Extent and Determinants of Intellectual Capital Disclosures by Top Listed Companies in Malaysia

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Abstract

The purpose of this paper was to examine the extent of intellectual capital disclosures and the determinants of such disclosures by the Malaysian companies. A disclosure index for the intellectual capital information consisting of 20 items, using the annual reports of top 100 companies listed in Bursa Malaysia as on December 31, 2013, was developed. Multiple regression was used to test 12 hypotheses, using the data collected from the same annual reports. The results revealed that the intellectual capital disclosure level had increased as compared to the prior studies in Malaysia that suggests increased corporate awareness regarding intellectual capital disclosures, though the disclosure level was lower as compared to the other advanced countries. The results provided evidence that company size, leverage, and industry type significantly affected the intellectual capital disclosure levels. However, the intellectual capital disclosure levels did not have a significant relationship with return on total assets, board independence, audit committee independence, company age, complexity, foreign shareholding, institutional shareholding, and auditor size. The adjusted *R* square, an explanatory power of the model, was 52%. We also discussed the implications for the standard-setters and regulators. This study makes an incremental contribution to the literature on the intellectual capital disclosures in the Malaysian context.

Key words: **Intellectual capital, size, industry type, leverage, disclosure index**

JEL Classification : M41, L1, L25

Paper Submission Date: June 6, 2015 ; Paper sent back for Revision : September 8, 2015 ; Paper Acceptance Date : October 6, 2015

Intellectual capital, and similar terms : information technology, intangible assets, knowledge capital indicate the increasing importance of non-physical assets in driving the corporate value creation process. Edvinsson (1997) pointed out that traditional financial statements do not fully capture the valuation relevant information. The increasing discrepancy between market values and book values of the corporations can partly be explained by the intellectual capital accumulation and deployment.

Daley (2001) argued that intellectual capital has become more valuable than physical assets due to the relatively free flow of capital among countries and lower transaction costs. As such, intellectual capital disclosure has become an important issue as corporations have voluntarily begun to disclose intellectual capital information,

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and accounting bodies have proposed and/or have enacted new rules to enhance the intellectual capital disclosures in the annual statements (Abhayawansa, 2014).

Considerable research in the intellectual capital disclosure practices has been done in the context of developed countries; this study specifically focuses on the intellectual capital disclosure by Malaysian companies. In Malaysia, accounting standards and reporting are influenced by accounting bodies and also by various regulatory enforcement agencies. The Financial Reporting Act (1997) established the accounting standards setting body - Malaysian Accounting Standards Board (MASB), which sets Malaysian Financial Reporting Standards (MFRS). Since January 2012, MFRS has been fully converged with the International Financial Reporting Standards (IFRS) (Bank Negara Malaysia, 2013). The existing international accounting standards (such as IFRS 3) specify disclosure and accounting for identifiable intellectual capital items, for example, brand names, trademarks, licenses, patents, copyrights, purchased goodwill, and other intellectual property. In Malaysia, the Financial Reporting Standard (FRS) 138 defines intangible assets as an identifiable non-monetary asset without physical substance, which is controlled by a company and from which future economic benefits are expected. However, there are no specific guidelines on the internally generated intellectual capital. As intellectual capital fails to fulfill the conservative requirements of FRS 138 for an asset, it was unlikely to be included in the current financial reporting system (Gan & Saleh, 2008).

Malaysian companies have started disclosing intellectual capital items due to a push by Malaysian Institute of Certified Public Accountants (MICPA) and MIA. Goh and Lim (2004) found that Malaysian corporate annual reports disclose qualitatively high levels of intellectual capital information, but quantitative disclosures were at lower levels. Foong, Loo, and Balaraman (2009) reported that Malaysian companies preferred narrative description style for intellectual capital disclosure, which is suitable for qualitative disclosures. Salamudin, Bakar, Ibrahim, and Hassan (2010) argued that intellectual capital is becoming an influential factor in Malaysia for corporate valuation , and investors were looking for more intellectual capital disclosures.

This study extends this line of research. The purpose of this paper is to examine the extent of intellectual capital disclosures and the determinants of such disclosures by the Malaysian companies. The following research questions are investigated in this study:

(1) What is the intellectual capital information disclosed by Malaysian listed companies in the annual reports?

(2) Did the intellectual capital disclosure change after the convergence of Malaysian accounting standards with IFRS?

(3) What is the extent of disclosure of intellectual capital in annual reports by Malaysian listed companies?

(4) What are the determinants of Malaysian listed companies' intellectual capital disclosure in the annual reports?

Literature Review and Hypotheses Development

Intellectual capital disclosure has been studied by academics and professional accounting institutions in various settings. We review prior studies related to the disclosure of intellectual capital that are relevant to our study.

Bozzolan, Favotto, and Ricceri (2003) examined voluntary intellectual capital disclosure provided by listed Italian companies in the annual reports for the year 2001. The findings suggested that size and industry type did not affect intellectual capital disclosure content, but in terms of social and environmental disclosure, these factors did explain the information disclosure level.

García - Meca and Martínez (2005) analyzed intangibles' disclosure quality in presentations to the analysts. Data were collected from 257 reports created by Spanish listed companies, which we represented to the financial analysts between the years 2000 and 2001. The study found that various factors, including company size, levels of leverage, and profitability influenced the information quality reported to the financial analysts in Spain.

Bukh, Nielsen, Gormsen, and Mouritsen (2005) analyzed whether intellectual capital items were being disclosed in the Danish initial public offering (IPO) prospectus. The study also analyzed voluntary intellectual capital disclosure changes during the period from 1999-2001. Additionally, the study analyzed factors that could explain disclosure levels in the prospectus. This study used content analysis to develop intellectual capital disclosure measures for each prospectus, and then statistically examined the relationship between variables. The authors concluded that voluntary intellectual capital disclosure levels were affected by industry type and managerial ownership prior to the IPO, but were not affected by company age and size.

