

# Family and Government-Controlled Firms and their Recognition of Goodwill Impairment

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**Abstract:** Given a highly concentrated family and government ownership in Malaysia, this paper argues that family and government control could have some influence on a firm's recognition of goodwill impairment. The 'entrenchment effect' in a controlling firm which results in expropriation of minority shareholder assets may reduce a firm's value. Therefore, the effect increases the tendency of managers to manipulate earnings. Evidence shows that family-controlled firms are more likely to record goodwill impairment than non family-controlled firms. The results are, however, not significant in government-controlled firms. Similar evidence with prior studies is found where Malaysian firms are more likely to recognise goodwill impairment loss in their first year of adoption than in the subsequent years.

**Keywords:** Corporate governance, family-controlled firm, financial accounting goodwill impairment, government-controlled firm

**JEL classification:** M40

## 1. Introduction

Studies in the United States, United Kingdom, Australia and European countries provide evidence that managers have a tendency to recognise goodwill impairment loss when they are experiencing a decline in profitability (Jordan and Clark 2004) and changes in management (Lapointe *et al.* 2008) as part of income decreasing incentives (Poel *et al.* 2009). Previously, Star Publications (Malaysia) Bhd recorded a 17.8 per cent lower net income profit which amounted to RM 138.9 million in the financial year ended 31 December 2008 than the year before (*The Star* 2009). The reduction in profit was mainly due to goodwill impairment although the company recorded a higher revenue of RM831 million in 2008, which was 3 per cent higher than for the previous year. Against this background, it is an empirical question of whether the goodwill impairment loss fully reflects the economic value of goodwill or rather the effect of manager's manipulation over accounting numbers.

The objective of this paper is to investigate the effect of two types of highly concentrated ownership structure, family and government ownership, over recognition of goodwill impairment loss in firms following the requirement of the new impairment standard in Malaysia. This issue is more severe in Malaysia since the country has never implemented a proper standard in relation to goodwill. In comparison to the previous amortisation method, the introduction of goodwill impairment testing in FRS 136 Impairment of Assets is more complex and has resulted in greater challenges for the management to fully comply with the standard (Ramanna and Watts 2008; Wines *et al.* 2007).

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Some unique characteristics of Malaysian businesses i.e., involvement of government and families in firms through share ownership, provide an opportunity for this paper to contribute to the literature by investigating the issue of goodwill impairment. In addition to the requirement by the Malaysian Accounting Standard Board for all publicly listed firms to adopt FRS 136 beginning January, 2006, Malaysia represents one of the ASEAN countries which is largely influenced by government intervention and institutional investors (Ball *et al.* 2003). According to Claessens *et al.* (2000), Malaysia is ranked as having the third highest concentration of family firms after Thailand and Indonesia, with approximately 57.5 to 67.2 per cent of family firms ranging from 10 to 20 per cent cut-off point of percentage of shareholdings. For state-owned firms in Malaysia, these firms comprise between 13.4 to 18.2 per cent for 20 per cent and 10 per cent cut-off points respectively.

Therefore, the key research question in this study is: 'does family and government controlled firms affect managers' decisions to recognise goodwill impairment loss when the economic incentives to manage earnings are present? The research question is answered using methodology developed by prior research.<sup>1</sup>

The remainder of the paper is structured as follows: Section 2 discusses the literature review and the development of the hypotheses. Section 3 provides the research methodology. Section 4 outlines the results and Section 5 concludes this paper by discussing the findings.

## 2. Literature Review and Hypothesis Development

### 2.1 Development of Goodwill Standard in Malaysia

Consistent with International Accounting Standard (IAS 22), previously some countries allowed acquired goodwill to be either recognised as an asset and amortised or immediately adjusted against shareholders' interest. In Malaysia, goodwill has been either written off against reserve or capitalised and amortised over its useful economic life over a period of twenty to forty years (Seetharam *et al.* 2005). Some jurisdictions suggest a period of 40 years (in the US since 1970) or 20 years (requirements in the US after 1999, Australia and New Zealand). In 1998, the International Accounting Standard Committee (IASC) revised IAS 22 and proposed that useful economic life of goodwill may exceed 20 years but that it then must be subjected to impairment review. This practice in the US on SFAS 141 and SFAS 142 has influenced the International Accounting Standard Board (IASB) to begin a project to review IAS 22-Business Combination to improve the quality of accounting for business combinations. Thus, in March, 2004, IASB concluded its project by issuing IFRS 3- Business Combinations and a revised version of IAS 36-Impairment of Assets. These two projects by the IASB and US FASB have influenced most countries around the world including Malaysia.

Malaysia relied on the Malaysia Accounting Standard (MAS) 6-Accounting for Goodwill, which is an exposure draft almost equivalent to the IAS 22-International Accounting Standard prior to the adoption of FRS 3 and FRS 136. The exposure draft requires goodwill to be capitalised and amortised over a period no longer than twenty-five years. In 2001, MAS 22-Business Combination became effective in Malaysia but the guidance on goodwill standard was limited by saying that goodwill should be treated in accordance with generally accepted

<sup>1</sup> See Hayn and Hughes (2006); Beatty and Weber (2006); Lapointe *et al.* (2008); Poel *et al.* (2009); Hamberg *et al.* (2009).



accounting principles on goodwill (para 77, MAS 22) (Carlin *et al.* 2009). In November 2002, an exposure draft (ED 28) was issued by the Malaysia Accounting Standard Board (MASB) which recommended that purchased goodwill should be recognised and amortised on a straight-line basis over a period not exceeding twenty years. Thus, Malaysian companies only relied on ED28 until MASB announced the adoption of FRS 136- Impairment of Assets and FRS 3-Business Combination which became effective in 2006.

