FRS 36: An Analysis of the Compliance Level and Disclosure Quality of Singaporean Listed Firms

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Abstract

The issue of goodwill has been a topic of intense debate. In response to growing concerns voiced around the issue, new standards which provide firms the unique opportunity to provide more transparent financial disclosures by reporting goodwill impairments when viewed by financial reporting users are required. The reporting framework in Singapore that deals with the disclosure of goodwill accounting treatment is prescribed under FRS 36 Impairment of Assets. To gain a better understanding of the characteristics of the goodwill reporting regime, developing an understanding of the level of compliance and quality disclosures related to determining the recoverable amount of the CGUs are matters of prime significance. The sample of this study consists of 192 Singaporean listed companies in the Singapore Stock Exchange (SGX) Mainboard for the first year after their transition to FRS. The results indicate that the rate of compliance with the provisions of FRS 36 and disclosure quality were very poor and failed to reach the expectations of standard setting bodies. The outcomes of this analysis also suggest that there is a high degree of complexity in relation to the conceptualisation, measurement and reporting of goodwill faced by reporting entities in Singaporean Mainboard firms.

Key Words: Goodwill Accounting, Impairment Testing, FRS 36, Disclosure, Singapore.

1. Introduction

Goodwill is an extremely interesting business phenomenon and usually generates great attention when merger and acquisition activity is robust. Goodwill accounting enables a firm to derive a competitive advantage through phenomena such as reputation, stability, technical excellence, perceived quality, a well-trained workforce, and good contacts within an industry which thereby allow the firm to earn higher profits than it would otherwise have by selling its assets. Nevertheless, accounting for goodwill remains a contentious and controversial problem[1] as is evidenced by the constant appearance of pronouncements related to the matter that are being issued by a wide range of researchers as well as accounting standards bodies.

The issue of goodwill has been discussed and debated by academic and practising accountants all over the world for more than 100 years (Hughes, 1982; Falk and Gordon, 1977). Lee (1971) said that in 1891, Francis More started the first debate related to accounting for goodwill.[2] Most of the issues concerning accounting for goodwill have their origin in a lack of consensus when establishing the definition of an asset and, as a result, that of the other elements which make up the conceptual framework. Some argue that the lengthy debate is caused by an inability to agree on the nature of goodwill itself. Other intangible assets that are difficult to value and probably create the greatest valuation challenges in accounting are recorded as goodwill (Kieso *et al.*, 1992).

The dilemma faced by academic and practicing accountants around the issue of goodwill is best illustrated by the sign Albert Einstein had in his Princeton office which stated 'not everything that counts can be counted, and not everything that can be counted counts' (Bullen and Cafini, 2006). Indeed, Canning (1929) remarked that the main achievement of the literature accumulated on the subject of goodwill was to generate the striking variety and number of disagreements over its definition and means for its valuation. Additionally, Miller (1973) declares that the problem of goodwill in accounting stems from a mismatch between accounting based on aggregation and a focus on value in accounting. In terms of treatment of goodwill, Grinyer *et al.* (1990) argue that a root cause of confusion arose because of the failure to identify what accounts are trying to measure and the purposes they intend to serve. Therefore, the literature appears to suggest that improvement is needed in the conceptualisation of goodwill as an asset in accounting theory.

In response to growing concerns voiced by constituents about the need for improved standards of accounting for goodwill, new standards are required which give firms the opportunity to provide more transparent financial disclosures by reporting goodwill impairments when viewed by external analysts. The improvement in standards related to goodwill impairment will lead to a better understanding by financial statement users of the expectations about the assets themselves. Thus, improved understanding should then lead to an improved ability to assess future profitability and cash flows. Wyatt (2005) shows that change in accounting for goodwill is likely to be beneficial in financial reporting because better judgment in goodwill valuation is required.

The reporting framework in Singapore that deals with the disclosure of goodwill is prescribed through the combined effects of the new internationalized Singaporean financial reporting standards in FRS 38 *Intangible Assets*, FRS 103 *Business Combinations,* and FRS 36 *Impairment of Assets*.[3]

These standards should be applied on acquisition of goodwill acquired in business combinations. These standards were released by the Accounting Standards Council (ASC) to improve the information content of goodwill accounting which was applicable prospectively from the beginning of the annual period beginning on or after 1 July 2004. One of the main objectives of these standards was to increase transparency by ensuring that a firm's financial statements reflect the true value of their intangible assets.

Based on the previous standard of goodwill reporting, there are three commonly used methods of goodwill treatment. First, goodwill is capitalization as a permanent item with periodic review for write down purposes. Second, goodwill is capitalization with systematic amortization and, third, immediate write-off to reserves. The adoption of the new standard in FRS 36 *Impairment of Assets* requires that goodwill acquired in a business combination no longer be amortized but must be tested for impairment annually or whenever events or circumstances indicate its value may have been impaired (FRS 36). Thus, under this new policy, goodwill with an indefinite useful life will no longer be amortized. An annual impairment test, instead of fixed annual amortization, should better reflect the underlying economics of the intangible assets (Wang, 2005). Harper (2001) noted that the implementation of an impairment test offers a clearer picture of goodwill to financial reporting users. Pursuant to the new treatment, the carrying amount of goodwill must be written down to the extent of any impairment and the impairment loss recognized in the calculation of profit (FRS 36).

However, with the new standard, there is a higher degree of complexity in relation to the conceptualisation, measurement and reporting of goodwill which is of serious concern. Previous studies on three different geographical samples which are listed on the SEC, ASX and FTSE Bursa Malaysia demonstrate that firms have had difficulty in fully complying with new financial reporting standards (Sevin *et al.*, 2007; Carlin *et al.*, 2008; Carlin *et al.*, 2008). The new accounting treatment for goodwill is filled with subjectivity and ambiguity for financial reporting preparers and users, and might potentially have serious impacts on financial reports.

As such, this study commences with a discussion of the level of compliance with a variety of the provisions of FRS 36 – *Impairment of Assets* and the quality of disclosure provided in accordance with that standard. This study then moves to examine the quality of disclosures pertaining to the high risk issue related to the allocation of cash-generating units (CGUs) to which the goodwill being allocated for goodwill impairment testing. Finally, this study investigates the key assumptions used in determining the recoverable amount of each CGU used by the firms listed on the Singapore Stock Exchange (SGX) Mainboard for the first year after their transition to FRS.

This paper is organized as follows. Section 2 provides a brief overview of goodwill reporting arrangements in Singapore. A basic approach which can be employed to measure the level of compliance according to the standards and identifying the key assumptions in the estimation of recoverable amount is described in Section 3. Data are described and estimation results are provided in Section 4. A conclusion and implications for future research are offered in Section 5.

2. Overview of Goodwill Reporting Arrangements in Singapore

In order for the global business world to function with maximum efficiency, capital should be able to flow freely from one geographical domain to another. In the current volatile economic climate, capital can move quickly from one country to another in search for the best returns given a certain amount of risk. Waters and Collins (1989) state that with capital becoming increasingly international, the lack of consistent international accounting practices is problematic. There is now an urgent need for a common set of accounting practices across the globe to serve to promote the flow of capital around the world.

In view of rapid globalization, accounting standards around the world are trending towards convergence on internationally accepted principles. In Singapore, the professional accounting body that deals in accounting standards is the Institute of Certified Public Accountants of Singapore (ICPAS), hereinafter referred to as the Institute. The Institute is a member of the IASC. The Institute's Accounting Standards Committee considers each International Standard for adoption as a Statement of Accounting Standard (SAS). Where appropriate, the Committee makes amendments to the IAS to take into account local circumstances (Teoh and Ng, 1997). Historically, the accounting in Singapore itself dictates that its accounting system was under British influence which derived from the common-law source and comparatively, high disclosure is a characteristic of common-law countries generally (Ball *et al.*, 2000). The statute that has significant influence on accounting practices is the Companies Act of Singapore, which also drew its substance from the UK Companies Acts. It prescribes disclosure requirements for all companies, and in keeping with the British common-law influence, it also requires certification that the financial statement give a "true and fair" view.