Oliveira, Rodrigues, and Craig (2006) examined factors that influenced the voluntary intangibles disclosure level in Portuguese listed companies' annual reports as of December 31, 2003. They analyzed Chairman's Letter and Management Report of 56 companies with a voluntary intangible disclosure index created by the authors. The analysis showed that ownership concentration, industry type, size, listing status, and type of auditor significantly influenced voluntary intangibles' disclosure levels.

White, Lee, and Tower (2007) examined key drivers of voluntary disclosure levels proxied by intellectual capital disclosure index in annual reports for 125 listed biotechnology companies. The study also statistically tested the association among voluntary intangible company value disclosures with traditional agency theory variables using a multiple-regression analysis. Company size, leverage, and board independence were found to have a significant association with voluntary intellectual capital disclosure level.

Bruggen, Vergauwen, and Dao (2009) conducted a study to investigate determinants of intellectual capital disclosure in the annual reports. The authors conducted content analysis of annual reports and collected quantitative data from 125 publicly listed Australian firms. This study found firm size and industry type as determinants for intellectual property disclosure. The study concluded that intellectual capital disclosure was a signaling mechanism for some firms and industries which relied more on intangible assets.

Ferreira, Branco, and Moreira (2012) used costs/benefits theoretical framework to analyze the annual reports of 45 Portuguese listed companies. This framework suggested that companies would disclose more voluntary information when they perceived that the benefit gained from the disclosure exceeded the associated cost of disclosing. The findings indicated that popular disclosures of intellectual capital information among companies were related to business collaborations, management processes, worker profiles, and brand name. The results also indicated significant association between auditor type and company size to intellectual capital disclosure; however, ownership concentration, profitability, and leverage were not found to be significant.

Al-Hamadeen and Suwaidan (2014) evaluated intellectual disclosures for industrial firms in Jordan using content analysis and multiple regression analysis. The disclosure levels of intellectual capital items were relatively high : 59% for these companies. The human capital was the most disclosed intellectual capital category. Ownership concentration and size of the company were found to have the highest explanatory power for intellectual capital disclosures. The authors recommended that policy makers should frame clear guidelines for intellectual capital disclosures.

In the Malaysian context, several studies have been conducted. Foong et al. (2009) examined the extent and nature of Malaysian public listed companies' voluntary intellectual capital disclosure. The top 30 and the bottom 30 companies were selected from the list of top 100 largest public listed companies by market capitalization at the end of 2003. Content analysis on corporate annual reports was used to measure the extent of voluntary intellectual capital disclosure in the annual reports of the selected companies. The study found that generally, public listed companies in Malaysia did not disclose extensive information for intellectual capital and often adopted a narrative description format to describe intellectual capital information. Company size was significantly related to intellectual capital disclosure, while government-linked companies, corporate growth potential, and corporate profitability had no significant relationship.

Taliyang, Latif, and Mustafa (2011) conducted a study to investigate the determinants of intellectual capital level of disclosure among 150 listed Malaysian companies. The researchers performed a content analysis on the

annual reports covering five different industries. The findings suggested that growth, age, size, and director ownership were the determinants of the intellectual capital disclosure.

Rashid, Ibrahim, and Othman (2012) conducted a study to examine the factors that influenced intellectual capital disclosures in the prospectuses of Malaysian initial public offerings (IPOs) by using multiple regression analysis during the years 2004 until 2008 using a sample size of 130 companies listed under Bursa Malaysia industrial products and technology sectors. Listing board, underwriter provider, leverage, age, board independence, and board size were significantly related to the intellectual capital disclosure level in the IPO prospectuses.

Intellectual capital disclosure level in today's Malaysian listed companies may or may not be determined by the variables that were found to be significant in the earlier studies. These studies are bit dated, and the disclosure requirements have evolved in the intervening time. We also plan to examine a larger set of variables than examined in the earlier studies. Additionally, our sample is different from the aforementioned studies.

Hypotheses Development

We developed 12 hypotheses based upon previous studies conducted in the Malaysian and international settings.

(1) Leverage : Jensen and Meckling (1976) posited that agency conflicts are aggravated by the presence of bondholders in a firm's capital structure. Highly leveraged firms have higher agency costs of debt and consequently, incur more monitoring costs. As such, these firms will likely voluntarily disclose more information. Malone, Fries, and Jones (1993) and Hossain, Tan, and Adams (1994) empirically identified leverage as a factor that had a positive association with the extent of voluntary disclosure. Aljifri and Hussainey (2007) reported a significant association of forward-looking information and debt ratio with the level of disclosure. Similarly, Khaled and Hussainey (2007), in a sample of 46 listed companies in Dubai and Abu Dhabi, reported a significant relationship between forward looking information in annual reports and the disclosure level.

A positive and significant relationship between leverage and intellectual capital disclosure was identified by White et al. (2007), Rashid et al. (2012) , García - Meca and Martínez (2005), and Williams (2001). These studies span a decade, and were performed in different countries, indicating a strong support for a positive association between leverage and intellectual capital disclosure. However, corporations that have low leverage may also be motivated to signal the market regarding their favorable prospects. Cerbioni and Parbonetti (2007) and Oliveira et al. (2006) did not find any relationship between high leverage and intellectual capital disclosure. Prior evidence is mixed in this regard, though the preponderance of evidence is towards a relationship. Therefore, the hypothesis is :

➔ **H1 :** There is a positive association between leverage and intellectual capital disclosure.

(2) Profitability : Most researchers found a positive relationship between profitability and the extent of voluntary disclosure (Cerf, 1961; Hossain, 2000 ; Inchausti, 1997 ; Raffournier, 1995 ; Singhvi, 1968; Singhvi & Desai, 1971; Wallace, Naser, & Mora, 1994). Thus, profitable companies will have a higher level of intellectual capital disclosure. Li, Pike, and Haniffa (2008) also suggested that companies might engage in high level of intellectual capital disclosure to signal their long-term growth and profitability. Regardless of industry sector, Bontis, Keow, and Richardson's (2000) study showed that intellectual capital disclosures were substantively and significantly related with business performance in the Malaysian context. This result was also supported by Aksu and Kosedag's (2006) findings that showed a positive association among profitability, transparency, and the disclosure level.