After year 2006, goodwill acquired in a business combination should be tested for impairment annually or if circumstances prevail that raise the need for impairment loss to be recognised (para 7, FRS 3). Such circumstances occur when there is significant underperformance relative to historical or projected future operating results, significant changes in the manner of the company's use of underlying assets, and significant adverse industry or market economic trends. Goodwill impairment testing involves a two step-process. The first test is to compare the recoverable amount of an asset/cash-generating unit with the book value of the cash-generating unit. If the recoverable amount is lower than the book value, there is an indication that the asset may be impaired (FRS 3). If there is an indication that the asset may be impaired, the fair value (recoverable amount) of goodwill is estimated. A firm may estimate the recoverable amount of goodwill by using fair value/value in use of the cash-generating unit minus the fair value/value in use of the net asset. If the recoverable amount (equal to fair value of goodwill) is lower than the book value of goodwill, the difference is recognised as the amount of goodwill to be impaired (Lapointe *et al.* 2008).

## 2.2 Goodwill Impairment as a Tool to Manage Earnings

Several empirical papers have argued that the impairment testing approach gives greater discretion to managers and allows for creative accounting to occur in financial statements (i.e. Ramanna and Watts 2008; Wines *et al.* 2007). Ramanna and Watts (2008) found that firms with greater managerial discretion had a greater non-recognition of goodwill impairment. Their results found that the non-impairment is not caused by favourable inside information held by the managers, instead CEO reputation and debt covenant violations are associated with goodwill impairment.

Wines *et al.* (2007) critically examined the changes in goodwill treatment in Australia and compared the advantages and potential complexities associated with the new approach. The main issues involved the identification and valuation of cash generating units<sup>2</sup> and several assumptions in estimating the fair value, value in use and recoverable amount. In Malaysia, due to the lack of a liquid active market, value in use is commonly used to determine the recoverable amount (Carlin *et al.* 2009). This introduces difficulty to the auditor to verify the reasonableness of the assumptions used by managers on the expected future cash flow, discount rate and growth rate estimation. The allocation of goodwill to appropriate the cash-generating unit could raise potential disagreement between auditors and management (Wines *et al.* 2007). Carlin *et al.* (2009) mention that there is a lack of disclosure of the number of cash-generating units (CGU) in their sample of Malaysian firms taken from year 2006. This implies that the determination and allocation of goodwill to

<sup>2</sup> Carlin *et al.* (2009) mention that the problem of CGU aggregation happens when there are fewer CGUs that are identified than the numbers that should be actually recognised. Therefore the situation may lead to avoidance and delay of impairment tools.



appropriate CGU are difficult to estimate reasonably. The CGU is expected to benefit from the synergies of business combinations irrespective of whether other assets or liabilities of the acquiree are assigned to those units or groups of units (para 7a, FRS 136). The allocation of goodwill to appropriate CGUs and estimation of a recoverable amount provides significant room for management estimates and may introduce some bias. Therefore, managers are exposed to the risk of engaging in earnings management activities provided that there are incentives that induce them to manage. In addition, management may rely on a professional valuation services firm to value its cash generating unit and goodwill which makes it difficult for auditors to disapprove the valuation being made as it could be consistent with management needs (Wines *et al.* 2007).

### 2.3 Family-Controlled Firms and Government-Controlled Firms

In an emerging market such as that of East Asia, Malaysia represents a country with a highly concentrated ownership with significant government influence in listed firms that can affect managerial decisions in relation to a firm's governance (Shleifer and Vishny 1997; Claessens *et al.* 2000). The agency conflicts within family and government-controlled firms are mainly dominated by the conflict between the majority and the minority shareholders. The entrenchment effect could induce the controlling owners to deprive the rights of minority shareholders in a weak legal system and by conducting an ineffective corporate governance mechanism (Shleifer and Vishny 1997; La Porta *et al.* 1999; Fan and Wong 2002). On the other hand, the alignment effect could align the controlling owner-manager with the interests of minority shareholders (Demsetz and Lehn 1985; Jaggi *et al.* 2009).

As the controlling owners oversee the accounting report, they exhibit a strong opportunistic behaviour and the market perceives that they will not report high quality accounting information (Fan and Wong 2002). Since most large companies in Malaysia are very much influenced by government agencies due to substantial government shareholdings, while some other companies are mostly run by families, the likelihood of these managers using goodwill as a tool to manage earnings is high.

#### 2.3.1 Family-controlled firms

The entrenchment effect in family-controlled firms occurs when substantial shareholders are involved in the management of the business and sit on the board of directors which gives them the power to seek private benefits through expropriation of minority shareholders' asset (Anderson and Rebb 2003). Anderson and Reeb (2003) mention that family controlled firms have better knowledge of their business activities which enables them to detect manipulation of accounting numbers. The related party transactions are documented and largely used to transfer wealth from the minority shareholders to the substantial shareholders (Cheung *et al.* 2006). Fan and Wong (2002) suggest that when there is a high level of ownership concentration, the controlling shareholders may also control the production of a firm's accounting information.