On 16 August 2002 the Singapore government created the Council on Corporate Disclosure and Governance (CCDG) to replace the ICPAS as the accounting standards setter for all companies incorporated in Singapore and to review and recommend corporate governance and disclosure practices on a continuing basis. The accounting standards prescribed by the CCDG are known as Financial Reporting Standards (FRS), which are closely modeled on the International Accounting Standards and International Financial Reporting Standards issued by the International Accounting Standards Board. The financial period starting 1 January 2003 was set for the convergence to one common set of accounting standards. With the enactment of the Accounting Standards Act, passed in Parliament on 27 August 2007[4] and the dissolution of the CCDG, the Accounting Standards Council (ASC) took over the task of prescribing accounting standards from the CCDG. The Singapore Government believed that the creation of the ASC was a positive step towards ensuring consistency in accounting standards, facilitating comparison of financial statements between different entities and enhancing the credibility and transparency of financial reporting.

The accounting standard for goodwill accounting treatment under FRS 36, *Impairment of Assets* in Singapore was effective from 1 July 2004. This standard eliminates goodwill amortization, requiring instead that goodwill be evaluated for possible impairment.

Under the new standards, there are three significant impacts on the treatment of goodwill. Firstly, goodwill acquired in a business combination will no longer be amortized but will be tested for impairment annually or whenever events or circumstances indicate its value may have been impaired (FRS 36). FRS 36 covers provisions relating to impairments of all operating assets including goodwill. Specifically, under FRS 36, operating assets are impaired when their book values fall below their recoverable amounts. Recoverable amount is defined as the higher of an asset's or a CGU's fair value less costs to sell and its value in use (FRS 36, para. 6). When the recoverable amount is found to be lower than the carrying value, the carrying value is reduced to the recoverable amount with a charge to profits. The shift from amortization to periodic reviews puts a new and continuous responsibility on management to determine the value of goodwill and also a new burden on auditors, regulatory bodies, and investors to evaluate management's determinations (Hayn and Hughes, 2005).

Second, all business combinations within this scope are to be accounted for using the purchase method (FRS 3) and third, FRS 36 prohibits the recognition of internally generated goodwill and the reversal of write-downs on purchased goodwill. Thus, management now has to explain what the goodwill amount represents. Each of these new requirements poses a challenge to many entities considering acquisitions.

Furthermore, according to FRS 36, accounting treatment requires entities to subsequently consider whether the value of that goodwill has been impaired. An impairment loss potentially exists and should be recognized for an asset when its carrying amount exceeds its recoverable amount. If no impairment loss is to be recognized, the goodwill balance remains unaltered in the entity's balance sheet from year to year. The provisions of the standard represent a substantially heightened technical challenge compared with predecessor standards. Research by Massoud and Raiborn (2003) provides a good summary of what managers need to assess in order to determine goodwill impairment. They note that the determination of impairment of goodwill leaves significant room for management interpretation, judgment and bias. This is in line with the standard, with respect to goodwill that CGUs represent "the lowest level within the entity at which the goodwill is monitored for internal management purposes" (FRS 36).

Accordingly, the objective of this paper is to report on completeness and quality of disclosures relating to goodwill as required under FRS 36 *Impairment of Assets.* The new accounting treatment for goodwill represents one of the prime challenges to Singaporean reporting entities. Most entities will be impacted by the more prescriptive impairment test under FRS 36. Entities need to be more transparent to inform the financial reporting users through the disclosure requirements particularly in relation to recoverable amount and information about key assumptions used in impairment testing and it is to these and their significance that the next section of the paper turns.

3. Data and Methodology

An examination of the research questions posed by this study was undertaken by selecting a sample of firms that reported their goodwill for year 2006. Using the Worldscope DataStream database, this study draws its sample from the 527 companies listed on the Mainboard of the Singapore Stock Exchange (SGX) as at 2006. 335 companies having no goodwill as an element of their asset base in their 2006 consolidated financial statements were excluded from the sample. The final sample consisted of 192 companies listed in SGX with reported goodwill as at 2006. Details of the final research sample's constituent firms, market capitalization, total assets and the value of goodwill balances are set out in Appendix 1. The research sample represents 25.72% of total SGX market capitalization as at December 2006.

For the purposes of the analysis, the 192 firms were arranged by the Worldscope DataStream industry group classification and subsequently divided into 12 groups comprising organizations with related lines of business. At the date of sampling, the 192 firms included in the final sample controlled assets valued at \$863,926.04 million, which included goodwill of \$32,930.21 million. Table 1 below presents an overview of the research sample broken down by assigned sector, the dollar value of firm assets within the sector, and the dollar value of goodwill for each sector.

Sector	**Total Assets ($million)**	**Total Goodwill ($ million)**	**Goodwill as % of Total Assets**
Commerce & Diversified (n=15)	84,071.07	2,721.89	3.24%
Construction (n=16)	9,500.61	365.46	3.85%
Drugs, Cosmetics, Healthcare & Chemicals (n=8)	1,466.77	42.41	2.89%
Electrical & Electronic (n=19)	8,882.68	788.25	8.87%
Financials (n=12)	603,013.36	13,259.72	2.20%
Food & Beverages (n=8)	3,706.69	82.16	2.22%
Machinery & Equipment (n=11)	3,215.92	239.61	7.45%
Manufacturing (n=29)	12,626.90	276.02	2.19%
Metal Product Manufacturers (n=13)	6,949.88	291.19	4.19%
Miscellaneous (n=26)	31,016.77	3,425.19	11.04%
Retailers, Textiles & Apparel (n=12)	16,545.60	716.68	4.33%
Utilities & Transportation (n=21)	82,929.79	10,721.63	12.93%
TOTAL (n=192)	**863,926.04**	**32,930.21**	**3.81%**

Table 1: Overview of Research Sample

There are two aspects of the goodwill standards which are of potential interest and will be investigated in detail in this paper. The first relates to the role of CGUs, the second to the inspection of key assumptions that the recoverable amount of CGU assets has been estimated.

The allocation of goodwill to a 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 the allocation of goodwill to CGU's is known as the CGU aggregation problem (Carlin *et al.*, 2007, Carlin and Finch, 2008, Carlin *et al.*, 2008), where too few CGUs are defined in the process of allocation of goodwill to CGUs. Inappropriate CGU aggregation leads 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 differing degrees of risk.

The identification of a CGU could be difficult in cases where a company has acquired another entity and the latter consists of a number of separate subsidiaries, divisions and/ or branches (Dagwell *et al.*l. 2004). A simple example to illustrate this scenario: Take a telecommunications firm (D Limited) which is highly profitable and offers local and international calls which exhibit lower average margins and far higher result volatility, under the same brand. The local call operates and is capable of being sustained independently of the international call and vice versa. However, if both segments are combined to represent one CGU, management could exhibit bias in estimating the recoverable amount of a CGU to avoid impairment loss recognition. As a result, it will mislead financial report users in judging the firm's performance.

A starting point for assessing the compliance level and quality of disclosure to which firms defined CGUs and allocate goodwill to them. The assessment of the level of compliance and quality of disclosure of goodwill in this paper begins by first comparing each company's total goodwill balance with the total disclosed CGU goodwill allocation. If the total disclosed goodwill of the company is less than the total value of goodwill allocated to CGUs, the quality and completeness of disclosure is classified as lower, and vice versa.

The next step is comparing the number of CGUs and business segments for companies on an industry by industry basis. An important aspect in this process is an assessment of the level of aggregation of CGUs by those companies. This data will assist with the development of insights into the level of compliance with basic disclosure requirements set out in FRS 36.

Finally, a comparison is made between the average number of reported controlled subsidiary entities, business segments and defined cash generating units for each company in the sample, before calculating a CGU to business segment ratio for each of the sample firms. This analysis builds upon the procedure described in step two (above) and also addresses the likelihood of CGU aggregation behavior among reporting entities. The results of the analysis are reported in section four.

A further aspect that needs to be given more attention in assessing the quality of the goodwill accounting requirements is the assessment of key assumptions upon which the recoverable amount of CGU assets has been estimated. Recoverable amount is defined as the higher of an asset's or a CGU's fair value less costs to sell and its value in use (FRS 36, para. 6). Fair value less costs to sell is defined as "the amount obtainable from the sale of an asset or CGU in an arm's length transaction between knowledgeable, willing parties, less the costs of disposal" while value in use is defined as the present value of the future cash flows expected to be derived from an asset or CGU (FRS 36 para. 6). This involves a selection of fair value or value in use and companies are required to disclose which method has been adopted.