However, the studies of Barako, Hancock, and Izan (2006) and Ferreira et al. (2012) did not find any

association between voluntary corporate disclosure level and profitability. Skinner (1994) suggested that voluntary information disclosure might also increase when a company makes losses. Managers may contain the damage from the negative earnings by aggressively disclosing positive information such as intellectual capital. The results are mixed, but are supportive of a positive relationship. Therefore, the hypothesis is :

➔ **H2 :** There is a positive association between profitability and intellectual capital disclosure.

(3) Growth Rate : Corporations having high growth rates, irrespective of profitability, will have an incentive to disclose intellectual capital, which will help investors in valuing such a company. Akhtaruddin and Hossain (2008) reported that growth companies are likely to disaggregate more information voluntarily through company annual reports. Furthermore, Taliyang et al. (2011) found that growth rate is one of the determining factors for disclosure of intellectual capital. This leads us to propose :

➔ **H3 :** There is a positive association between growth rate and intellectual capital disclosure.

(4) Board Independence : Malaysian stock markets and MCCG (2012) provide many rules and regulations to maintain the independence of boards. Clemente and Labat (2009) ; Akhtaruddin, Hossain, Hossain, and Lee (2009) ; and Uyar, Kilic, and Nizamettin (2013) reported a significant relationship between proportions of independent directors in the boards on the quantity of voluntarily disclosed information. White et al. (2007) found that intellectual capital disclosure level was significantly and also positively related to board independence. However, studies by Rashid et al. (2012) and Hashim and Devi (2008) failed to find a relationship between board independence and voluntary disclosure. Despite the conflicting results from prior studies, we hypothesize that :

➔ **H4 :** There is a positive association between board independence and intellectual capital disclosure.

(5) Audit Committee Independence : Bursa Malaysia listing requirement prescribes the establishment of audit committees by all listed companies in Malaysia. Audit committee members must be non-executive directors, with a majority of them being independent directors. Akhtaruddin et al. (2009) suggested that audit committee quality that includes independent directors is generally effective in ensuring more corporate transparency. Cerbioni and Parbonetti's (2007) study showed that corporate culture was positively associated with the proportion of independent directors in the audit committee. However, Allegrini and Greco (2013) failed to find the correlation between the presence of independent directors in the board committees, which includes audit committee, and the voluntary disclosure level. Additionally, Akhtaruddin and Haron (2010) found that a higher proportion of independent directors in the audit committee as a mediating variable lead to a weak association between board ownership and voluntary disclosure by a company. This leads us to propose the following hypothesis :

➔ **H5 :** There is a positive association between audit committee independence and intellectual capital disclosure.

(6) Company Age : Age of the firm may signify established systems of corporate governance and improved disclosure practices. Owusu-Ansah (1998) reported that company age had a significant positive effect on disclosure and reporting practices in Hong Kong. However, Rashid et al. (2012) argued that more established firms might disclose less strategic information to preserve a competitive advantage. They found that intellectual capital disclosure score was significantly and also negatively affected by company age. Rimmel, Nielsen, and Yosano (2009) also found a significant negative relationship between company age and disclosure level where younger Japanese companies were found to have higher intellectual capital disclosure levels than older Japanese companies. White et al. (2007), Cordazzo (2007), and Bukh et al. (2005) also found that intellectual capital

disclosure level and company age had no significant association among companies in Australia, Italy, and Denmark, respectively. The results are mixed, but point towards a negative relationship. Therefore, the hypothesis is :

➔ **H6 :** There is a negative association between company age and intellectual capital disclosure.

(7) Complexity : Company complexity, such as multiple lines of businesses, may make it difficult for investors to analyze the company. Additional disclosures such as intellectual capital disclosure will benefit investors. Nagar, Nandy, and Wysocki (2003) found that higher number of subsidiaries was one of the significant determinants of earnings disclosure frequency by the managers. Courtis (1978) argued that complexity might have a significant effect on the disclosures. In the context of Malaysia, Haniffa and Cooke (2002) failed to find any relationship between complexity and disclosure. Since the prior evidence is inconclusive, the hypothesis is:

➔ **H7 :** There is an association between firm complexity and intellectual capital disclosure.

(8) Foreign Shareholding : Haniffa and Cooke (2002) reported that voluntary disclosure level was significantly and positively related with foreign ownership. Foreign shareholders might demand more disclosures for monitoring and evaluation purposes. Barako et al. (2006) also reported that foreign shareholdings were positively related with the extent of voluntary corporate disclosures. Based on this discussion, the following hypothesis is developed :

➔ **H8:** There is a positive association between foreign shareholdings and intellectual capital disclosure.

(9) Institutional Shareholding : Apart from foreign shareholders, substantial presence of institutional shareholders may also encourage higher disclosures to reduce information asymmetry (McKinnon & Dalimunthe, 1993). Rashid et al. (2012) also suggested that the problem of information asymmetry could be reduced by disclosure of more intellectual capital information. Bushee and Noe's (2000) study showed a significant and positive relationship between institutional shareholdings and corporate disclosure practices. Barako et al. (2006) also reported that institutional shareholding was positively related to the extent of voluntary corporate disclosure. However, Foong et al. (2009) did not find any relationship between government-linked companies that had a majority of institutional shareholders and the intellectual capital disclosures. This mixed evidence still points to a positive association. Therefore, we propose :

➔ **H9 :** There is a positive association between institutional shareholdings and intellectual capital disclosure.

