11	7	6	1
Retailers, Textiles and Apparel (n=10)	0	2	3	2	2	1	3	4	4	5	2	2
Utilities and Transportation (n=19)	4	5	5	1	-	1	7	11	10	7	3	3
TOTAL (n=168)	***17***	***25***	***27***	***15***	***19***	***28***	***71***	***85***	***84***	***65***	***39***	***29***
Percentage of overall sample (%)	**10.1**	**14.9**	**16.1**	**8.9**	**11.3**	**16.7**	**42.3**	**50.6**	**50.0**	**38.7**	**23.2**	**17.3**

numbers are also contrasted against the average number of reported entities in each sector presented within the research sample. Consequently, it suggests that inappropriate CGU aggregation took place and at the same time reduced the quality of financial reporting transparency, comparability and consistency in term of "*creative accounting*" or "*opportunistic behavior*" among the firms.

In addition, Table 5 reveals the issue in CGU aggregation followed by a comparison to controlled entities. Controlled entities were suggested as a meaningful indicator for the risk of inappropriate CGU as it related to goodwill through the firm's acquisition transaction. Therefore, a comparison between controlled entities, business segments and defined CGUs possibly will provide a useful indicator of the risk of inappropriate CGU aggregation. The interpretation of this data is based on the belief that CGU to segment ratios materially less than one suggest the existence of a heightened risk of aggregation problems, given the expectation raised in FRS 36 that CGUs be no larger than defined business segments. The results set out in Table 5 suggest that this has been a problem in the Singaporean context, sample firms only defined 0.4, 0.5 and 0.6 CGUs for each business segment in 2005, 2006 and 2007

Table 5 – Analysis of Business Segments and CGUs by Sector

Sector	Avg. No. of Controlled Entities			Avg. No. of Business Segments			Avg. No. of CGUs			Ratio of CGUs to Business Segments			Δ in Ratio	
	2005	2006	2007	2005	2006	2007	2005	2006	2007	2005	2006	2007	2006	2007
Commerce and Diversified (n=9)	50.8	28.2	28.9	3.6	3.3	3.2	1.4	2.2	2.6	0.4 : 1	0.7 : 1	0.8 : 1	63.4%	17.9%
Construction (n=17)	22.3	25.7	26.4	3.0	2.9	3.0	0.9	1.7	1.8	0.3 : 1	0.6 : 1	0.6 : 1	90.3%	3.4%
Drugs, Cosmetics, Healthcare and Chemicals (n=8)	22.5	24.8	29.5	2.8	2.9	3.1	1.4	1.5	1.4	0.5 : 1	0.5 : 1	0.4 : 1	4.0%	-15.4%
Electrical and Electronic (n=22)	20.7	21.5	20.0	3.0	3.0	3.0	1.3	1.7	1.7	0.4 : 1	068 : 1	0.6 : 1	31.8%	-1.7%
Financials (n=13)	46.5	46.6	43.8	4.2	4.3	4.2	1.9	2.1	2.2	0.5 : 1	0.5 : 1	0.5 : 1	4.4%	8.3%
Food and Beverages (n=8)	24.0	22.0	23.4	2.8	2.6	2.5	1.3	1.4	2.0	0.5 : 1	0.5 : 1	0.8 : 1	15.6%	53.9%
Machinery and Equipment (n=14)	20.1	17.1	17.0	3.2	3.2	3.2	0.9	1.4	1.6	0.3 : 1	0.4 : 1	0.5 : 1	51.7%	11.4%
Manufacturing (n=18)	36.1	36.3	36.9	3.1	3.1	3.0	0.9	1.3	1.7	0.3 : 1	0.4 : 1	0.6 : 1	40.0%	33.3%
Metal Product Manufacturers (n=13)	22.0	19.9	18.9	3.2	3.3	3.3	0.6	1.2	1.3	0.2 : 1	0.4 : 1	0.4 : 1	85.0%	8.1%
Miscellaneous (n=17)	40.1	44.6	45.9	3.8	3.8	3.8	1.2	1.7	2.8	0.3 : 1	0.5 : 1	0.7 : 1	40.6%	60.0%
Retailers, Textiles and Apparel (n=10)	29.0	30.9	31.5	3.3	3.0	3.1	0.8	1.9	2.2	0.2 : 1	0.6 : 1	0.7 : 1	162.5%	-84.1%
Utilities and Transportation (n=19)	46.3	49.4	41.8	4.1	4.0	4.0	2.1	3.1	3.1	0.5 : 1	0.8 : 1	0.8 : 1	51.0%	2.6%
TOTAL (n=168)	***31.7***	***31.6***	***30.8***	***3.4***	***3.3***	***3.3***	***1.3***	***1.8***	***2.0***	***0.4 : 1***	***0.5 : 1***	***0.6 : 1***	***46.0%***	***14.8%***