The fair value standards allow the reporting entity to use its own data and realistic assumptions to develop unobservable inputs, if observable prices from an active market are not available (Jarva, 2008). However, as Carlin *et al.* (2007) point out, disclosures by firms adopting a fair value basis for CGU recoverable amount estimation tend to be limited. By contrast, value in use adopters are required to provide a more expansive information set. Paragraph 134 (d) of FRS 36, states that the disclosure requirement if the unit's (group of units') recoverable amount is based on value in use includes;

i. a description of each key assumption on which management has based its cash flow projections for the period covered by the most recent budgets/ forecasts. Key assumptions are those to which the unit's (group of units') recoverable amount is most sensitive;[5]

ii. a description of management's approach to determining the value(s) assigned to each key assumption, whether those value(s) reflect past experience or, if appropriate, are consistent with external sources of information, and, if not, how and why they differ from past experience or external sources of information;[6]

iii. the period over which management has projected cash flows based on financial budgets/forecasts approved by management and, when a period greater than five years is used for a cash-generating unit (group of units), an explanation of why that longer period is justified;[7]

iv. the growth rate used to extrapolate cash flow projections beyond the period covered by the most recent budgets/forecasts, and the justification for using any growth rate that exceeds the long-term average growth rate for the products, industries, or country or countries in which the entity operates, or for the market to which the unit (group of units) is dedicated;[8]

v. the discount rate(s) applied to the cash flow projections.[9]

The key assumptions such as discount rates, growth rates, forecast periods and terminal value periods have been scrutinised in order to develop a deeper understanding of the operation of the goodwill reporting regime. The disclosure pertaining to discount rates and growth rates made by companies in the sample is reported in section four.

Since the main objective of this study is concerned with assessing the quality of reporting entity responses to goodwill accounting standards, and analysing the key assumptions used to estimate the recoverable amount this study has used the same approach as adopted in previous studies by Carlin *et al.* (2007) and Carlin *et al.* (2008). In order to assess the quality of disclosure, it was necessary to develop a taxonomy for both discount rates and growth rates. The taxonomy applied for discount rates required each firm in the sample to allocate to one of four elements i.e 'multiple explicit discount rates', 'single explicit discount rates', 'range of discount rates', and 'no effective disclosure'.

Allocation of a firm to the first category signified that the firm was fully compliant with the requirements of FRS 36 in relation to discount rates used in estimating the recoverable amount of CGU. Firms in this category disclosed the details of the specific discount rates used to discount cashflows for the purpose of impairment testing for each of the CGUs, and used varying discount rates which reflect the risk characteristics of each CGU. This also indicates that the quality of disclosure was adequate in giving useful insight for external analysts to rely on the process of impairment testing employed by the sample firms.

Firms in the second category i.e. 'single explicit discount rate' indicated that the firms disclosed a single discount rate for each CGU. In this scenario, firms allocate the same discount rate for each CGU even though CGU risk levels may arguably differ. In assessing the level quality of compliance and disclosure, the disclosures of firms in this category are classified as of lower quality than the companies in the first category.

Firms categorized in the third category i.e. 'range of discount rates' provided information regarding the process of estimation of the recoverable amount of testing for impairment in a particular CGU. However, firms classified under this third category disclosed a range of discount rates used across a range of CGUs. This is questionable in terms of fulfilling the requirements under FRS 36 and as a result, the quality of disclosure for this category has been classified as lower than the two above categories.

Finally, firms in fourth category i.e. 'no effective disclosure' provided insufficient disclosure regarding the discount rate for a particular CGU, and as a result offered no valuable information for external analysts relating to the impairment testing process. Therefore, firms in this category totally breach the standards requirement under FRS 36 and as such, the quality of disclosure is classified as poor.

In relation to growth rate disclosures as required under FRS 36, the same methodology was employed. Firms in the research sample were allocated to four categories i.e. 'multiple explicit growth rates', 'single explicit growth rate', 'range of growth rate' and 'no effective disclosure' in accordance with the degree of specificity of their growth rate disclosures. The results of the analysis of this study are reported in section four.

4. Results and discussion

A threshold question of interest in this study of the level of compliance and quality of disclosures was the extent to which the sample firms actually complied with the standard's requirements and then, the degree to which the total reported value of each sample firm's goodwill could be allocated to the sum of goodwill value disclosed as having been allocated to the firm's defined CGUs. The annual reports of 192 companies reveal two different trends in practice.

Table 2 shows that firms in the sample were categorized as fully compliant or non-compliant with the disclosure requirement under FRS 36. The first and dominant cluster comprised 135 firms for which firms are fully compliant with FRS 36, which means they allocated the total amount of goodwill to the total defined CGU. The second cluster comprised 57 firms where it was not possible in any meaningful way to draw a link between the value of reported goodwill and any the firm's defined CGUs. In other words, these firms did not comply with the disclosure requirement in FRS 36. The number of companies in the second cluster is surprising, 57 out of 192 (29.69%) firms had no meaningful disclosure in regards to the allocation of goodwill to CGUs.

Other than breaching the standard, this demonstrates that some of the Singaporean listed firms did not provide enough information on the process of impairment testing. Therefore, the financial statements users for the non-compliant companies had less information compared to the fully compliant companies

Sector	**Fully compliant (number of firms)**	**Non-compliant[10] (number of firms)**
Commerce & Diversified (n=15)	11	4
Construction (n=16)	11	5
Drugs, Cosmetics, Healthcare & Chemicals (n=8)	4	4
Electrical & Electronic (n=19)	12	7
Financials (n=14)	11	3
Food & Beverages (n=8)	5	3
Machinery & Equipment (n=11)	7	4
Manufacturing (n=29)	24	5
Metal Product Manufacturers (n=13)	10	3
Miscellaneous (n=26)	16	10
Retailers, Textiles & Apparel (n=12)	10	2
Utilities & Transportation (n=21)	14	7
TOTAL (n=192)	**135**	**57**

Table 2: CGU Allocation Compliance by Sector

in valuing the firm's future performance.

The second analysis examined the aggregation of CGUs. The allocation of goodwill to CGUs is a crucial process as it affects the impairment charges being recognized. According to paragraph 80 of FRS 36, CGUs or groups of CGUs to which goodwill is allocated for the purpose of impairment testing represent the lowest level within the company at which goodwill is monitored for internal management purposes. However, the CGUs defined are not to be larger than segments as reported on by the entity pursuant to FRS 14 *Segment Reporting.*

Looking at these two definitions, a contradiction might be noted in that there is a potential that the goodwill is internally monitored at a higher level than that of business segment defined by company. An obvious problem which arises is when firms exercise their discretion by allocating goodwill to too few CGUs, elevating the possibility that impairment losses which should be recognized in a given period are not recognized in that period.

Table 3 provides insights into the possibility of the existence of a CGU aggregation problem within the sample firms, taken as a whole. As the summary data from Table 3 indicates, of the 142 firms in the sample which provided sufficient disclosures to permit identification of their CGUs, only 16.20% of the firms in the sample defined more CGUs than business segments, while a further 16.90% defined the same number of CGUs and defined business segments. For two-thirds of the sample firms, the number of CGUs defined was lower than the number of defined business segments. Apart from what it may indicate about CGU aggregation, this result also suggests that CGU disclosure among the Singaporean Mainboard listed companies was poor over the period as many firms did not comply with the basic disclosure requirements under FRS 36. This indicates that there is a possibility that these firms monitored goodwill at a higher level than defined business segments. Thus, it suggests that a higher risk of inappropriate CGU aggregation may have implications for the goodwill impairment testing process.

In order to gain insight into the degree to which this problem afflicts the quality of impairment testing and disclosures pursuant to FRS 36, this study gathered and analyzed data pertaining to the number of entities controlled by each of the firms in the sample, the number of business segments those firms reported and (where possible), the number of CGUs defined by each of the firms in our sample. This analysis is examined further in Table 4, which provides an alternative view of the relationship between the number of CGUs and defined business segments reported by firms included in the research sample.

As an analysis for the sample as a whole, firms only defined 0.65 CGUs for each defined business segment. This results as per data sets out in Table 4 were consistent with the Table 3, which on average fewer CGUs than business segments are defined. Average CGU and business segment numbers are also lower than the average number of reported entities in each sector represented within the sample. This analysis suggests that inappropriate CGU aggregation occurred and at the same time reduced the quality of financial reporting transparency in terms of "creative accounting" among the reporting entities. Details of the dollar value of goodwill associated with CGUs and the ratio of defined CGUs to business segments are also reported in Table 4.