(10) Company Size : The size of a company is potentially an important explanatory variable for the extent of voluntary disclosure. A number of studies have reported a significant association between intellectual capital disclosure levels and company size (Akhtaruddin & Hossain, 2008 ; Bruggen et al., 2009 ; Cerbioni & Parbonetti, 2007; Cordazzo, 2007 ; Ferreira et al., 2012; Guthrie, Petty, & Ricceri, 2006 ; Oliveira et al., 2006 ; White et al., 2007). However, as suggested by Ahmed and Courtis (1999), small companies might use larger companies' annual reports, which have a high level of voluntary disclosure, as a model to improve disclosure standards. This also allows small companies to compete for annual report awards of excellence sponsored by accountancy professional bodies and financial executives in many countries. Singh and Van Der Zahn's (2007) findings suggested that smaller companies could reduce cost of capital by increasing intellectual disclosure levels. More recent studies conducted by Rashid et al. (2012) and Rimmel et al. (2009) suggested that company size does not explain the voluntary intellectual capital disclosure level in the prospectus. Therefore, the hypothesis is :

➔ **H10 :** There is an association between company size and intellectual capital disclosure.

(11) Industry Type : Bozzolan et al. (2003) suggested that companies operating in the industries having significant uncertainties might demand higher intellectual capital disclosure. Bukh et al. (2005) argued that high technology companies, for example, Biotech and InfoTech, might disclose more intellectual capital information than companies in the traditional manufacturing or retail sector. Rimmel et al. (2009) found that companies that used high technology in their business processes and invested heavily in intellectual capital had higher information disclosure levels than companies in the industries where intellectual capital does not significantly influence value creation. The studies of Rashid et al. (2012) and Bruggen et al. (2009) supported the relationship between industry type and intellectual capital disclosure level. However, García - Meca and Martínez (2005) found no association between them. Therefore, the hypothesis is :

➔ **H11 :** There is a positive association between industry type and intellectual capital disclosure.

(12) Auditor Size : Craswell and Taylor (1992) argued that high quality auditors might provide higher levels of disclosure. This was supported by Ferreira et al. (2012), whose study revealed that auditor type and size did significantly explain the disclosure level of intellectual capital by listed Portuguese companies. On the other hand, Verguawen and Van Alem (2005) suggested that the auditor's overall conservative approach might result in reduced disclosure, given the lack of authoritative guidelines for intellectual capital disclosure. A few prior studies (Oliveira et al., 2006 ; Singh & Van Der Zahn, 2007 ; Singh & Van Der Zahn, 2008) showed that the type of auditor had no relationship with intellectual capital disclosure. The evidence is mixed, though it is supportive of an association. Therefore, the hypothesis is :

➔ **H12 :** There is an association between type of auditor and intellectual capital disclosure.

Research Methodology

(1) Sample : The top 100 listed companies in the Bursa Malaysia, based on market capitalization, for the year ending December 31, 2013 were selected as a sample for this study (see Appendix 1). Market capitalization of these companies was equal to RM 1.33 trillion and was approximately 80% of the total Bursa Malaysia market capitalization of RM 1.67 trillion of all listed companies by the end 2013 (Immanuel, 2014). Furthermore, this sample covers different industries or sectors such as industrial products, consumer products, plantations, construction, property development, technology, banks, and trading, among other companies. We selected the sample companies based on the availability of the annual reports in the stock exchange or online availability. Additionally, firms should have been listed for the entire period of the study.

(2) Data Collection : Data for the sample companies were collected from the annual reports for the year 2013. Annual reports were downloaded from companies' websites or from Bursa Malaysia. Financial and other data on explanatory variables and disclosure items were collected from the annual reports. The ownership data pertaining to institutional ownership and foreign ownership were collected from the statement of "Shareholding Statistics" from each annual report downloaded from Bursa Malaysia. For foreign ownership purposes, we also looked at company names, that is, name that is not *Sendirian Berhad* (Malay equivalent to Incorporated).

(3) Disclosure Index : As suggested by Cerf (1961), we developed a disclosure index. We extracted 20 disclosure items from prior studies and used them in this study. The following method was used to develop the disclosure index :

Figure 1. Intellectual Capital Categories

External Structure	*Internal Structure*	*Human Capital*
Financial relationships	Patent	Employee - know how
Brands	Copyright	Employee - education
Customers	Trademark	Employee - work related knowledge
Customer loyalty	Corporate culture	Employee - work related
Distribution channels	Information system	
Business combinations	Networking system	
Licensing agreements	Management processes	
Franchising agreements		
Favourable contracts		
Management processes		

Table 1A. Description of Dependent, Independent, and Control Variables

Title	Description	Measurement
Dependent variable		
ICDI	Intellectual capital disclosure	Disclosure index based on 20 items.
Explanatory variables		
LOGLEV	Leverage	The natural log of total liabilities over total assets.
LOGROA	Return on asset	The natural log of return on assets as a proxy for profitability.
LOG%GRSALES	Growth of sales	The natural log of growth of sales as a proxy for growth (growth is based on last 2 years average).
%BIND	Independent directors in the board	The percentage of independent non-executive directors in the board.
%ACIND	Independent directors in the audit committee	The percentage of independent members in the audit committee.
AGE	Age of the company	The age of the company from the date of incorporation to the last day of the 2013 financial year.
COMPX	Complexity	The number of subsidiaries of the company.
LOG%INTSH	Institutional shareholding	The natural log of percentage of institutional shareholding over total shareholding of the company.
LOG%FORSH	Foreign shareholding	The natural log of percentage of foreign shareholding over total shareholding of the company.
Control variables		
MKCAP	Market capitalization	A dummy variable equal to 1 if the company market capitalization is equal or larger than the average market capitalization and 0 otherwise as a proxy for size.
INDTY	Industry type	A dummy variable equal to 1 if the company is in high technology industry and 0 otherwise.
AUDSIZE	Auditor size	A dummy variable equal to 1 if the company is audited by Big Four and 0 otherwise.

$$DI = \Sigma^{n}_{i=1} di$$

The *DI* represents the dependent variable in this study and is computed for each company. The construction of the index was based on how the professionals in the field evaluated disclosures - by assigning a score of either 0, or 1, or 2. A zero (0) indicates no disclosure for the item in the annual report, 1 indicates disclosing summarized (only qualitative) information, and 2 indicates disclosing detailed (both quantitative and qualitative) information. Each

of the disclosure items was scored unweighted. Marston and Shrives (1996) indicated that both weighted and unweighted disclosure indexes are likely to give the same results.