The alignment effect can result in a higher performance for family-controlled firms due to the incentive to increase the firms' value. Such firms are found to limit managers' abilities to manage earnings (Jiraporn and Dadalt 2007). Despite the possibilities of alignment effect, there are chances that the controlling families engage in expropriation of minority shareholders' interests that would result in lower performance (Fan and Wong 2002). In the



case where managers in family-controlled firms are performing exceptionally well, they may practice income smoothing to reduce tax and to reduce political costs. Thus, the controlling families claim to have greater incentives to maximise firm's value but may also tend towards reporting poor performance due to expropriation activities (Anderson and Reeb 2003). A high level of ownership concentration and ineffective communication of information (Fan and Wong 2002) could contribute to the domination of entrenchment effect. The controlling families may engage in expropriation of minority shareholders' wealth, thus, goodwill impairment loss is unavoidable. This leads to the first hypothesis:

*H1: Family-controlled firms have a higher likelihood of recording goodwill impairment loss than non family-controlled firms.*

To measure family-controlled firms, this paper uses a dichotomous variable. Based on the information provided on the Director's Profile section, all the identified family members' shareholdings are analysed. Following Anderson and Reeb (2003), a cut off of 20 per cent is used to identify firms with ownership concentration where a factional equity ownership is used. If the total shareholdings (direct and indirect interest) of family board members are more than 20 per cent, the companies are categorised as family-controlled firms.

### 2.3.2. Government-controlled firms

Government-controlled firms in Malaysia comprise the GLCs, their subsidiaries and affiliates, GLICs and state-owned firms. In Malaysia, government-linked companies (GLCs) are defined as companies that have a primary commercial objective and in which the Malaysian government has a direct controlling stake (PCG 2006). GLCs are controlled by the Malaysian government via Federal Government-Linked Investment Companies (GLICs)<sup>3</sup> (Lau and Tong 2008). The controlling stake does not only refer to percentage ownership but also to the government's ability to appoint board members, senior management, and/or make major decisions. The major decisions include contract awards, strategy, restructuring and financing, acquisition and divestment either directly or through GLICs. The subsidiaries and affiliates of GLCs are also part of GLCs (PCG 2006). The federal government also has the influence to appoint or approve board members and senior management and may provide funds for operations and/or guarantee capital placed by unit holders. Other than GLC companies, other corporate entities that are under the influence of government are state-owned firms. State-owned firms<sup>4</sup> can be defined as firms which are under the influence of a state-controlling agency/firm through shareholding and/or appointment of members on the board. As at March 2005, these GLCs and their subsidiary firms totalled 57 companies with RM 261 billion of total market capitalisation, accounting for 36 per cent of the overall Bursa Malaysia market (PCG 2006).

<sup>3</sup> There are seven GLICs in Malaysia: (1) KNB (Khazanah Nasional Berhad); (2) KWSP (Kumpulan Wang Simpanan Pekerja); (3) KWAP (Kumpulan Wang Amanah Pencen); (4) LTAT (Lembaga Tabung Angkatan Tentera); (5) LTH (Lembaga Tabung Haji); (6) MKD (Menteri Kewangan Diperbadankan); (7) PNB (Permodalan Nasional Berhad) where KNB is the leading GLIC in Malaysia (Lau and Tong 2008)

<sup>4</sup> Among the State-owned firms that control other listed firms are Johor Corporation, Kumpulan Darul Ehsan, State Financial Sarawak, Terengganu Incorporated Sdn. Bhd., Kulim Malaysia Bhd. & Petroleum Nasional Bhd. This list is not exhaustive.



Prior studies found mixed evidence on the effect of government intervention in creating value of a firm. On the one hand, the government is argued as being the “watchful eyes of the public” (Kole and Mulherin 1997; Ang and Ding 2006; Lau and Tong 2008). The government is responsible for proper monitoring and ensuring that the management is acting according to the interest of the shareholders. According to Lau and Tong (2008), evidence of poor performance by GLCs has been previously found such as in the case of Malaysia Airlines’ System (MAS), which experienced losses of RM648 million despite its restructuring plan and Proton Holdings whose share price dropped in 2006 when Volkswagen cancelled their plan to invest in the company (Lau and Tong 2008). Despite these controversies, Lau and Tong’s (2008) study on government-linked companies over the period of 2000-2005 showed a positive relationship between the degree of government ownership and firm value. A Singaporean study also found that government-linked companies are as efficient as privately run companies (Feng and Tong 2002).

On the other hand, the government is argued as having the incentive to focus on their social contribution rather than wealth maximisation of the firm (Boycko *et al.* 1996; Shleifer 1998; Dewenter and Malatesta 2001). In order to assist the government-controlled firms to successfully perform in the market and be able to compete with the privately run companies, many incentives are provided by the government including access to large capital and exclusive contracts. Thus, the Malaysian government is known for having close ties with many large corporations and conglomerates.<sup>5</sup> Therefore, these close connections may result in an exclusive business relationship with state owned enterprises and thus give the ability to afford preferential access to major government contracts (Gomez and Jomo 1999; EAU 2002; Effiezal *et al.* 2009). Effiezal *et al.* (2009) argue that government-controlled firms have greater reliance on government grants but unfortunately most of their loans are non-performing. Some prior evidence found that that government-controlled firms tend to perform poorer than non government-controlled firms. The study of Yen *et al.* (2007) on Malaysia found that GLCs tend to manage their earnings upward while Chinese family-linked companies tend to manage their earnings downwards. This indicates that the performance of government-controlled firms could be less than expected.