A significant number of the firms in the sample defined relatively few CGUs compared to business segments and controlled entities, while the average value of goodwill allocated to CGUs was very large by some companies. Therefore, the data suggests that in many firms, the value of goodwill is being monitored at a very high level only.

The next issue of disclosure for goodwill impairment testing related to the choice of method employed in estimating the recoverable amount of CGU assets and determine whether goodwill impairment had occurred. As discussed in section 3, Table 5 sets out the frequency with which the two allowable methods, value in use and fair value, were adopted by firms in the research sample, as a basis for determining CGU recoverable amount.

The results show that 36 out of 192 firms did not disclose the method used in determining the recoverable amount[13] for their CGUs. The main approach used as a basis for the estimation

Sector	No. CGUs > No. Segments	No. CGUs = No. Segments	No. CGUs < No. Segments	No Effective Disclosure
Commerce & Diversified (n=15)	4	-	7	4
Construction (n=16)	3	3	7	3
Drugs, Cosmetics, Healthcare & Chemicals (n=8)	1	2	2	3
Electrical & Electronic (n=19)	3	1	8	7
Financials (n=14)	2	2	6	4
Food & Beverages (n=8)	-	2	3	3
Machinery & Equipment (n=11)	1	1	5	4
Manufacturing (n=29)	-	4	19	6
Metal Product Manufacturers (n=13)	1	4	7	1
Miscellaneous (n=26)	2	3	14	7
Retailers, Textiles & Apparel (n=12)	2	2	7	1
Utilities & Transportation (n=21)	4	-	10	7
TOTAL (n=192)	**23**	**24**	**95**	**50**[11]

Table 3: Business Segments and CGU Aggregation by Sector

Sector	Avg No. Controlled Entities	Avg No. Business Segments	Avg No. CGUs	Avg value Goodwill (SGD 000)	Avg Goodwill per CGU (SGD 000)	Ratio CGUs to Segments
Commerce & Diversified (n=15)	23.67	3.40	0.31	181.46	592.41	0.09 : 1
Construction (n=16)	27.06	2.94	2.15	355.21	164.92	0.73 : 1
Drugs, Cosmetics, Healthcare & Chemicals (n=8)	27.13	2.88	2.00	5.30	2.65	0.69 : 1
Electrical & Electronic (n=19)	22.68	3.11	2.67	41.49	15.56	0.86 : 1
Financials (n=14)	45.64	4.29	2.70	947.12	350.79	0.63 : 1
Food & Beverages (n=8)	37.88	3.00	1.80	10.24	5.69	0.60 : 1
Machinery & Equipment (n=11)	22.18	3.09	2.14	21.78	10.17	0.69 : 1
Manufacturing (n=29)	20.10	4.34	1.43	8.73	6.09	0.33 : 1
Metal Product Manufacturers (n=13)	18.62	3.08	1.42	16.88	11.92	0.46 : 1
Miscellaneous (n=26)	40.81	3.50	2.16	134.26	62.22	0.62 : 1
Retailers, Textiles & Apparel (n=12)	34.17	2.92	2.09	57.30	27.40	0.72 : 1
Utilities & Transportation (n=21)	48.33	3.90	2.09	142.38	68.10	0.54 : 1
TOTAL (n=192)	**30.90**	**3.50**	**2.27**	**171.07**	**75.44**	**0.65 : 1**

Table 4: Analysis of Controlled Entities, Segments and CGUs by Sector

Sector	Fair Value Method	Value-in-use Method	Mixed Method	Method not Disclosed
Commerce & Diversified (n=15)	-	13	-	2
Co nstruction (n=16)	1	13	1	1
Drugs, Cosmetics, Healthcare & Chemicals (n=8)	-	8	-	-
Electrical & Electronic (n=19)	-	13	-	6
Financials (n=14)	-	9	4	1
Food & Beverages (n=8)	-	6	-	2
Machinery & Equipment (n=11)	1	8	1	1
Manufacturing (n=29)	1	23	-	5
Metal Product Manufacturers (n=13)	1	9	-	3
Miscellaneous (n=26)	2	14	3	7
Retailers, Textiles & Apparel (n=12)	1	10	1	-
Utilities & Transportation (n=21)	1	10	2	8
TOTAL (n=192)	**8**	**136**[12]	**12**	**36**

Table 5: Method Employed to Determine Recoverable Amount by Sector

of recoverable amount was the value in use method, used by 136 of 192 firms in the research sample. Additionally, 12 firms used mixed methods, while only 8 of the firms adopted a fair value methodology for estimating CGU recoverable amounts in the process of impairment testing.

The result from Table 5 indicates that value in use is the main approach adopted for the estimation of CGU recoverable amounts. As a result, the disclosure requirement relating to the use of the value in use method under FRS 36 has been analyzed in detail. Paragraph 134 (d) of FRS 36 requires disclosures relating to discount rates applied to the cash flow projections and the discount rates shall be pre-tax rate. This means that the discount rates employed should not reflect firm financing structure decisions and should show variation across CGUs where business risk differs. Information related to discount rates is vital to financial statement users for the purpose of independently evaluating the impairment testing process applied by a firm. Data pertaining to discount rate disclosures of sample firms is detailed in Table 6.

Table 6 clearly shows that the disclosure of discount rates among firms in the sample was inadequate judged against the requirements of the standard. Thus, the disclosure practices of the sample in relation to discount rates leave much to be desired. A total of 54 firms failed to provide information which would have enabled a financial statement user to meaningfully quantify the discount rate used as part of the cash flow projections. In addition, 20 firms disclosed a range of discount rates but provided no details of specific discount rates used in each CGU. Thus, in approximately 38.54% of the observed sample, the discount rate disclosures provided essentially no meaningful information for financial reporting users in their valuation process with regards to the impairment testing process.

Sector	Multiple Explicit Discount Rate (no. of firms)	Single Explicit Discount Rates (no. of firms)	Range of Discount Rate (no. of firms)	No Effective Disclosure (no. of firms)	Minimum Discount Rate (pre-tax)	Maximum Discount Rate (pre-tax)	Average Discount Rate (pre-tax)
Commerce & Diversified (n=15)	1	7	4	3	5.70%	28.00%	11.63%
Construction (n=16)	2	5	3	6	5.00%	13.00%	9.74%
Drugs, Cosmetics, Healthcare & Chemicals (n=8)	1	6	1	-	6.50%	13.00%	9.73%
Electrical & Electronic (n=19)	2	10	-	7	5.30%	14.50%	8.53%
Financials (n=14)	3	5	4	2	6.00%	20.00%	10.23%
Food & Beverages (n=8)	2	2	1	3	5.00%	10.50%	8.20%
Machinery & Equipment (n=11)	-	7	2	2	3.44%	18.36%	12.29%
Manufacturing (n=29)	1	19	1	8	2.10%	15.50%	9.23%
Metal Product Manufacturers (n=13)	2	8	-	3	0.17%	24.40%	10.53%
Miscellaneous (n=26)	4	9	3	10	3.00%	15.00%	9.85%
Retailers, Textiles & Apparel (n=12)	2	9	-	1	5.00%	16.80%	8.94%
Utilities & Transportation (n=21)	1	10	1	9	5.02%	30.00%	10.67%
TOTAL (n=192)	**21**	**97**	**20**	**54**	**0.17%**	**30.00%**	**9.96%**

Table 6: Discount Rate Disclosures (Value in Use and Mixed Method Firms Only)

Another 97 firms (approximately 50.52% of observations) disclosed single discount rates in the recoverable amount estimation process for each CGU. In other words, the same amount of discount rate was employed for every CGU within the firm. Given that it is most unlikely that all CGUs within these firms have substantially the same risk profiles, it appears defensible to conclude that inappropriate discount rates are being used in a substantial number of impairment testing procedures. The allocation of discount rates for each CGU should take into account the business risk referable to each CGU. However, only 21 firms (10.94% from the observation) employed individualized risk adjusted discount rates for each CGU and explicitly disclosed these.