The 20 disclosure items based on prior studies (Abeysekera, 2007; Bozzolan et al., 2003 ; Goh & Lim, 2004; Guthrie & Petty, 2000) were grouped within three major categories, specifically, external structure, internal structure, and human capital as shown in the Figure 1.

(i) External Structure : Refers to the relationship with external stakeholders such as customers, financial partners, trading partners such as distribution channels, licensing agreements, and favourable contracts, among others.

(ii) Internal Structure : Refers to intellectual property elements that are protected by law such as patents, copyrights, and trademarks, and infrastructure assets that are created within the company (for example, management processes) or acquired from outside (for example, information systems).

(iii) Human Capital : Refers to human resources of the company, mainly employees.

(4) Regression Model : To study the relationship between intellectual capital disclosure, explanatory variables, and control variables, the following regression model is used :

$$ICDI = \alpha + \beta_1\ LOGLEV + \beta_2\ LOGROA + \beta_3\ \text{LOG\%}GRSALES + \beta_4\ \%BIND + \beta_5\ \%ACIND + \beta_6\ AGE + \beta_7\ COMPX + \beta_8\ \text{LOG\%}INTSH + \beta_9\ \text{LOG\%}FORSH + \beta_{10}\ MKCAP + \beta_{11}\ INDTY + \beta_{12}\ AUDSIZE + \varepsilon$$

The description of the dependent, independent, and control variables is provided in the Table 1A.

Analysis, Results, and Discussion

(1) Descriptive Statistics : The Table 1 presents the descriptive statistics about each intellectual capital disclosure item. This analysis indicates that the mean of intellectual capital disclosure level for the top 100 listed companies is 17.95%, with the maximum and minimum disclosure levels for individual companies being 48.0% and 0%, respectively. Astro Malaysia Holdings Berhad has the highest intellectual capital disclosure level (Disclosure index = 0.48), while Hap Seng Consolidated Berhad, Oriental Holdings Berhad, and Tan Chong Motor Holdings Berhad did not disclose intellectual capital (Disclosure index = 0). The level of intellectual capital disclosure from this study is 17.95% that is higher by 3.59% as reported by Taliyang et al. (2011). This indicates that the awareness of intellectual capital disclosure in Malaysia is increasing, but is still low as compared to other countries such as Portugal, where 43% mean of intellectual capital disclosure level was reported (Ferreira et al., 2012).

Additionally, 70% of the companies did not disclose information on the individual intellectual capital items ; 7% of the companies disclosed information at a detailed level ; while 23% of the companies disclosed information at a summary level. These findings indicate that many Malaysian companies require guidance for intellectual capital disclosure, even though the awareness of reporting has increased. Guthrie and Petty (2000) drew a similar conclusion regarding the low intellectual capital disclosure level in Australia, lack of consistent framework and regulatory guidelines in reporting intellectual capital.

As can be inferred from the Table 2, the mean disclosure levels are 44.5%, 37.9 %, and 13% for external structure, internal structure, and human capital, respectively. Intellectual capital disclosures related to external structure are the highest, followed by internal structure, and human capital scores the lowest, which is similar to the findings reported by Bozzolon et al. (2003) and Goh and Lim (2004). The results also support the findings of Abeysekera (2007) and Ferreira et al., (2012) who reported that intellectual capital disclosures related to the external structure were the highest.

The Table 3 shows that the top five intellectual capital items are - favourable contracts, corporate culture,

Table 1. Intellectual Capital Disclosure Index Descriptive Statistics

	Detail (Score 2)	Summary (Score 1)	No information (Score 0)	Total	Mean	Minimum	Maximum
Disclosure Index				100	.1795	0.00	.48
External Structure							
Financial relationships	1	37	62	100	0.390	0.0	2.0
Brands	8	43	49	100	0.590	0.0	2.0
Customers	11	32	57	100	0.540	0.0	2.0
Customer loyalty	4	3	93	100	0.110	0.0	2.0
Distribution channels	1	47	52	100	0.490	0.0	2.0
Business combinations	10	37	53	100	0.570	0.0	2.0
Licensing agreements	19	6	75	100	0.440	0.0	2.0
Franchising agreements	0	3	97	100	0.030	0.0	1.0
Favourable contracts	15	55	30	100	0.850	0.0	2.0
Internal Structure							
Patent	8	0	92	100	0.160	0.0	2.0
Copyright	9	0	91	100	0.180	0.0	2.0
Trademark	9	2	89	100	0.200	0.0	2.0
Corporate culture	0	62	38	100	0.620	0.0	1.0
Information system	32	15	53	100	0.790	0.0	2.0
Networking system	2	23	75	100	0.270	0.0	2.0
Management processes	0	43	57	100	0.430	0.0	1.0
Human Capital							
Employee - know how	0	0	100	100	0.000	0.0	0.0
Employee - education	3	32	65	100	0.380	0.0	2.0
Employee - work related knowledge	0	8	92	100	0.080	0.0	1.0
Employee - work related competencies	0	6	94	100	0.060	0.0	1.0
Average	**7**	**23**	**70**				

Table 2. Intellectual Capital Disclosure Item by Categories

	Average	Minimum	Maximum
External Structure	0.445	0	2
Internal Structure	0.379	0	2
Human Capital	0.130	0	2

brands, distribution channels, and business combinations. The highest intellectual capital item category disclosed by most companies in their annual reports is "Favourable contracts" under the external structure category. This item was disclosed by 70% of the companies. This (favourable) contract was generally with a major market player or the government, and strongly hinted at stable future earnings and growth (Table 3).