respectively.[4] Allowing for differences in industry based growth and internal reporting patterns, Carlin and Finch (2013) suggested that on balance, CGU aggregation is a device being used by firms to manage risk and timing of goodwill impairment losses. As a result, the current practice of Singapore listed firms between the periods shows that those firms overstating earnings and net assets and understate leverage, have reduced reporting transparency, comparability and consistency.

Further analysis relates to the choice of approach adopted in estimating the recoverable amount of CGU assets and thus, determined whether goodwill impairment had occurred. As previously discussed, firms have the choice to adopt either a value in use or a fair value approach when estimating the CGU's recoverable amount. Consequently, Table 6 sets out the frequency of firms' choice of method in estimating the recoverable amount of CGUs. The first issue revealed that the frequency with which firms with goodwill made no statements whatsoever in relation to their choice of recoverable amount estimation technique. The data depicted that 56 (33.3%), 26 (15.5%) and 21 (12.5%) out of 168 firms did not disclose the method used in determining the recoverable amount[5] of CGU in 2005, 2006 and 2007 respectively. In contrast, the main method employed as a basis for estimation the recoverable amount was the value in use method, used by 100 (2005), 123 (2006) and 131 (2007).

The dominance of Singapore firms to choose the value in use method is consistent with research findings pertaining to preferred value estimation methods in other jurisdictions, including New Zealand, Australia, Hong Kong and Malaysia (Carlin *et al.*, 2009; Carlin & Finch, 2013). Notably, serious objections have recently emerged in the technical accounting literature in relation to the rigor and workability of value in use as a recoverable amount estimation technique and the motivation underpinning dominant firm preference for this technique (Lonergan, 2010). In comparison, firms that have chosen to use the fair value method face a lower required disclosure burden and avoid the obligation to provide details such as discount rates and other variables.

Given the limited classes of assets for which liquid markets exist in relation to which current reference transactions are observable and this is set out in Table 6. Only 7 (4.2%) firms in 2005 and 2006 and 8 (4.8%) firms in 2007 exclusively based their impairment assessments on this approach, while a further 5 (3.0%), 12 (7.1%) and 8 (4.8%) of the firms disclosed that they use this approach in measuring CGU recoverable amount in 2005, 2006 and 2007 respectively. As a result, disclosure quality among the firms in the impairment testing process is diminished.

In relation to discount rates, paragraph 134 (d) of FRS 36 requires disclosures relating to discount rates applied to the cash flow projections and specifies that these discount rates shall be stated on a pre-tax basis. The discount rate disclosures are important in the

[4] These CGU to Segment ratios are also materially lower than those observed in other advanced economic jurisdictions in the Asia-Pacific region. See Carlin and Finch (2007b) for further and better particulars of the contemporary Australian situation.

[5] It is clearly shown that these firms breach FRS 36 due to failure to disclose the information regarding the method employed to determined recoverable amount.

Table 6 – Approach Employed to Determine Recoverable Amount by Sector

Sector	Fair Value Method			Value in Use Method			Mixed Method			Method Not Disclosed		
	2005	2006	2007	2005	2006	2007	2005	2006	2007	2005	2006	2007
Commerce and Diversified (n=9)	-	-	-	7	8	9	-	-	-	2	1	-
Construction (n=17)	1	1	1	11	14	15	-	-	-	5	2	1
Drugs, Cosmetics, Healthcare and Chemicals (n=8)	-	-	-	8	8	8	-	-	-	-	-	-
Electrical and Electronic (n=22)	-	-	-	15	16	16	-	1	-	7	5	6
Financials (n=13)	1	-	-	8	8	9	3	4	3	1	1	1
Food and Beverages (n=8)	-	-	-	6	6	6	-	-	-	2	2	2
Machinery and Equipment (n=14)	-	1	1	6	11	11	1	1	1	7	1	1
Manufacturing (n=18)	1	-	-	7	15	15	-	-	-	10	3	3
Metal Product Manufacturers (n=13)	-	1	1	7	9	1	-	-	-	6	3	2
Miscellaneous (n=17)	3	2	2	9	8	11	-	3	3	5	4	1
Retailers, Textiles and Apparel (n=10)	-	1	2	5	7	6	-	1	1	5	1	1
Utilities and Transportation (n=19)	1	1	1	11	13	15	1	2	-	6	3	3
TOTAL (n=168)	***7***	***7***	***8***	***100***	***123***	***131***	***5***	***12***	***8***	***56***		
Percentage of overall sample (%)	**4.2**	**4.2**	**4.8**	**59.5**	**73.2**	**78.0**	**3.0**	**7.1**	**4.8**	**33.3**	**15.5**	**12.5**