A further remarkable feature of the data is the wide range of discount rates employed by firms within each defined industry grouping. For example, one firm in the metal product manufacturers industry group disclosed the use of pre-tax discount rate of 0.17%, this rate seeming unusually lower than common estimates of the long run risk free rate. Normally, in order to disclose the discount rate, firms should seriously consider all the risks inherent in the firm's operations as well as the risk free rate itself.

The analysis related to the disclosure of discount rates in determining the recoverable amount in Singapore firms as shown in Table 6 indicates that the discount rates range between 0.17% at the low end and 30% at the upper end, with an arithmetic mean pre-tax discount rate of 9.96% and a high scattering around the mean.

On the whole, there are several important outcomes related to the analysis of the allocation of discount rates in the impairment testing process. First, the non compliance levels among the Singapore firms is comparatively high in relation to basic discount rate disclosure. Second, most firms used a single discount rate in estimating the recoverable amount of each CGU. This suggests the systematic application of inappropriate discount rates among reporting entities. Third, there is some evidence from the sample that comparatively low discount rates were used in the impairment testing process of the CGUs. This also heightens the risk that the recoverable amount of CGUs is overstated. Overall, the data relating to discount rate disclosures appears disquieting and suggests profound implementation problems in at least this dimension of the standard.

Additionally, in relation to the growth rate disclosures Table 7 provides evidence of the difficulties of firms in providing meaningful information for financial report users. The result is that unexpectedly, 125 out of 192 firms, 65.10% of the observable population, failed to make any disclosure in relation to assumed growth rates, despite the requirements of the standard. Again, the outcomes of the analysis on growth rate disclosures shows there are very high levels of non-compliance by the firms, a matter which raises further concerns in relation to the effect of the IFRS impairment testing regime in the domain of practice.

Consistent with the poor compliance patterns revealed in Table 7, Table 8 shows that firms also dealt poorly with requirements relating to growth horizon disclosures, as required by the standard. This again raises challenging questions about the nature and impact of the standard in practice.

Sector	Multiple Explicit Growth Rate (no. of firms)	Range of Growth Rate (no. of firms)	Single Explicit Growth Rate (no. of firms)	No Effective Disclosure (no. of firms)	Minimum Growth Rate	Maximum Growth Rate	Average Growth Rate
Commerce & Diversified (n=15)	-	-	7	8	0.00%	10.00%	6.71
Construction (n=16)	1	2	4	9	(20.00)%	20.00%	5.14
Drugs, Cosmetics, Healthcare & Chemicals (n=8)	1	1	1	5	0.00%	30.00%	12.50
Electrical & Electronic (n=19)	2	-	3	14	30.00%	15.00%	8.11
Financials (n=14)	1	2	1	10	0.00%	11.00%	4.00
Food & Beverages (n=8)	1	2	1	4	3.00%	20.00%	12.55
Machinery & Equipment (n=11)	1	2	2	6	0.00%	40.00%	8.20
Manufacturing (n=29)	1	-	10	18	0.00%	10.00%	3.88
Metal Product Manufacturers (n=13)	1	-	1	11	0.00%	28.00%	10
Miscellaneous (n=26)	1	4	4	17	0.00%	30.00%	7.16
Retailers, Textiles & Apparel (n=12)	1	2	2	7	0.00%	10.00%	5.38
Utilities & Transportation (n=21)	-	2	3	16	2.70%	20.00%	7.77
TOTAL (n=192)	**11**	**17**	**39**	**125**	**(20.00)%**	**40.00%**	**6.90**

Table 7: Growth Rate Disclosures (Value in Use and Mixed Method Firms Only)

Sector	Multiple explicit forecast period (no. of firms)	Single explicit forecast period (no. of firms)	No Effective Disclosure (no. of firms)	Minimum Forecast Period (years)	Maximum Forecast Period (years)	Average Forecast Period (years)
Commerce & Diversified (n=15)	-	11	4	1	20	6.18
Construction (n=16)	1	11	4	3	35	7.46
Drugs, Cosmetics, Healthcare & Chemicals (n=8)	-	8	-	5	6	5.13
Electrical & Electronic (n=19)	1	10	8	1	5	3.00
Financials (n=14)	2	9	3	2	20	5.91
Food & Beverages (n=8)	1	3	4	3	5	4.00
Machinery & Equipment (n=11)	-	10	1	1	15	5.30
Manufacturing (n=29)	1	18	10	2	10	4.82
Metal Product Manufacturers (n=13)	-	10	3	2	5	4.30
Miscellaneous (n=26)	3	9	14	2	20	5.38
Retailers, Textiles & Apparel (n=12)	1	9	2	1	6	4.55
Utilities & Transportation (n=21)	-	12	9	1	6	4.50
TOTAL (n=192)	**10**	**120**	**62**	**1**	**35**	**5.11**

Table 8: Disclosure of Forecast Period by Sector

5. Conclusion

This study extends prior research through further consideration of the level and nature of compliance in accounting for goodwill and impairment testing. The aim of this study was to investigate compliance with the provisions of FRS 36 and to assess quality of disclosure pertaining to the high risk issue of goodwill impairment testing. The results indicate that the rate of compliance with the provisions of FRS 36 were very poor and did not reach the expectations of accounting standard setters. In addition, in some specific cases, the results produced were extremely unusual despite apparently having been the subject of audits. These results are also troubling since they demonstrate that the amount and quality of current financial disclosures do not allow financial reporting users to effectively independently evaluate the appropriateness of management determinations regarding goodwill impairment.

The results presented in this study offer further insight into the systematic compliance and quality of disclosure in relation to the new standard as required in the goodwill impairment testing regime. However, several critical issues particularly in identification and valuation of CGUs and numerous assumptions to be made in estimating CGU recoverable amount remain to be considered in developing a more complete understanding the causes of the failure of some firms to comply with the new goodwill reporting regime.

Further study of systematic compliance level and quality of disclosure in relation to the new reporting regime introduced by FRS 36 would be fruitful for determining whether disclosures are improved as firms gain more experience in understanding its requirements. In addition, more transparent disclosure of the assumptions and methods used for goodwill impairment may help financial reporting users better understand the economic implications of impairment in the firm valuation process. To assure consistency in application, it is suggested that the accounting policy makers and standard setters may need to provide more direction regarding the valuation of goodwill impairment testing.

APPENDIX 1

RESEARCH SAMPLE

No.	Company Name	Market Capitalization ($ million)	Total Assets ($million)	Goodwill ($million)
	Commerce & Diversified			
1	AQUA-TERRA SUPPLY CO. LIMITED	90.09	131.4	5.79
2	ASPIAL CORPORATION LIMITED	59.11	144.2	6.11
3	DAIRY FARM INT'L HOLDINGS LTD	35,572.66	3,263.48	342.06
4	EU YAN SANG INTERNATIONAL LTD	219.78	192.79	0.62
5	GOLDEN AGRI-RESOURCES LTD	2,624.10	4,581.33	67.68
6	HAW PAR CORP LTD	1,474.33	1,900.66	11.12
7	JARDINE MATHESON HLDGS LTD	47,949.70	31,272.08	1,095.70
8	JARDINE STRATEGIC HLDGS LTD	110,924.10	28,219.76	1,048.13
9	NOBLE GROUP LIMITED	13,500.39	5,848.99	11.69
10	OSIM INTERNATIONAL LTD	758.39	414.87	22.07
11	QIAN HU CORPORATION LIMITED	36.08	289.54	1.97
12	SEMBCORP INDUSTRIES LTD	6,797.48	7,549.23	107.22
13	SINWA LIMITED	90.4	58.7	1.5
14	SSH CORPORATION LTD.	145.21	100.6	0.13
15	TELECHOICE INTERNATIONAL LTD	114.79	103.45	0.1
	Total Commerce & Diversified	**220,356.61**	**84,071.07**	**2,721.89**
	Construction			
1	ASIA DEKOR HOLDINGS LIMITED	133.73	241.58	0.37
2	ASTI HOLDINGS LIMITED	126.03	315.68	5.26
3	CSC HOLDINGS LIMITED	160.18	117.84	0.31
4	EUROPTRONIC GROUP LTD	50.78	116.19	2.88
5	HONG LEONG ASIA LTD.	646.53	2,731.46	1.34
6	HUPSTEEL LTD	94.08	158.51	4.63
7	IPCO INT'L LIMITED	91.95	219.63	80.05
8	JUKEN TECHNOLOGY LIMITED	13.74	53.79	0.52
9	K1 VENTURES LIMITED	673.62	1,600.38	195.31
10	KS ENERGY SERVICES LIMITED	593.24	322.33	6.52
11	PERMASTEELISA PACIFIC HLDG LTD	69.62	332.22	19.25
12	SAN TEH LIMITED	128.1	337.72	1.32
13	SNP CORPORATION LTD	113.19	452.02	13.85
14	UNITED ENGINEERS LTD ORD	534.62	1,617.37	1.02
15	UNITED FIBER SYSTEM LIMITED	612.37	612.21	29.4
16	YHI INTERNATIONAL LIMITED	225.07	271.67	3.44
	Total Construction	**4,266.85**	**9,500.61**	**365.46**
	Drugs, Cosmetics, Health Care & Chemicals			
1	BBR HOLDINGS (S) LTD	136.11	91.07	0.12
2	DRAGON GROUP INTERNATIONAL LIMITED	42.58	187.6	1.53
3	FEDERAL INT(2000) LTD	155.14	165.86	0.83
4	JIUTIAN CHEMICAL GROUP LIMITED	257.99	85.86	0.11
5	JURONG TECH IND CORP LTD	482.06	708.42	6.75
6	MDR LIMITED	69.28	106.81	12.17
7	PACIFIC HEALTHCARE HLDGS LTD	71.64	89.49	20.33
8	PHARMESIS INTERNATIONAL LTD.	27	31.66	0.58
	Total Drugs, Cosmetics, Health Care & Chemicals	**1,241.79**	**1,466.77**	**42.41**