'Corporate culture' under internal structure was disclosed by 62% of the companies. 'Corporate culture' refers to core values, attitudes, standards and beliefs of a corporation. This information can be used to predict company future prospects and strategies. The next disclosed items were the brands of the corporation, distribution channels, and business combinations. Brands and distribution channels indicate the marketing and logistical prowess of a

Table 3. Item via Percentage Disclosure

Disclosure items	% Disclosure by Rank
Favourable contracts	70
Corporate culture	62
Brands	51
Distribution channels	48
Business combinations	47
Information system	47
Management processes	43
Customers	43
Financial relationships	38
Employee - education	35
Licensing agreements	25
Networking system	25
Trademark	11
Copyright	9
Employee - work related knowledge	8
Patent	8
Customers' loyalty	7
Employee - work related competencies	6
Franchising agreements	3

corporation. Business combinations show the positioning of a business for the future via mergers and acquisitions. These disclosures are fairly standard and easy to capture.

Human capital category is the least disclosed ; however, "employee education" was disclosed by 35% of the corporations. However, "employee know-how" was not disclosed by any corporation perhaps due to the methodological and measurement issues. This is consistent with findings of Taliyang et al. (2011). However, Al-Hamadeen and Suwaidan (2014) found that industrial companies in Jordan disclosed "human capital" most extensively. Additionally, they also reported that on an average, Jordanian companies reported 59% of the hypothesized intellectual capital disclosure items. Hence, comparatively, Malaysian companies have not made a significant progress in measuring "human capital" or are probably reluctant to disclose this information.

The Table 4 presents the descriptive statistics about the independent variables. The mean value for LOGLEV is 34.6%, with an absolute value of 49% of total liabilities over total assets, with a maximum of 100% and a minimum of 5.39 %. Similarly, the mean for LOGROA is -1.254 or an absolute value of 8.46% return on total assets, with the highest return of 60.06%, and the lowest return of negative (-) 5.35%. Meanwhile, the mean LOG%GRSALES of the companies is 91.5%, or an absolute value of 13% growth of sales for the past 2 years, with the highest growth of sales of 170%, and the lowest negative growth of 20%. Both LOGRAO and LOG%GRSALES indicate that there is a mix of profit making and loss making companies in our sample.

In terms of corporate governance factors, namely % BIND and %ACIND, a majority of the companies met the MCCG 2012 requirements. The mean for %BIND is 47% with a maximum board independence level measured at 75% and a minimum of 25%. This study shows that the average board independence level was considered high since 93% (93 companies) had one-third of independent directors on the board, while the mean value for %ACIND is 83.8%, with a maximum audit committee independence level measured at 100% and minimum of

Table 4. Descriptive Statistics of Independent Variables

	Mean	Standard Deviation	*N*
LOGLEV	-0.346	0.257	74
LOGROA	-1.254	0.400	74
LOG%GRSALES	-0.915	0.362	74
%BIND	0.472	0.119	74
%ACIND	0.838	0.149	74
AGE	39.946	31.347	74
COMPX	50.500	70.941	74
LOG%FORSH	-1.139	0.447	74
LOG%INTSH	-1.025	0.464	74
MKCAP	0.324	0.471	74
INDTY	0.473	0.503	74
AUDSIZE	0.919	0.275	74

65%. This study shows that all companies had fulfilled the MCCG 2012 requirement of having a majority of audit committee members being independent directors. The mean AGE of companies is 39 years, with the oldest being 213 years old, and the youngest being 1 year old. The mean for COMPX of the companies is 51 subsidiaries, which indicates a high level of complexity.

The ownership structure of the sample companies is indicated by LOG%FORSH and LOG%INTSH. The mean value for LOG%FORSH is 113.9% or an absolute value of 11.72% of foreign shareholding over total shareholding, with the highest of 58.02% and the lowest of 0.07%. Simultaneously, the mean for LOG%INTSH is 102.5%, or an absolute value of 13% of institutional shareholding over total shareholding, with the highest being 69% and the lowest being 0%. Thus, the percentage of foreign shareholding is generally higher than the percentage of institutional shareholding in the sample companies.

In case of the control variables, the mean MKCAP of the companies is 32%, with an absolute value of RM13, 383, 687, 133. A total of 29 companies' market capitalization is higher than the average. The highest market capitalization is RM88, 455, 349, 580, and the lowest is RM 1, 165, 184, 720, respectively.

Furthermore, non-Big Four audit firms audited only seven companies from the sample ; whereas, Big Four audit firms audited 93 companies. Most of the companies are considered large companies and require extensive resources of Big Four audit firms for auditing. Besides that, the mean INDTY of the companies is 47% or an absolute value of 38 companies that are in high technology industry and 62 companies that are in low technology industry.

(2) Correlation : The Table 5 reveals the interrelationships among all the variables examined by the Pearson correlation matrix. The results show that multicollinearity is not a problem as correlation values are lower than 0.8 (Hair et al., 2010). Furthermore, the highest variance inflation factor (VIF) score calculated is 1.831, and none of the VIF exceeds 10, confirming no multicollinearity problem in the regression model (Hair, Black, Babin, & Anderson, 2010).