process of modeling the CGU asset portfolio recoverable amount. This means that the discount rates employed should not reflect firm financing structure decisions and at the same time being able to show variation across CGUs where business risk differs. The information of discount rates is of material significance to financial statement users seeking to independently evaluate the impairment testing process applied. The variation in discount rate disclosures of the Singapore listed firms for 2005, 2006 and 2007 is detailed in Table 7.

Table 7 shows that the disclosure of discount rates among reporting firms is inadequate when referring to the requirements of the standard. Thus, the disclosure practices of the research sample bearing on discount rates leave much to be desired. Surprisingly, there were a significant number of firms providing no information that enables a user to meaningfully quantify the discount rate

used as part of the cash flow projections for 2005 and 2006 at 6 to 13 firms or 116.7%. In 2007, this decreased slightly to 11, or -15.4%. Although the requirement under FRS 36 is extremely basic, the Singapore listed firms failed to fulfill the requirement within the period of the study.

In addition, 8 (2005), 15 (2006) and 16 (2007) firms used a range of discount rates in the value estimation exercise, but provide no details of specific discount rates used in each CGU. Therefore, from the observed sample over multi year data, the current practice on discount rate disclosures provided no meaningful information for user groups in their independent valuation process with regards to the impairment testing process especially when attempting to understand the level of discount rates applied to particular CGUs.[7]

Table 7 - Discount Rate Method (Value in Use and Mixed Method Firms Only)[6]

Sector	Number of Firms			Multiple Explicit Discount Rates for each CGU			Single Explicit Discount Rates			Range of Discount Rates			No Effective Disclosure		
	2005	2006	2007	2005	2006	2007	2005	2006	2007	2005	2006	2007	2005	2006	2007
Commerce and Diversified	7	8	9	3	-	1	4	8	7	-	-	1	-	-	-
Construction	11	14	15	1	1	2	8	6	6	2	3	3	-	4	4
Drugs, Cosmetics, Healthcare and Chemicals	8	8	8	-	-	-	7	7	7	1	1	1	-	-	-
Electrical and Electronic	15	17	16	3	2	4	10	1		-	-	-	2	3	1
Financials	11	12	12	3	3	3	5	5	5	3	4	4	-	-	-
Food and Beverages	6	6	6	1	3	3	5	2	2	-	1	1	-	-	-
Machinery and Equipment	7	12			-	-	4	11	11	-	1	1	1	-	-
Manufacturing	7	15	15	-	-	-	6	12	12	1	1	1	-	2	2
Metal Product Manufacturers	7	9	10	1	1	1	6	7		-	1	1	-	-	-
Miscellaneous	9	11	14	4	3	4	3	4	6	-	2	2	2	2	2
Retailers, Textiles and Apparel	5	8	7	1	2	2	3	6	5	1	-	-	-	-	-
Utilities and Transportation	12	15	15	2	1	1	9	1		-	1	1	1	2	2
Total	***105***	***135***	***139***	***21***	***16***	***21***	***70***	***91***	***91***	***8***	***15***				
Percentage of overall sample (%)	**100**	**100**	**100**	**20**	**11.9**	**15.1**	**66.7**	**67.4**	**65.8**	**7.6**	**11.1**	**11.5**	**5.7**	**9.6**	**7.9**

[6] In some cases the rate ranges disclosed were so wide as to be devoid of effective information content.

[7] Of the 105 in 2005, 100 firms employed the value in use method and 5 used the mixed method (combination of the value in use and fair value). Meanwhile, in 2006, 123 (value in use method) and 12 (mixed method) and in 2007, 131 (value in use method) and 8 (mixed method).