	Electrical & Electronic			
1	ACHIEVA LIMITED	37.52	175.13	2.13
2	ADVANCE INTEGRATED MFG CORP LTD	174.63	78.99	1.43
3	AMARA HOLDINGS LTD	225.01	463.24	0.55
4	BEST WORLD INTERNATIONAL LTD	112.2	52.88	0.32
5	DATACRAFT ASIA LTD	715.43	491.39	1
6	ECS HOLDINGS LIMITED	138.17	568.96	33.52
7	ELLIPSIZ LTD	127.07	202.26	30.27
8	ENVIRO-HUB HOLDINGS LTD	345.42	216.36	43.47
9	EUCON HOLDING LIMITED	105.45	191.66	3.96
10	FRONTLINE TECH CORP LTD	102.91	205.41	7.95
11	GP BATTERIES INT LTD	188.33	830.33	12.56
12	INNOVALUES PRECISION LIMITED	164.55	108.1	0.07
13	JK YAMING INT'L HLDGS LTD	77.12	26.95	0.06
14	PNE INDUSTRIES LTD	25.18	64.17	0.02
15	SERIAL SYSTEM LTD	51.05	184.93	7.94
16	SINGAPORE AIRPORT TRML SVCSLTD	2,447.39	1,721.27	1.36
17	SM SUMMIT HOLDINGS LTD	43.49	91.99	0.06
18	UNISTEEL TECHNOLOGY LTD	816.65	198.79	11.18
19	VENTURE CORPORATION LIMITED	3,680.94	3,009.86	630.42
	Total Electrical & Electronic	**9,578.51**	**8,882.68**	**788.25**
	Financial			
1	CAPITALAND LIMITED	17,231.95	20,647.06	23.67
2	DBS GROUP HOLDINGS LTD	34,144.86	197,372.00	5,840.00
3	FRASER AND NEAVE, LIMITED	4,855.98	9,647.61	234.17
4	GREAT EASTERN HLDGS LTD	8,046.42	42,025.90	25.5
5	GUTHRIE GTS LTD	494.06	998.36	2.48
6	KARIN TECHNOLOGY HLDGS LIMITED	27.27	68.94	0.47
7	KEPPEL CORPORATION LIMITED	13,868.68	13,900.95	133.01
8	KIM ENG HOLDINGS LTD	828.11	1,794.08	0.68
9	OVERSEA-CHINESE BANKING CORP	24,073.74	151,219.67	2,699.83
10	SINCERE WATCH LIMITED	343.35	317.5	0.88
11	SINGAPORE FOOD INDUSTRIES LTD	475.5	358.09	66.63
12	SINGAPORE PRESS HLDGS LTD	6,350.78	3,039.55	10.08
13	SOILBUILD GROUP HOLDINGS LTD	132.22	311.97	1.82
14	UNITED OVERSEAS BANK LTD	29,550.08	161,311.68	4,220.52
	Total Financial	**140,423.01**	**603,013.36**	**13,259.72**
	Food & Beverages			
1	ASIA ENVIRONMENT HOLDINGS LTD	107.77	110.14	0.15
2	BOUSTEAD SINGAPORE LIMITED	368.57	280.13	0.05
3	PETRA FOODS LIMITED	958.1	565.79	16.64
4	PSC CORPORATION LTD	158.73	288.56	1.71
5	SUPER COFFEEMIX MANUFACTURING	313.21	289.55	3.04
6	WANT WANT HLDGS LTD	3,221.38	1,850.04	0.61
7	YELLOW PAGES(SINGAPORE)LIMITED	260.81	252.41	59.79
8	ZAGRO ASIA LIMITED	50.17	70.07	0.18
	Total Food & Beverages	**5,438.73**	**3,706.69**	**82.16**
	Machinery & Equipment			
1	ANNAIK LIMITED	33.6	94.31	1.08
2	ASIA POWER CORP LTD	117.01	244.31	18.12
3	BERGER INTERNATIONAL LIMITED	11.43	96.54	0.51
4	FDS NETWORKS GROUP LTD	3.7	20.95	1.37

5	INTER-ROLLER ENGINEERING LTD	122.59	127.43	2.84
6	JADASON ENTERPRISES LTD	142.16	215.08	1.64
7	LABROY MARINE LIMITED	1,559.65	1,070.49	1.82
8	PORTEK INTERNATIONAL LIMITED	59.61	119.6	1.22
9	SUNNINGDALE TECH LTD	191.16	509.85	124.96
10	TAT HONG HOLDINGS LTD	398.23	479.32	4.56
11	UMS HOLDINGS LIMITED	170.51	238.04	81.5
	Total Machinery & Equipment	**2,809.65**	**3,215.92**	**239.61**
	Manufacturing			
1	ALLIED TECHNOLOGIES LIMITED	41.69	157.29	0.52
2	AMTEK ENGINEERING LTD	266.65	679.63	9.01
3	AP OIL INTERNATIONAL LIMITED	18.43	25.19	0.41
4	ASIAPHARM GROUP LTD	348.75	173.29	9.17
5	BEYONICS TECHNOLOGY LIMITED	176.03	491.76	19.22
6	BIOSENSORS INT'L GROUP, LTD.	669.44	186.59	22.11
7	CDW HOLDING LIMITED	65.88	158.92	5.48
8	DEVOTION ECO-THERMAL LIMITED	23.34	57.37	2.08
9	EAGLE BRAND HOLDINGS LTD	344.63	157.06	0.38
10	EASTERN ASIA TECHNOLOGY LTD	54.92	390.3	3.29
11	ELECTROTECH INVESTMENTS LTD	144.74	207.85	13.76
12	FOOD EMPIRE HOLDINGS LIMITED	250.74	179.69	10.24
13	GP INDUSTRIES LIMITED	332.83	939.11	0.29
14	GUL TECHNOLOGIES SINGAPORE LTD	44.5	239.03	1.24
15	HENGXIN TECHNOLOGY LTD.	1,068.89	181.28	1.24
16	HONGGUO INTL HOLDINGS LIMITED	367.1	115.78	1.24
17	HTL INT'L HOLDINGS LIMITED	385.31	402.25	1.03
18	JACKSPEED CORPORATION LIMITED	33.19	26.29	0.15
19	MEMTECH INTERNATIONAL LTD	169.2	201.83	0.68
20	MIDSOUTH HOLDINGS LTD	934.74	99.21	0.43
21	MTQ CORPORATION LIMITED	31.02	79.22	6.54
22	PACIFIC ANDES (HOLDINGS) LTD	543.02	744.19	20.77
23	RADIANCE ELECTRONICS LIMITED	32.98	88.35	5.83
24	SEMBCORP MARINE LTD	4,977.29	3,429.50	13.47
25	TAT SENG PACKAGING GROUP LTD	31.44	76.64	0.61
26	TECKWAH INDUSTRIAL CORP LTD	45.05	121.78	8.37
27	TEXCHEM-PACK HOLDINGS (S) LTD.	39.4	75.17	0.92
28	WILMAR INTERNATIONAL LIMITED	6,154.72	2,829.14	53.08
29	XPRESS HOLDINGS LTD	226.54	113.19	64.48
	Total Manufacturing	**17,822.45**	**12,626.90**	**276.02**
	Metal Product Manufacturers			
1	BONVESTS HOLDINGS LTD	439.02	680.22	8.68
2	BRILLIANT MANUFACTURING LTD	191.11	152.68	6.92
3	CEREBOS PACIFIC LIMITED	1,099.63	660.35	12.76
4	CHINA GREAT LAND HOLDINGS LTD.	14.45	32.34	0.06
5	DMX TECHNOLOGIES GROUP LTD	260.44	317.37	22.64
6	HG METAL MANUFACTURING LTD	64.32	226.12	0.16
7	KING'S SAFETYWEAR LIMITED	31.87	77.74	0.92
8	KODA LTD	75.2	44.69	1.12
9	MMI HOLDINGS LTD	631.94	524.43	1.52
10	NATSTEEL LTD	564.07	691.5	8.68
11	STRAITS TRADING CO. LTD	1,140.64	1,658.03	23.25
12	SUPERIOR MULTI-PACKAGING LTD	25.46	107.62	1.18
13	UNITED TEST & ASSEMBLY CTR LTD	1,090.41	1,776.79	203.3
	Total Metal Product Manufacturers	**5,628.57**	**6,949.88**	**291.19**