(3) Statistical Analysis and Discussion : The Table 6 shows the multiple regression results where the intellectual capital disclosure index is the dependent variable. The Table 7 shows results for each hypothesis for the sake of clarity. A total of three hypotheses are supported, and we reject nine hypotheses. The results indicate that the factors having the most significant effect on the intellectual capital disclosure level are leverage (financial risk),

Table 5. Pearson Correlation Matrix

	ICDI	LOG LEV	LOG ROA	LOG% GRSALES	%BIND IND	%AC	AGE	COMPX	LOG% FORSH	LOG% INTSH	MK CAP	IND TY	AUD SIZE
ICDI	1.000												
LOGLEV	0.530	1.000											
LOGROA	-0.243	-0.470	1.000										
LOG%GR													
SALES	-0.046	-0.070	-0.231	1.000									
%BIND	0.040	0.064	-0.028	-0.028	1.000								
%ACIND	-0.049	0.037	0.012	-0.115	0.243	1.000							
AGE	0.154	0.181	0.011	-0.063	0.178	-0.096	1.000						
COMPX	0.228	0.091	-0.142	-0.065	-0.145	0.177	0.213	1.000					
LOG%FORSH	0.060	-0.002	-0.057	0.005	-0.104	0.002	-0.066	0.176	1.000				
LOG%INTSH	0.230	0.334	-0.296	-0.028	0.207	-0.087	0.150	0.128	-0.235	1.000			
MKCAP	0.532	0.264	-0.106	-0.081	-0.010	-0.218	0.308	0.225	0.051	0.109	1.000		
INDTY	0.516	0.467	-0.354	-0.091	0.076	-0.216	0.114	0.046	0.087	0.217	0.327	1.000	
AUDSIZE	0.132	0.268	-0.085	-0.119	0.060	-0.103	0.031	-0.134	-0.062	-0.035	-0.006	0.182	1.000

market capitalization as a proxy for size, and industry type.

Leverage and intellectual capital disclosure score (H1) are significantly and positively associated. This result is consistent with the results obtained by previous studies such as Rashid et al. (2012), White et al. (2007), García - Meca and Martínez (2005), and Williams (2001). Fixed interest security holders might protect their interests by monitoring devices such as debt covenant, which requires a company to disclose more information (Ahmed & Courtis, 1999). In addition, highly leveraged companies will tend to disclose more information in order to

Table 6. Multiple Regression Results

	Unstandardized Coefficients		Standardized Coefficients	*t*	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	0.191	0.105		1.817	0.074					
LOGLEV	0.135	0.050	0.324	2.700	0.009***	0.530	0.327	0.239	0.546	1.831
LOGROA	0.028	0.030	0.106	0.947	0.347	-0.243	0.120	0.084	0.631	1.585
LOG%GRSALES	0.022	0.029	0.075	0.776	0.441	-0.046	0.099	0.069	0.846	1.182
%BIND	0.009	0.092	0.009	0.093	0.926	0.040	0.012	0.008	0.761	1.314
%ACIND	0.048	0.077	0.067	0.624	0.535	-0.049	0.080	0.055	0.686	1.457
AGE	0.000	0.000	-0.080	-0.801	0.426	0.154	-0.102	-0.071	0.788	1.269
COMPX	0.000	0.000	0.124	1.194	0.237	0.228	0.151	0.106	0.730	1.370
LOG%FORSH	0.003	0.023	0.013	0.138	0.891	0.060	0.018	0.012	0.863	1.159
LOG%INTSH	0.013	0.025	0.058	0.547	0.587	0.230	0.070	0.048	0.696	1.436
MKCAP	0.086	0.024	0.376	3.647	0.001***	0.532	0.423	0.323	0.738	1.355
INDTY	0.060	0.024	0.282	2.551	0.013**	0.516	0.311	0.226	0.645	1.550
AUDSIZE	0.016	0.038	0.042	0.432	0.667	0.132	0.055	0.038	0.839	1.191

Note : ***, ** Represent statistical significance at the 1% and 5% levels, respectively.

Table 7. Results for the Hypotheses

H1: There is a positive association between leverage and intellectual capital disclosure.	**Accepted**
H2: There is a positive association between profitability and intellectual capital disclosure.	Rejected
H3: There is a positive association between growth rate and intellectual capital disclosure.	Rejected
H4: There is a positive association between board independence and intellectual capital disclosure.	Rejected
H5: There is a positive association between audit committee independence and intellectual capital disclosure.	Rejected
H6: There is a negative association between company age and intellectual capital disclosure.	Rejected
H7: There is an association between firm complexity and intellectual capital disclosure.	Rejected
H8: There is a positive association between foreign shareholdings and intellectual capital disclosure.	Rejected
H9: There is a positive association between institutional shareholdings and intellectual capital disclosure.	Rejected
H10: There is an association between company size and intellectual capital disclosure.	**Accepted**
H11: There is a positive association between industry type and intellectual capital disclosure.	**Accepted**
H12: There is an association between type of auditor and intellectual capital disclosure.	Rejected

Table 8. Comparison of Significant Variables for Studies Done in the Malaysian Context

	Foong et al. (2009)	Taliyang et al. (2011)	Rashid et al. (2012)	This study
Leverage				**S**
Profitability				
Growth rate		**S**	**S**	
Board Independence		**S**		
Audit Committee Independence				
Company Age		**S**	**S**	
Firm Complexity				
Foreign Shareholding				
Institutional Shareholding				
Company Size	**S**	**S**		**S**
Industry Type				**S**
Auditor Type				
Government-linked Companies				
Listing Board			**S**	
Underwriter Provider			**S**	
Board Size			**S**	

Note: S signifies significant variable in the study.

decrease investor uncertainty about a company's ability to pay back the debts and maintain or decrease their present cost of capital (Ahmed & Courtis, 1999).

Since the sample consists of the top 100 companies based on market capitalization, the data were segregated into small and large company sets. Company market capitalization that falls below the average was considered a small company, while company market capitalization that was equal to or above average was considered to be a large company. The results suggest that company size (H10) is the most significant explanatory variable. Consistent with the results obtained by previous studies by Foong et al., (2009), Li et al., (2008), Guthrie et al., (2006), and García - Meca and Martínez (2005), size has a significant and positive relationship with intellectual capital disclosure.

Besides that, the independent variable "industry type" (H11) is classified into high technology industries and low technology industries. The results indicate that the intellectual disclosure level and type of industry are significantly related, as suggested by Rimmel et al., (2009), Bruggen et al., (2009), and Bozzolan et al. (2003). In the Malaysian context, a significant and positive relationship between leverage and intellectual capital disclosure in industrial products and technology companies was found by Rashid et al. (2012). In addition, Bukh et al. (2005) found that high-technology industry companies provide almost double the amount of information as compared to low technology industry companies.