The dominant choice of discount rate disclosure among those firms which made explicit and specific disclosures relating to the discount rates they had utilized in the context of impairment testing was to acknowledge the use of a single firm wide discount rate. The data indicates 70 (2005) and 91 (both in 2006 and 2007) firms with approximately 66.7%, 67.4% and 65.8% of observation firms disclosed single discount rates in the recoverable amount estimation process for each CGU of their impairment testing processes. Despite the requirement that discount rates should be crafted to fit the explicit contours of the risks associated with each CGU, it was comparatively rare for sample firms to define explicit CGU specific discount rates which exhibited variation within firm. Hence, it seems that inappropriate discount rates are being selected in a substantial number of impairment testing procedures.

The allocation of a discount rate for each CGU should take into account the business risk referable in each CGU. Given the requirement that discount rates employed were a function of underlying business risk within each CGU, the data shows an unusual result. Only 21 (2005 and 2007) and 16 firms (2006) elected individualized risk adjusted discount rate for each CGU and explicitly disclosed these. There was a fluctuation in the number of firms disclosed multiple discount rates to represent their business risks from -23.8% in 2006 and 31.3% in 2007 in the multi-year dataset.

Further statistical test on the disclosure quality of discount rate over years are examined by Friedman Test to determine which of the four elements of taxonomy categories are perceived as significant or less significant. The results of the Friedman Test is shown in Table 8 and indicated that there was a statistically significant difference in the level of compliance across the three years, $\chi^2(2,n=168) = 26.06, p<.005$). This is indicated by a Sig. Level of .000 (which really means less than .0005). Comparing the Mean Ranks for the three years, it appears that there was a decrease in discount rate disclosure over time. A significant Friedman test implies that the change was significant and it implies that the development is statistically significant.

Table 8 – Friedman Test for Discount Rate Analysis

Ranks	
	Mean Rank
Discount Rate 2005	2.17
Discount Rate 2006	1.92
Discount Rate 2007	1.91

Test Statistics[a]	
N	168
Chi-Square	26.064
df	2
Asymp. Sig.	.000
a. Friedman Test	

Apart from the lack of consistent adherence to the disclosure requirement of discount rates set out in FRS 36, it was also apparent that anomalies emerged with respect to the value chosen for the discount rate employed by some firms in the impairment testing process. Not only do the ranges of disclosed discount rates employed within industry groupings appear wide, but the minimum rates employed by firms captured in the sample appear in some

[8] This results in the risk that impairment charges which ought to have been recognized were inappropriately deferred

cases inexplicably low.[8] As illustrated in Table 9, one firm in the manufacturing sector[9] (both in 2005 and 2006) and electrical and electronic sector[10] (2007) defined discount rates appeared to be inexplicably low.

In comparison with the yields available on average Singapore Government Security (SGS) at 3.21% in 2005, 3.05% in 2006 and 2.68% in 2007, there seems a lower than common estimate of the long run risk free rate, although there is a small uplift in maximum discount rates used to discount cash flow for the purpose of impairment testing. Still, there is no evidence of significant variation in the selection of discount rate within the period of the study. Technically, in order to disclose the discount rate, firms should take into account all the risks inherent in the firm's operation as well as the risk free rate.

Furthermore, discount rates applied by Singapore firms exhibited far greater dispersion (between maximum and minimum) in discount rates, used lower discount rates and exhibited a greater tendency to select absurdly low[11] discount rates. Table 9 indicates that the discount rates ranged between 1.7%, 2.1% and 2.2% at the low end and 19.5%, 30.0% and 20.0% at the upper end, with an arithmetic mean pre-tax discount rate of 8.7%, 9.3% and 9.3% for 2005, 2006 and 2007 respectively but high scattering around the mean. The result of this analysis revealed there is a downward bias in the practice of Singapore firms in applied discount rates, which potentially avoids the recognition of an impairment charge and has a material impact on financial statements transparency, comparability and consistency.

Paragraph 55 of FRS 36 requires that under the value in use approach, the discount rate employed in testing the goodwill impairment must be a pre-tax discount rate. While not all the firms which adopted a value in use methodology have provided effective disclosure on their discount rates, two firms Haw Par Co., Ltd and Genting International Public Co., Ltd. have specifically stated they have used an after-tax discount rate for the purpose of impairment testing.