This raises the question of whether the negative impact on performance induces managers of government-controlled firms to avoid recording goodwill impairment loss in order to conceal their poor performance. Apart from their social obligation to the society, government-controlled firms also experience a conflict in relation in making good profit to maintain a good reputation. This is important as they are managing the capital of the society through government agencies. This leads to the second hypothesis:

*H2: Government-controlled firms have a lower likelihood of recording goodwill impairment loss than non government-controlled firms.*

To measure the variable of government-controlled firms, this study uses several criteria to indicate that the firm is a government-controlled firm. The first criteria is whether the firm is a Government Linked Companies (GLCs) or a subsidiary of a GLC (Lau and Tong 2008).

<sup>5</sup> This is a result of the NEP plan which was introduced in 1970 to achieve economic parity for Bumiputra (Effiezal *et al.* 2009).



The second criteria is, when the firm is not a GLC or a subsidiary of a GLC, a state-owned and/or government-controlled firm must hold an effective ownership interest of around 20% or more in a listed company (Ang and Ding, 2006).<sup>6</sup> The state-owned firms<sup>7</sup> can be defined as firms which are under the influence of a state controlling agency/firm through shareholding and/or appointment of members on the board.

## 2.5 Justification and Measurement of Control Variables

### 2.5.1 Firms' characteristics

Firm specific characteristics are leverage (LEV), performance (ROA and ROACHG) and firm size (FIRMSIZE). The debt-equity hypothesis predicts that the higher the reliance on debt, the more likely, managers will engage in earnings management to avoid debt covenant violation (Dechow *et al.* 1996; Klein, 2002). Beatty and Weber (2005) found that firms are less likely to make a write-off when they are close to debt covenant violation and thus delay their recognition of expense. The effect of profitability on managers' incentives to manipulate earnings is widely used in goodwill and earnings management research (Poel *et al.* 2009, Lapointe *et al.* 2008). Lapointe *et al.* (2008) found a negative significant relationship between short-term performance measured by ROA and reported transitional goodwill impairment loss deflated by lagged total assets. Alternatively, this paper also uses variable change of return on asset. A significant negative association between the change in ROA and goodwill impairment charges has been found by Poel *et al.* (2009). Prior research suggests that the bigger the firm, the more likely it is to use income decreasing accruals for tax purposes and to avoid political visibility (Watts and Zimmerman 1986). Firm size is measured by the log of total asset.

### 2.5.2 CEO tenure and CEO changes

Beatty and Weber (2006) found that the tenure of a CEO is negatively related to the recognition of goodwill impairment loss. They hypothesised that a new CEO is expected not to avoid or delay impairment charges because they were not involved in the past acquisition decision. Other than CEO tenure, a change of CEO can also significantly affect the likelihood of recording goodwill impairment loss. New management has more tendencies to write-off assets and record a provision for future losses (Francis *et al.* 1996; Hamberg *et al.* 2009). Lapointe *et al.* (2008) found a significantly positive association between a change in CEO and goodwill impairment recognition. The reasons they charged a bigger loss for the firm could be due to past management problems and as a signal that firms will perform better in the future (Hamberg *et al.* 2009)

<sup>6</sup> Other State- and Government-owned firms in Malaysia include Kulim Bhd (SINDORA, 76%); Johor Corporation, Koperasi Permodalan Felda (LEWEKO, 11.3%); Skim Amanah Saham Bumiputera (ASB) (NCB, 50%); MARA, State Financial Sarawak (SARAWAK ENERGY BHD, 65%); Terengganu Incorporated Sdn. Bhd. (EPIC, 40%); Syarikat Permodalan Kebangsaan Bhd (SPK-Sentosa, 64%); Perbadanan Kemajuan Negeri Pahang (PASDEC, 51%); and Perbadanan Kemajuan Negeri Perak (PERAK, 52%).

<sup>7</sup> Among the State-owned firms that control other listed firms are Johor Corporation, Kumpulan Darul Ehsan, State Financial Sarawak, Terengganu Incorporated Sdn. Bhd., Kulim Malaysia Bhd. and Petroliaam Nasional Bhd. The list is not exhaustive.



### 2.5.3 Transition year

With regard to the effect of the adoption year, Henning *et al.* (2004) found that a company could possibly deliberately recognise excessive impairment loss in the transition period. They argued that the transition period could be used to minimise the recognition of future impairment loss on the belief that the market would view the losses recorded as relating to a past problem and as not affecting the current value of the company. In addition, Hamberg *et al.* (2009) found that firms recorded lower amounts of impairment compared to total amortisation and impairment prior to the impairment-only approach.

### 2.5.4 Goodwill characteristics

Firms having a greater amount of goodwill as part of their assets might incur a higher goodwill impairment loss due to greater exposure of goodwill to the impairment test (Zang, 2008; Lapointe *et al.* 2008). Thus, following Lapointe *et al.* (2008) the value of opening goodwill over beginning total asset GWB is used as a control variable.

### 2.5.5 Prior amortisation policy

According to Hamberg *et al.* (2009), the amount of impairment is larger in the year of adoption rather than the additional impairment made in the years after the adoption and lower for firms with higher amortisation of goodwill. This is measured through the percentage of change between the impairment loss after the adoption year and total impairment and amortisation over total goodwill before the adoption year. Thus, in order to control for the effect of abolishment of amortisation for firms which previously amortised goodwill, this study developed a measurement of prior amortisation policy based on the mean of amortisation amount over the value of beginning goodwill for the last three years prior to FRS 136 adoption, known as variable MEANAMORT.