	Miscellaneous			
1	ASCOTT GROUP LTD	797.82	2,386.08	23.67
2	BANYAN TREE HLDGS	1,170.24	911.35	2.67
3	BOARDROOM LIMITED	81	57.68	31.28
4	CHINACAST COMM HLDGS LTD	187.17	140.64	3.01
5	GENTING INT'L PUBLIC LTD CO	4,597.86	2,496.18	2,229.16
6	GUOCOLAND LIMITED	1,723.82	2,700.83	1.06
7	HOTEL GRAND CENTRAL LTD	324.73	665.09	1.63
8	HOTEL PLAZA LTD	628	739.89	13.91
9	HOTEL PROPERTIES LTD	1,229.51	2,204.07	11.62
10	HYFLUX LTD	1,209.00	443.4	4.29
11	INNO-PACIFIC HOLDINGS LTD	17.92	22.13	0.12
12	ISDN HOLDINGS LIMITED	63.52	47.23	0.15
13	JAPAN LAND LIMITED	123.3	250.96	0.41
14	LOTTVISION LIMITED	41.9	91.12	13.1
15	MANDARIN ORIENTAL INTL LTD	12,576.84	2,723.76	35.76
16	NEW TOYO INT HLDGS LTD	81.02	257.92	3.9
17	PARKWAY HLDGS LTD	2,408.67	1,231.40	122.12
18	RAFFLES EDUCATION CORP LIMITED	1,242.15	75.78	22.94
19	STATS CHIPPAC LTD	2,343.29	3,772.48	788.03
20	TELEDATA (SINGAPORE) LIMITED	12.63	22.04	0.98
21	TTL HOLDINGS LIMITED	16.66	45.53	0.38
22	UOL GROUP LIMITED	3,449.88	4,651.91	14.16
23	VICOM LTD	102.34	78.72	11.33
24	WBL CORPORATION LIMITED	1,040.71	1,916.78	61.13
25	WHEELOCK PROPERTIES (S) LTD	2,692.26	2,467.54	23.05
26	YEO HIAP SENG LTD	1,305.02	616.27	5.36
	Total Miscellaneous	**39,467.27**	**31,016.77**	**3,425.19**
	Retailers, Textiles & Apparel			
1	ASIA PACIFIC BREWERIES LTD	3,974.52	1,541.60	245.62
2	AURIC PACIFIC GROUP LIMITED	139.49	490.43	3.27
3	FISCHER TECH LIMITED	82.41	113.4	5.99
4	JARDINE CYCLE & CARRIAGE LTD	5,070.65	12,621.47	341.45
5	NETELUSION LIMITED	6.08	18.31	7.37
6	OCEAN SKY INTERNATIONAL LTD	69.42	179.18	0.05
7	POPULAR HOLDINGS LIMITED	186.75	249.6	0.92
8	ROLY INTERNATIONAL HLDGS LTD	139.6	450.51	79.98
9	RSH LIMITED	232.73	344.17	30.77
10	TSIT WING	55.95	52.21	0.32
11	TT INTERNATIONAL LIMITED	73.29	387.64	0.86
12	TYE SOON LTD	23.43	97.08	0.09
	Total Retailers, Textiles & Apparel	**10,054.32**	**16,545.60**	**716.68**
	Utilities & Transportation			
1	ASIA FOOD & PROPERTIES LIMITED	1,962.06	3,634.09	1.78
2	A-SONIC AEROSPACE LIMITED	125.53	190.72	36.74
3	COMFORTDELGRO CORPORATION LTD	3,333.52	3,084.60	84.7
4	COSCO CORPORATION (S) LTD	5,092.14	1,883.67	9.32
5	CSE GLOBAL LTD	428.93	313.85	56.48
6	CWT LIMITED	209.45	308.37	11.03
7	DEL MONTE PACIFIC LIMITED	470.57	408.65	11.02
8	ENG KONG HOLDINGS LIMITED	40.84	76.18	1.12
9	EZRA HOLDINGS LTD	1,106.12	394.99	1.12

10	FREIGHT LINKS EXPRESS HOLDINGS	134.52	204.4	0.98
11	MEDIARING LTD	378.13	155.85	8.38
12	NEPTUNE ORIENT LINES LIMITED	3,044.04	6,554.11	186.38
13	PENGUIN BOAT INT LTD	48.2	114.44	0.08
14	POH TIONG CHOON LOGISTICS LIMITED	35.61	81.32	0.66
15	RICHLAND GROUP LIMITED	14.01	36.44	0.03
16	SINGAPORE AIRLINES LTD	17,145.87	23,369.50	1.3
17	SINGAPORE TECH ENGINEERING LTD	9,074.46	5,396.61	494.82
18	SINGAPORE TELECOMMUNICATION LIMITED	44,263.79	33,606.20	9,553.20
19	SMB UNITED LIMITED	107.62	170.52	0.28
20	SMRT CORPORATION LTD	1,690.20	1,384.13	41.93
21	STARHUB LTD	4,866.18	1,561.15	220.29
	Total Utilities & Transportation	**93,571.80**	**82,929.79**	**10,721.63**
	GRAND TOTAL (n=192)	**550,659.55**	**863,926.04**	**32,930.21**