As a whole, there are several important outcomes raised related to the analysis of the allocation of discount rates in the impairment testing process. First and foremost, through the comparison of multi year data, the non-compliance level among the Singapore listed firms is comparatively high in discount rate disclosure as required under the basic requirement of the standard. Second, most firms prefer to used the single discount rate in estimating the recoverable amount of each CGU. This situation leads to inappropriate specific risk adjustment for each CGU in the impairment testing procedures, making it difficult or impossible for a user to quantify the discount rates. Third, there is some evidence that firms have used a comparatively low discount rate in the impairment testing process. This scenario leads to overestimate the recoverable amount of the CGU asset portfolio and makes it possible for those firms to defer or avoid losses.

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8 Memtech International applied a 1.7% (2005) and 2.1% (2006) pre tax discount rate when testing for goodwill impairment. This disclosure provides a useful insight in the apparent risk associated with operating an equity capital market.

9 Magnus Energy applied 2.2% pre tax discount rate in year 2007 in the impairment testing process.

10 For example, rates at or below the risk free rate of return, as proxy for by the long term government bond rate in the jurisdiction under study.

Table 9 – Discount Rate Disclosures (Value in Use and Mixed Method Firms Only)

Sector	Number of Firms			Minimum Pre-tax Discount Rate (%)			Δ in Minimum				Maximum Pre-tax Discount Rate (%)			Δ in Maximum			
							Δ bps		Δ %					Δ bps		Δ %	
	2005	2006	2007	2005	2006	2007	2006	2007	2006	2007	2005	2006	2007	2006	2007	2006	2007
Commerce and Diversified	7	8	9	5.4	5.7	5	30	-70	5.6%	-12.3%	15	12	14	-300	200	-20.0%	16.7%
Construction	11	14	15	4.2	5	3.		-120	19.1%	-24.0%	12	13	13.3	100	30	8.3%	2.3%
Drugs, Cosmetics, Healthcare and Chemicals	8	8	8	4	5.2	4.5	120	-70	30.0%	-13.5%	9.9	11.1	10.5	120	-60	12.1%	-5.4%
Electrical and Electronic	15	17	16	2.3	2.8	2.2	50	-60	21.7%	-21.4%	15	15	17	-	200	-	13.3%
Financials	11	12	12	3	6	6	30	-	100.0%	-	15	15	15	-	-	-	-
Food and Beverages	6	6	6	5	5.5	5.5	5	-	10.0%	-	10.5	10.4	9	-6	-144	-0.6%	-13.8%
Machinery and Equipment	7	12	12	4.7	5	5	3	-	6.4%	-	15	16.9	13.7	186	-316	12.4%	-18.7%
Manufacturing	7	15	15	1.7	2.1	4.8	40	270	23.5%	128.6%	10	12	14	200	200	20.0%	16.7%
Metal Product Manufacturers	7	9	10	5	7.1	6.8	21	-30	42.0%	4.2%	16.7	24.4	15	770	-940	46.1%	-38.5%
Miscellaneous	9	11	14	4.8	5	5	2	-	4.2%	-	11.9	10.9	10.8	-100	-10	-8.4%	-0.9%
Retailers, Textiles and Apparel	5	8	7	6.3	5	5	-130	-	-20.6%	-	19.5	14	14.6	-550	60	-28.2%	4.3%
Utilities and Transportation	12	15	15	5.1	5.02	5.3	-8	28	-1.6%	5.6%	15	30	20	1500	-1000	100.0%	-33.3%
TOTAL	**105**	**135**	**139**	**1.7**	**2.1**	**2.2**	**40**	**10**	**23.5%**	**4.8%**	**19.5**	**30**	**20**	**1050**	**-1000**	**53.9%**	**-33.3%**

This research also focused on disclosure related to estimated future growth rates. In impairment testing of goodwill pursuant to FRS 36, firms that employed the value in use approach are required to make detailed disclosures in relation to assumed growth rates. Table 10 shows a degree of conservatism in the growth estimates adopted by Singapore firms in assessing goodwill impairment.

The data from Table 10 divulges that an average of approximately 40% of firms which used the value in use method (and were thus required to make explicit details of growth assumptions used in the modeling process) failed to make any meaningful disclosures in relation to assumed growth rates over the three years under investigation. In 62 (2005), 75 (2006) and 76 (2007) of these cases, the failure of disclosure was total – with no available and useful information on growth rate assumptions released in the financial reporting. Given the vital role played by growth rate data in the development of cash flow models under FRS 36, this lack of transparency, comparability and consistency was disappointing.