### 2.5.7 External auditor

The presence of a high quality auditor is important to constrain the use of goodwill impairment test as a tool to manage earnings (Poel *et al.* 2009). These challenging tasks require a high-quality auditor to ensure that goodwill impairment is fairly reported by the management. Firms which use one of the big four audit firms have been found to have a lower incidence of earnings management than those who use non-big four firm auditors, possibly because of the big four's greater financial expertise and experience (Krishnan 2003).

## 2.6 The Empirical Model

This research utilised a binary-logit regression model where the dependent variable is an indicator variable (IMP). Hence, the empirical model is as follows:

$$IMP_{it} = \beta_{it} + \beta_1(FAM_{it}) + \beta_2(GOV_{it}) + \beta_3(MEANAMORT_{it}) + \beta_4(LEV_{it}) + \beta_5(ROA_{it}) + \beta_6(\Delta ROA_{it}) + \beta_7(CEOCHG_{it}) + \beta_8(CEOTEN_{it}) + \beta_9(ADOPT_{it}) + \beta_{10}(FIRMSIZE_{it}) + \beta_{11}(GWB_{it}) + \beta_{19}(BIG4_{it}) + e_{it} \dots \quad \text{Equation 1}$$

where

IMP = indicator variable equal to one if impairment loss is recorded and zero otherwise



<i>FAM</i>	=	dichotomous variable equal to one if the firm is a family-controlled firm and zero otherwise
<i>GOV</i>	=	dichotomous variable equal to one if the firm is a government-controlled firm and zero otherwise
<i>MEANAMORT</i>	=	percentage of mean of amortisation over beginning goodwill in last three years prior to adoption of FRS3
<i>LEV</i>	=	prior year total liability to prior year total asset ratio
<i>ROA</i>	=	return on asset measured as earnings before tax over beginning total asset
<i>ROACHG</i>	=	changes in return on asset
<i>CEOCHG</i>	=	dichotomous variable of 1 if there is a change in CEO, otherwise zero
<i>CEOTEN</i>	=	number of years of service by CEO
<i>ADOPT</i>	=	dummy variable of one if the firm is in the year of transition to FRS 3, otherwise zero
<i>FIRMSIZE</i>	=	natural logarithm of total asset
<i>GWB</i>	=	percentage of beginning goodwill over beginning total assets
<i>BIG4</i>	=	dichotomous variable equal to one if the firm audited by a big four audit firm and zero otherwise

The next section describes the methodological basis for this paper, sample selection and justification of the use of the regression method.

## 2. Research Methodology

### 3.1 Sample Selection, Period of Study and Source of Data

Raw financial data such as the goodwill amount, total asset, total liability, and earnings before tax and net profit to determine the key ratios such as return on asset, debt to equity ratio, goodwill over total asset and firm size was mainly obtained from the OSIRIS database. Where the information was not available in the database, the data was manually hand-collected from the company's financial report lodged at Bursa Malaysia. The information on CEO tenure and ownership structure was determined directly from the annual report in the corporate information, directors' profile and shareholdings information sections.

The sample selection process involved two stages. Initially, a list of 954 active<sup>8</sup> companies was obtained from OSIRIS database as at 13 January 2010. The first stage involved the exclusion of firms from financially-related industries. Based on the BSKL classification of industry sector, 46 companies included in the Financial, REITS and Closed/End Fund were excluded from the sample. Second, the information on the ending balance of goodwill was obtained from the OSIRIS database. This resulted in a list of 319 companies without any goodwill balance from year 2003 to 2009 and 109 firms with insufficient annual reports available for further data collection. A total of 480 companies with at least one positive goodwill balance was identified for a further stage. The final sample contained 370 companies

<sup>8</sup> 'Active' companies are companies that are not delisted and remain active status (Source: OSIRIS).



where five companies out of 375 companies were removed initially as they were identified with not adopting FRS 3 either in year 2006, 2007 or 2008. The second stage involved the identification of whether the companies satisfied the goodwill balance selection criteria. The criteria are as follows:

1. The companies must have a positive goodwill balance at least in one of the three years prior to FRS 3 adoption. The reason is because prior amortisation policy cannot be observed if the companies have no positive beginning goodwill prior to FRS 3 adoption AND
2. The companies must EITHER have a positive goodwill balance in at least one year after FRS 3 adoption OR have a positive beginning goodwill in their year of adoption. The reason is to investigate each manager's decision whether to impair or not impair goodwill based on the requirement of FRS in the transition year or in the years afterwards. Table 1 summarises the sample selection process.

However, a further sub-sample was obtained for the purpose of analysis. From the 370 companies, 1110 observations were derived ( $370 \times 3$  years). However, observations with

**Table 1.** Sample selection process

**Panel A: First stage**

Criteria	Number of companies
Total companies listed Bursa Malaysia indicated as active companies by OSIRIS as at 13/1/ 2010	954
Excluding Financial, REITS and CLOSED/END FUND industries	-46
Companies without goodwill balance at all from years 2003-2008	-319
Excluding firms with insufficient annual report available	-109
Total firm with goodwill balance	480
Total companies that did not satisfy goodwill balance criteria <sup>9</sup>	-105
Companies excluded for not adopting FRS 3	-5
FINAL SAMPLE OF COMPANIES	370

**Panel B: Second stage**

Criteria	Firm-year observations
Final sample of companies = $370 \times 3$ years	1110
Minus observations with negative goodwill balance and observation years where FRS 3 is not yet adopted	-115
Sample of firm-year observations available	955
Excluding firms with missing observations	-286
FINAL COMPLETE SAMPLE	669