APPENDIX 2

List of Non-Compliant Firms

	Company Name	Sector	Goodwill ($ million)
1	ASPIAL CORPORATION LIMITED	COMMERCE & DIVERSIFIED	6.11
2	EU YAN SANG INTERNATIONAL LTD	COMMERCE & DIVERSIFIED	0.62
3	GOLDEN AGRI-RESOURCES LTD	COMMERCE & DIVERSIFIED	67.68
4	NOBLE GROUP LIMITED	COMMERCE & DIVERSIFIED	11.69
5	ASIA DEKOR HOLDINGS LIMITED	CONSTRUCTION	0.37
6	ASTI HOLDINGS LIMITED	CONSTRUCTION	5.26
7	HONG LEONG ASIA LTD.	CONSTRUCTION	1.34
8	K1 VENTURES LIMITED	CONSTRUCTION	195.31
9	UNITED ENGINEERS LTD ORD	CONSTRUCTION	1.02
10	BBR HOLDINGS (S) LTD	DRUGS, COSMETICS, HEALTH CARE & CHEMICALS	0.12
11	DRAGON GROUP INTERNATIONAL LTD	DRUGS, COSMETICS, HEALTH CARE & CHEMICALS	1.53
12	MDR LIMITED	DRUGS, COSMETICS, HEALTH CARE & CHEMICALS	12.17
13	PHARMESIS INTERNATIONAL LTD.	DRUGS, COSMETICS, HEALTH CARE & CHEMICALS	0.58
14	ADVANCE INTEGRATED MFG CORP LTD	ELECTRICAL & ELECTRONIC	1.43
15	AMARA HOLDINGS LTD	ELECTRICAL & ELECTRONIC	0.55
16	ECS HOLDINGS LIMITED	ELECTRICAL & ELECTRONIC	33.52
17	GP BATTERIES INT LTD	ELECTRICAL & ELECTRONIC	12.56
18	JK YAMING INT'L HLDGS LTD	ELECTRICAL & ELECTRONIC	0.06
19	SINGAPORE AIRPORT TRML SVCSLTD	ELECTRICAL & ELECTRONIC	1.36
20	SM SUMMIT HOLDINGS LTD	ELECTRICAL & ELECTRONIC	0.06
21	SINGAPORE PRESS HLDGS LTD	FINANCIAL	10.08
22	SOILBUILD GROUP HOLDINGS LTD	FINANCIAL	1.82
23	UNITED OVERSEAS BANK LTD	FINANCIAL	4,220.52
24	PSC CORPORATION LTD	FOOD & BEVERAGES	1.71
25	SUPER COFFEEMIX MANUFACTURING	FOOD & BEVERAGES	3.04
26	ZAGRO ASIA LIMITED	FOOD & BEVERAGES	0.18
27	ASIA POWER CORP LTD	MACHINERY & EQUIPMENT	18.12
28	BERGER INTERNATIONAL LIMITED	MACHINERY & EQUIPMENT	0.51
29	PORTEK INTERNATIONAL LIMITED	MACHINERY & EQUIPMENT	1.22
30	TAT HONG HOLDINGS LTD	MACHINERY & EQUIPMENT	4.56
31	CDW HOLDING LIMITED	MANUFACTURING	5.48
32	EAGLE BRAND HOLDINGS LTD	MANUFACTURING	0.38
33	GP INDUSTRIES LIMITED	MANUFACTURING	0.29
34	JACKSPEED CORPORATION LIMITED	MANUFACTURING	0.15
35	PACIFIC ANDES (HOLDINGS) LTD	MANUFACTURING	20.77
36	BONVESTS HOLDINGS LTD	METAL PRODUCT MANUFACTURERS	8.68
37	HG METAL MANUFACTURING LTD	METAL PRODUCT MANUFACTURERS	0.16
38	KODA LTD	METAL PRODUCT MANUFACTURERS	1.12
39	BOARDROOM LIMITED	MISCELLANEOUS	31.28
40	CHINACAST COMM HLDGS LTD	MISCELLANEOUS	3.01
41	GENTING INT'L PUBLIC LTD CO	MISCELLANEOUS	2,229.16
42	HOTEL PROPERTIES LTD	MISCELLANEOUS	11.62
43	HYFLUX LTD	MISCELLANEOUS	4.29
44	INNO-PACIFIC HOLDINGS LTD	MISCELLANEOUS	0.12
45	ISDN HOLDINGS LIMITED	MISCELLANEOUS	0.15
46	JAPAN LAND LIMITED	MISCELLANEOUS	0.41
47	MANDARIN ORIENTAL INTL LTD	MISCELLANEOUS	35.76
48	TTL HOLDINGS LIMITED	MISCELLANEOUS	0.38
49	TSIT WING - GOODWILL	RETAILERS, TEXTILES & APPAREL	0.32
50	TT INTERNATIONAL LIMITED	RETAILERS, TEXTILES & APPAREL	0.86

51	ASIA FOOD & PROPERTIES LIMITED	UTILITIES & TRANSPORTATION	1.78
52	COSCO CORPORATION (S) LTD	UTILITIES & TRANSPORTATION	9.32
53	EZRA HOLDINGS LTD	UTILITIES & TRANSPORTATION	1.12
54	MEDIARING LTD	UTILITIES & TRANSPORTATION	8.38
55	PENGUIN BOAT INT LTD	UTILITIES & TRANSPORTATION	0.08
56	RICHLAND GROUP LIMITED	UTILITIES & TRANSPORTATION	0.03
57	SINGAPORE AIRLINES LTD	UTILITIES & TRANSPORTATION	1.30

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Notes

1 See Carlin *et a*l.(2008), Carlin *et al*. (2007), Seetharaman *et al*. (2008) and Lee (1971)

2 See also Seetharaman *et al*. (2008), and Lee (1971)

3 See www.asc.gov.sg./frs/index.htm

4 See www.asc.gov.sg.

5 FRS 36, Paragraph 134 d (i)

6 FRS 36, Paragraph 134 d (ii)

7 FRS 36, Paragraph 134 d (iii)

8 FRS 36, Paragraph 134 d (iv)

9 FRS 36, Paragraph 134 d (v)

10 Non-compliant firms were those who failed to allocate any goodwill to CGUs. The requirement under Paragraph 80 of FRS 36 *Impairment of Assets* are "For the purpose of impairment testing, goodwill shall be allocated to each of the acquirer's cash-generating units, or groups of cash generating units, that are expected to benefit from the synergies of the combination, irrespective of whether other assets or liabilities of the acquiree are assigned to those units or groups of units". Those companies and the value of their goodwill, deemed non-compliant can be view at Appendix 2. In total, $6,991.47 million in goodwill was not allocated to CGUs. This represents approximately 21.23% of the combined goodwill of the overall sample.

11 The firms (and their sector) that provide no effective disclosure on business segment and CGU allocation were: Aspial Corporation Limited, Noble Group Limited, Golden Agri-Resources Limited, SSH Corporation Limited (Commerce & Diversified); Asia Dekor Holdings Limited, Hong Leong Asia Limited, United Engineers Limited Ord, (Construction); BBR Holdings (S) Limited, Dragon Group International Limited, MDR Limited (Drugs, Cosmetics, Health Care & Chemicals); Amara Holdings Limited, GP Batteries International Limited, Singapore Airport Terminal Services Limited, ECS Holdings Limited, Advance Integrated Manufacturing Corporation Limited, JK Yaming International Holdings Limited, SM Summit Holdings Limited (Electrical & Electronic); Kim Eng Holdings Limited, Singapore Press Holdings Limited, Soilbuild Group Holdings Limited, United Overseas Bank Limited, (Financial); Super Coffeemix Manufacturing, Want Want Holdings Limited, Zagro Asia Limited (Food & Beverages); Asia Power Corporation Limited, Portek International Limited, Tat Hong Holdings Limited (Machinery & Equipment); Amtek Engineering Limited, Eagle Brand Holdings Limited, GP Industries Limited, Pacific Andes (Holdings) Limited, Wilmar International Limited, Xpress Holdings Limited (Manufacturing); Bonvests Holdings Limited (Metal Product Manufacturers); Hotel Properties Limited, Hyflux Limited, Japan Land Limited, Boardroom Limited, Genting International Public Limited Co, Mandarin Oriental International Limited, Guocoland Limited (Miscellaneous); TT International Limiter (Retailers, Textiles & Apparel); Asia Food & Properties Limited, A-Sonic Aerospace Limited, Cosco Corporation (S) Limited, Mediaring Limited, Penguin Boat International Limited, Richland Group Limited (Utilities & Transportation).

12 A total of 136 firms of the 192 sample (70.83%) assess the recoverable amount exclusively by the value-in-use method. These firms account for a total $24,908.22 in goodwill (75.64% of the total sample by value). Of these firms, 18 recognized an impairment expense in 2006. These 18 firms (their sector) and the amount of impairment expense are: Jardine Matheson Holdings Limited, $1.58 million, Jardine Strategic Holdings Limited, $1.58

million, Eu Yan Sang International Limited, $0.38 million (Commerce & Diversified); Pacific Healthcare Holdings Limited, $0.25 million, MDR Limited, $2.34 million (Drugs, Cosmetics, Health Care & Chemical); Datacraft, $20.18 million, Frontline Tech Corporation Limited, $0.04 million, Serial System Limited, $1.35 million (Electrical & Electronic); Capitaland Limited, $4.41 million, Sincere Watch Limited, $2.62 million (Financial); Petra Foods Limited (Food & Beverages) $(7.58) million; Eastern Asia Technology (Manufacturing) $0.07 million; Ascott Group Limited, $4.41 million, Banyan Tree Holdings, $0.25 million, Vicom Limited, $0.06 million (Miscellaneous); Ocean Sky International Limited, $1.54 million, Popular Holdings Limited, $0.23 million (Retailers, Textiles & Apparel); Comfortdelgro Corporation Limited (Utilities & Transportation) $0.10 million.

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

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