5. Conclusion

This research extends prior research through further consideration of the levels of compliance of accounting for goodwill

Table 10 - Growth Rate Approach (Value in Use and Mixed Method Firms Only)

Sector	Number of Firms			Multiple Growth Rates			Single Growth Rate			Range of Growth Rates			No Effective Disclosure		
	2005	2006	2007	2005	2006	2007	2005	2006	2007	2005	2006	2007	2005	2006	2007
Commerce and Diversified	7	8	9	-	-	-	4	4	3	-	-	-	3	4	6
Construction	11	14	15	1	1	2	2	3	3	2	2	2	6	8	8
Drugs, Cosmetics, Healthcare and Chemicals	8	8	8	-	-	-	2	2	3	1	1	1	5	5	4
Electrical and Electronic	15	17	16	2	2	3	1	3	4	-	-	-	12	12	9
Financials	11	12	12	-	-	-	1	2	2	1	2	2	9	8	8
Food and Beverages	6	6	6	2	1	2	3	3	1	-	1	1	1	1	2
Machinery and Equipment	7	12		-	-	-	4	3	4	-	2	2	3	7	6
Manufacturing	7	15	15	-	-	-	5	6	5	-	-	1	2	9	9
Metal Product Manufacturers	7	9	10	-	1	1	2	5	3	-	-	-	5	3	6
Miscellaneous	9	11	14	3	1	2	1	2		-	3	2	5	5	7
Retailers, Textiles and Apparel	5	8	7	-	1	-	-	1	2	1	2	2	4	4	3
Utilities and Transportation	12	15	15	-	-	-	4	4	3	1	2	4	7	9	8
Total	***105***	***135***	***139***	***8***	***7***	***10***	***29***	***38***	***36***	***6***	***15***	***1***			
Percentage of overall sample (%)	**100**	**100**	**100**	**7.6**	**5.2**	**7.2**	**27.6**	**28.1**	**25.9**	**5.7**	**11.1**	**12.2**	**59**	**55.6**	**54.7**

impairment testing. The introduction of FRS 36 should provide a better understanding of the value of this asset. The response to the new standard highlights an obvious gap between old and new practices on goodwill impairment testing, and has the potential to produce insights into organizational responses to accounting change.

This study adds to the prior research through the presentation of a multiyear study of the impairment testing disclosure compliance and quality phenomenon in Singapore. Applying a methodology consistent with earlier published studies in Australia, New Zealand, Hong Kong and Malaysia, three substantial issues stand out. First, compliance rates with basic elements of the mandatory disclosure framework mandated under Singapore standard FRS 36 are poor, particularly in light of the advanced nature of Singapore's economy, capital markets, and financial and regulatory institutions, which would generally be anticipated to promote compliance with mandatory rules. Second, poor compliance and patchy disclosure quality cannot be explained simply by reference to first year adoption teething effects. Third, the results evident on the basis of the data from Singapore strikingly resemble the results

uncovered in analogous research conducted in other Asia Pacific jurisdictions. This increases the likelihood that the revelations of poor compliance and patchy disclosure quality in those jurisdictions was not a product of jurisdiction specific idiosyncrasies, but more likely, a systemic problem which transcends borders and manifests wherever IFRS has been adopted or is in the process of being adopted.

The results found in this study offer to user groups further insight into the compliance levels pertaining to the new standard as required in the goodwill impairment testing regime. Findings indicated that compliance levels, although better than prior studies would have suggested, is still sporadic and unpredictable. Several possible factors for this scenario include lack of understanding of reporting frameworks by preparers, lack of resources to fully implement the requirements of applicable standards on the part of preparers, lack of systematic guidance and enforcement of standard setters, and lack of understanding of resources on the part of auditors. Therefore, the financial reporting relating to goodwill impairment is opaque and of little material assistance to financial reporting group users.

It seems that the tracing of goodwill to CGUs post acquisition and valuing CGUs involves many management judgments, interpretations and bias. The bases of these judgments are rarely disclosed in sufficient detail to allow users of financial statements to critically evaluate management's impairment analysis. Valuation complexity and lack of information means financial statement users are confronted with a "*black box*" analysis and firms have a significant opportunity for earnings management. In fact, data in this paper provides substantial evidence that accounting for goodwill is not being properly tested.❑

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