<sup>9</sup> At this stage, because FRS 3 became effective on 1 January 2006, companies were expected to adopt FRS 3 in 2006. However, some companies adopted FRS 3 in 2007 and some in 2008. Thus, dummy variable ADOPT was included to control the effect of first-year adoption.



negative beginning goodwill were excluded from the sample following the studies of Beatty and Weber (2006) and Hayn and Hughes (2006) which chose only positive beginning goodwill. Only firm-year observations in the year of adoption and the year after adoption were included in the sub-sample. For example, if the firm-year observation in year 2006 was that the firm had not adopted FRS 3, the firm year observation was excluded. Thus, out of 1110 firm year observations, only 955 observations were left. Subsequently, firm-year observations with missing value observations were excluded. The final sample size was reduced to 669 firm year-observations.

## 4. Results and Discussion

### 4.1 Data Screening

This section describes the data screening process before regression analysis was conducted. To reduce the impact of outliers, this study used the winsorisation method at 1 per cent following Hamberg *et al.* (2009) for certain variables.<sup>10</sup> Variable FIRMSIZE was adjusted using a natural logarithm of total asset to adjust for the effect of heteroskedasticity (Klein 2002). The standardised residuals in the logistic regression of Model 1 (not shown in this paper) did not appear to have a problem with multivariate outliers. The examination of the standardised residual shown was between -1 and +1. However, additional analysis using Tobit regression showed that the standardised residual was still large (between +-6) even after the use of winsorisation at 1 per cent level.<sup>11</sup>

Normality of the distribution has been argued as being an important assumption in ordinary least square regression. This assumption was not found to be relevant for the logistic regression as the dependent variable was dichotomous. As the sample was large, it was more reasonable to look at the graph shape of distribution instead of using a formal inference test (Tabachnick and Fidell 2007). For multivariate normality, the sampling distributions of means of various dependent variables in each cell and all linear combinations should be normally distributed. Given the large sample size of 669, the central limit theorem suggests that the sampling distribution of means approaches normality even when the raw scores do not (Tabachnick and Fidell 2007).

### 4.2 Descriptive Statistics

Table 2 shows the minimum, maximum, sum and percentage of categorical variables which are equal to one for 669 observations. Prior year amortisation over beginning goodwill has a maximum value of 125 per cent. This amount has been winsorised at 1 per cent level. Categorical variables are shown to have at least 10 per cent of value equal to one compared to zero. Therefore, following Tabachnick and Fidell (2007), the categorical variables are retained as being valid for analysis as they have an approximate 90/10 split.

<sup>10</sup> Other variables such as GWB, ROA and ROACHG which were detected to have potential outliers were retained as the original data

<sup>11</sup> The multivariate outliers were found in cases SITTATT-07, TIMECOME-08, WWTKH-06, VERSATILE-07, GPRO-07, PILECON-08 and RHYTHM-08. These cases have a residual larger than between -4 and +4. Additional analysis was taken by winsorisation at 5% level (by changing the value of top 30 cases to the value of the 31<sup>st</sup> case).



**Table 2.** Descriptive statistics - the minimum, maximum and percentage of value equal to one for categorical variables

Variables	Min	Max	Sum	Percentage of value= 1
Dependent variables				
IMP	0	1	140	21%
Independent variables				
FAM	0	1	462	69%
GOV	0	1	69	10%
Control variables				
MEANAMORT	0.00%	125.14%		
LEV	3.98%	153.49%		
ROA	-55.71%	48.46%		
ROACHG	-55.28%	51.64%		
CEOCHG	0	1	67	10%
CEOTEN1	0	37		
ADOPT	0	1	251	38%
FIRMSIZE	3.47	7.62		
GWB	0.00%	50.92%		
BIG4	0	1	407	61%

*Notes:* IMP is an indicator variable equal to one if impairment loss is recorded and zero otherwise; FAM is a dichotomous variable equal to 1 if the firm is a family-controlled firm and 0 otherwise; GOV is a dichotomous variable equal to 1 if the firm is a government-controlled firm and 0 otherwise; MEANAMORT- percentage of mean of amortisation in last three years prior to adoption of FRS3; LEV- prior year total liability to prior year total asset ratio; ROA- return on asset measured as earnings before tax over beginning total asset; ROACHG - changes in return on asset; CEOCHG - dichotomous variable of 1 if there is a change in CEO, otherwise 0; CEOTEN - number of years of service by CEO; ADOPT- dummy variable of 1 if the firm is in the year of transition to FRS 3, otherwise 0; FIRMSIZE - natural logarithm of total asset; GWB - percentage of beginning goodwill over beginning total assets; BIG4 - dichotomous variable equal to 1 if the firm audited by a big four audit firm and 0 otherwise.

Table 3 describes the mean and standard deviation for all observations and for each category of dependent variable IMP. The mean for variable FAM is lower (0.67) in firms that do not impair goodwill compared to firms that do impair goodwill (0.77). The mean for variable GOV is not significantly different between the two groups. The examination of the correlation matrix as in Table 4 also indicates that there is no correlation greater than 0.80. Thus, there is some reason to believe that multicollinearity is unlikely to be a problem (Tabachnick and Fidell, 2007: 84).

#### 4.3 Results of Logistic Regression

The statistical result in Table 5 Panel A indicates that family-controlled firms are more likely to impair goodwill than non-family-controlled firms. McFadden  $R^2$  indicates the likelihood ratio index is 6.42 per cent. Table 5 Panel B shows that 80.58 per cent is correctly predicted for companies that do not impair goodwill and 26.64 per cent is correctly predicted for companies that impair goodwill. Overall, 69.29 per cent of the companies are correctly



Table 3. Descriptive statistics of categorical variables

Variables	Mean			Standard Deviation		
	IMP=0	IMP=1	All	IMP=0	IMP=1	All
<b>Independent variables</b>						
FAM	0.669	0.771	0.691	0.471	0.419	0.461
GOV	0.102	0.107	0.1023	0.303	0.303	0.303
<b>Control variables</b>						
MEANAMORT	7.992	6.696	7.721	27.417	19.711	25.986
LEV	50.063	50.808	50.219	21.559	21.328	21.497
ROA	3.675	2.478	3.425	9.828	7.629	9.418
ROACHG	-0.220	-2.275	-0.650	8.673	10.953	9.226
CEOCHG	0.095	0.121	0.100	0.293	0.328	0.300
CEOTEN	7.760	9.764	8.179	7.132	9.968	7.845
ADOPT	0.352	0.464	0.375	0.478	0.501	0.485
FIRMSIZE	5.585	5.729	5.615	0.568	0.650	0.588
GWB	4.522	4.750	4.570	7.965	7.384	7.842
BIG4	0.607	0.614	0.608	0.489	0.489	0.488
C	1	1	1	0	0	0
Observations	529	140	669	529	140	669

Notes: IMP is an indicator variable equal to 1 if impairment loss is recorded and 0 otherwise; FAM is a dichotomous variable equal to 1 if the firm is a family-controlled firm and 0 otherwise; GOV is a dichotomous variable equal to 1 if the firm is a government-controlled firm and 0 otherwise; MEANAMORT- percentage of mean of amortisation in last three years prior to adoption of FRS3; LEV- prior year total liability to prior year total asset ratio; ROA- return on asset measured as earnings before tax over beginning total asset; ROACHG - changes in return on asset; CEOCHG - dichotomous variable of 1 if there is a change in CEO, otherwise 0; CEOTEN - number of years of service by CEO; ADOPT- dummy variable of 1 if the firm is in the year of transition to FRS 3, otherwise 0; FIRMSIZE - natural logarithm of total asset; GWB - percentage of beginning goodwill over beginning total assets; BIG4 - dichotomous variable equal to 1 if the firm audited by a big four audit firm and 0 otherwise.

predicted. The Hosmer-Lemeshow tests show an insignificant  $p$ -value of chi-square with coefficient value of 6.304 ( $p=0.613$ ) which indicates that the goodness-of-fit for model 1 is sufficient (Hosmer and Lemeshow 1989).

#### 4.3.1 Hypothesis Testing

As reported in Table 5, for Hypothesis 1, the estimated coefficient for variable FAM using binary logit method shows a positive relationship with the likelihood of recording goodwill impairment loss with coefficient estimates of 0.7519 ( $p=0.0171$ ). Therefore, Hypothesis 1 is accepted. Acceptance of Hypothesis 1 means that family-controlled firms are more likely to recognise goodwill impairment loss compared to non family-controlled firms. An insignificantly positive relationship between the independent variable GOV and the likelihood to impair goodwill is found with coefficient value at 0.5235 ( $p=0.2111$ ). Therefore, Hypothesis 2 is rejected.



**Table 4.** Correlation matrix of the independent variables and control variables

Probability	IMP	FAM	GOV	MEANA MORT	LEV	ROA	ROA CHG
IMP	1.0000						
FAM	0.0900	1.0000					
GOV	0.0068	-0.5066	1.0000				
MEANAMORT	-0.0617	-0.0461	-0.0094	1.0000			
LEV	0.0170	0.0601	-0.0214	-0.0397	1.0000		
ROA	-0.0719	0.0726	0.0153	-0.0555	-0.3291	1.0000	
ROACHG	-0.0606	-0.0142	0.0278	0.0068	0.0752	-0.2354	1.0000
CEOCHG	0.0365	-0.0783	0.0342	-0.0297	-0.0193	-0.0976	-0.0549
CEOTEN	0.0397	0.2155	-0.1368	-0.0024	0.0443	0.0973	0.0695
ADOPT	0.0947	0.0311	-0.0192	0.0090	-0.0249	-0.0050	0.0352
FIRMSIZE	0.0817	0.0366	0.2306	-0.1620	0.2192	0.2268	0.0897
GWB	0.0954	0.0184	0.0114	-0.0276	-0.0016	0.0236	-0.0344
BIG4	0.0062	-0.0733	0.1412	-0.0247	-0.0587	0.1401	-0.0035
	CEOCHG	CEOTEN	ADOPT	FIRM SIZE	GWB	BIG4	
CEOTEN	-0.4289	1.0000					
ADOPT	-0.0117	0.0074	1.0000				
FIRMSIZE	-0.0583	0.0297	-0.0264	1.0000			
GWB	-0.0018	-0.0296	0.0383	0.0993	1.0000		
BIG4	-0.0384	-0.0160	-0.0234	0.2388	0.0361	1.0000	

#### 4.3.2 Control variables

For control variables, five out of ten control variables were found to have a significant relationship with the recognition of goodwill impairment loss. The variables are ROA, ROACHG, CEOTEN, ADOPT and FIRMSIZE. Interestingly, all the significant variables have a consistent result with the predicted sign except for variable CEOTEN. Variables ROA and ROACHG are negatively associated with variable IMP, which is consistent with prior research (Lapointe *et al.* 2008). This is consistent with prior study (Hayn and Huges 2006) where firms with lower ROA have stronger tendencies to discontinue their unprofitable segment of operations and/or to reduce the book value of goodwill accordingly to match with the recoverable amount of the asset. In addition, for firms with a very high negative change of ROA, they are more likely to recognise goodwill impairment. The same reason as above applies for firms with a larger negative value of change of ROA; they are more likely to impair goodwill as they have a higher tendency to satisfy the first test<sup>12</sup> in the impairment testing requirement. Variable CEOTEN has a positive association with the recognition of

<sup>12</sup> The first test requires a testing of whether the recoverable amount of CGU is lower than the book value of the CGU. If it is lower, then there is an indication that goodwill should be impaired.



Table 5. Binary-Logit regression

Panel A: Regression estimates			
Dependent variable		Binary Logit –IMPMODEL 1	
Variable	Coeff	S.E.	z-Stat
Independent variables			
FAM (+)	<b>0.7519***</b>	<b>0.3153</b>	<b>2.3846</b>
GOV(-)	0.5235	0.4186	1.2505
Control variables			
MEANAMORT (-)	-0.0010	0.0031	-0.3130
LEV (-)	-0.0061	0.0051	-1.2117
ROA (-)	<b>-0.0402***</b>	<b>0.0117</b>	<b>-3.4325</b>
ROACHG (-)	<b>-0.0352***</b>	<b>0.0114</b>	<b>-3.0771</b>
CEOCHG (+)	0.4350	0.3287	1.3236
CEOTEN (+)	<b>0.0316***</b>	<b>0.0124</b>	<b>2.5505</b>
ADOPT (+)	<b>0.5102***</b>	<b>0.2000</b>	<b>2.5513</b>
FIRMSIZE (+)	<b>0.5700***</b>	<b>0.1844</b>	<b>3.0911</b>
GWB (+)	0.0005	0.0108	0.0493
BIG4 (?)	-0.0178	0.2102	-0.0848
C	-5.2735	1.0448	-5.0474

McFadden R-squared =6.42%, LR Statistic =44.07\*\*\*

Obs with Dep=0 : 529, Obs with Dep=1 : 140, Total obs : 669

Hosmer-Lemeshow-statistics = 6.304 , Prob Chi -Square =0.6131

## Panel B: Expectation-Prediction Evaluation for Binary Specification

	Estimated Equation			Constant Probability		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
% Correct	80.58	26.64	69.29	100	0	76.17
% Incorrect	19.42	73.36	30.71	0	100	23.83

\*significant at 1% level \*\*significant at 5% level \*\*\* significant at 10 % level

One-tailed if directional prediction, two-tailed otherwise. Z-statistics are based on robust standard errors  
 The Huber/White (ML) Standard Errors option are used in the model to ensure robust standard errors  
 although it is not robust to heteroskedasticity in binary dependent variable models, but robust to certain  
 misspecifications of the underlying distribution of dependent variable (Eviews Guide)

goodwill impairment. This means that the longer the CEO has been with a firm, the more likely they will impair goodwill. On the other hand, if the CEO's tenure has been shorter, they are less likely to impair goodwill. This result is, however inconsistent with Beatty and Weber (2006).

## 5. Conclusion

Prior studies on the determinants of goodwill impairment recognition do not consider the effect of family and government-controlled firms on managers' decisions to manage earnings



through goodwill impairment. The unique context of the Malaysian setting provides an opportunity to investigate this relationship as well as the effect of foreign shareholdings. Given the issue of expropriation of minority shareholders, family-controlled firms are identified as more likely to impair goodwill rather than non-family-controlled firms. On the other hand, government-controlled firms are expected to be less likely to impair goodwill due to the pressure to meet public expectations and to conceal bad performance.

The major finding from this study is that family-controlled firms are found to have a higher likelihood goodwill impairment. The evidence supports the expropriation theory of family firms where the majority shareholders who are also the owners of the firms have the tendency to expropriate the assets of minority shareholders (Anderson and Rebb 2003). Secondly, government-controlled firms are found to have no significant effect on the decision to record goodwill impairment loss. It is expected that the insignificant evidence could be influenced by the low representation of government-controlled firms in the sample. Future research may consider re-evaluating this issue by using an approximately equal sample size of government and family firms.

Additional findings of this study suggest that the longer the CEO tenure, the more positive the association to the likelihood of goodwill impairment which contradicts with Beatty and Weber (2006). In order to promote independent decision-making by the board, frequent changes of CEO may be necessary to control managerial incentives from engaging in earnings management through goodwill policy. This contradictory result on CEO tenure influence over goodwill impairment may be influenced by the high proportion of family-controlled firms in the sample.

One of the limitations of this paper is that the measurement of family and government-controlled firms only used categorical variables. The use of percentage of shareholdings held by the family members or the most dominant family members could give a better picture of the levels of family ownership. The same applies to government-controlled firms; a comparison between GLC, subsidiaries and state-owned firms could add more valuable information to policy makers.

This paper is expected to contribute to current literature on goodwill impairment by providing new evidence on the effect of family-controlled firms over the recognition of goodwill impairment. Overall, this study supports the contention that goodwill impairment standard is used by managers to opportunistically manage their reported earnings, thus reducing the quality of financial statements.

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