Return on total assets and growth in sales of a company did not show a significant relationship with the intellectual capital disclosure level (H2 and H3). The results obtained by Ferreira et al. (2012) and Barako et al. (2006) did not find a relationship between profitability and disclosure level. Companies with high financial performance might disclose less intellectual capital information, as managers might perceive that good financial performance is sufficient to gain investor confidence. On the other hand, companies with poor performance might disclose more information to sustain investor confidence. However, loss-making companies might not provide more disclosures if these do not help them make a better case for their companies. Such a conflicting reasoning may explain this result. In addition, board independence and audit committee independence did not show a significant association with the intellectual capital disclosure level (H4 and H5). This study supports the findings of Rashid et al., (2012) and Hashim and Devi (2008), who found no significant association between intellectual capital disclosure level and board independence.

Similar to the results obtained by White et al. (2007), Cordazzo (2007), and Bukh et al., (2005), this study finds no significant association between intellectual capital disclosure level and company age (H6). Rimmel et al. (2009) also found age to be insignificant. Apart from age, the results also failed to find any association between complexity and the intellectual capital disclosure level (H7). Perhaps, as suggested by Vergauwen and Van Alem (2005), even though complex businesses are harder to analyze, many companies will refrain from disclosing too much information of strategic importance. Additionally, results of the study show no association between foreign and institutional shareholding with the intellectual capital disclosure level (H8 and H9). Finally, the results also show no association between auditor size and intellectual capital disclosure (H12), perhaps because 92% of the sample companies used Big Four as their auditors.

The Table 8 shows the comparison of the intellectual capital disclosure studies in the Malaysian context. Company size is the only variable that is significant in all the studies. Taliyang et al. (2011) and Rashid et al. (2012) found growth rate and company age to be significant, but those are not significant in this study. Taliyang et al. (2011) found board independence to be significant, but Rashid et al. (2012) and our study did not find this variable significant. The Table 8 is probably indicative of the rapidly evolving nature of intellectual capital disclosures in Malaysia.

The Table 9 and Table 10 present R^2, F - ratio, and the regression model, respectively. The R^2 suggests that approximately 52.1% of the variation in the intellectual capital disclosure index can be explained by the independent variables that are included in the regression model. The F-value of the model is significant at the 0.01 level.

Conclusion and Implications

In today's knowledge-based economy, intellectual capital information supplements traditional financial information to estimate and evaluate a company's present and future value. Successful management of intellectual capital, which can only be partially analysed via disclosures in the annual report, is increasingly vital to gain a competitive advantage. This study investigates the intellectual capital disclosure levels in the annual reports in Malaysia. The intellectual capital disclosures regarding the external structure are the highest, followed by the internal structure, and then the human capital. The intellectual capital disclosure item, 'favourable contract' scores

Table 9. Model Summary

R	*R* Square	Adjusted *R* Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	*F* Change	*df1*	*df2*	Sig. *F* Change
0.722[a]	0.521	0.426	0.081	0.521	5.521	12	61	0.000

Table 10. ANOVA

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Regression	0.438	12	0.037	5.521	0.000
Residual	0.404	61	0.007		
Total	0.842	703			

the highest, followed by 'corporate culture,' and no disclosure is found for 'employee know-how'. Such a low level of human capital disclosure points to the problems in measurement and reporting, and perhaps, also reveals a disturbing possibility that companies were putting less effort in developing human capital.

The intellectual capital disclosure level has increased compared to the levels observed by prior studies in Malaysia, which suggests that companies have started paying more attention to intellectual capital. However, the results from this study also indicate a relatively low disclosure level as compared to prior studies conducted in other countries. Therefore, the Malaysian stakeholders might not be receiving comprehensive information regarding intellectual capital disclosures.

In addition, valuable insights on all 12 potential determinants influencing the intellectual capital information disclosure are provided by this study. The results provide evidence that company size, leverage, and industry type significantly affect the intellectual capital disclosure level among the annual reports in top 100 companies in Malaysia. The results also indicate that large companies in high technology industries (that mainly rely on intellectual capital for value creation and competitive advantage) tend to provide more extensive intellectual capital disclosure to meet investors' or stakeholders' expectations of greater transparency. Higher levels of intellectual capital disclosure reduce information asymmetry between the management and external stakeholders, which may also lower their cost of capital. On the other hand, intellectual capital disclosure level was found to have no significant relationship with return on total assets, board independence, audit committee independence, company age, complexity, foreign shareholding, institutional shareholding, and auditor size.

The policy makers and regulators may find these results useful in designating areas where intellectual capital disclosures can be improved. Lower levels of intellectual capital disclosure may indicate a lack of specific guidelines or may require an additional regulatory push. Increased intellectual capital disclosure levels can enhance stakeholders' resource allocation and create a more transparent corporate reporting. Consistent with other advanced markets, regulatory authorities such as Malaysian Institute of Accountants, Bursa Malaysia, Companies Commission of Malaysia, and others should consider better guidelines and/or a comprehensive framework for intellectual capital reporting by public listed companies. Also, the results of the present study should be interpreted in light of its limitations.

Limitations of the Study and Scope for Future Research

This study has the following limitations : Sample size was restricted to one-year data from 100 companies. Additionally, the results cannot be generalized for other countries. Besides that, the 20 intellectual capital disclosure items that were used to analyze annual reports may not suggest a complete picture of Malaysian corporate practices regarding intellectual capital disclosure. Country-specific studies in the intellectual capital

disclosure could benefit from a larger sample. For example, including all companies in Bursa Malaysia may either reinforce the conclusions or lead to new results. Additionally, longitudinal studies that map disclosures for a class of companies, for example, industry, may highlight trends in the individual company/industry or patterns across all listed companies, though there are formidable methodological challenges. The standardized frameworks for the intellectual capital disclosure are fragmented and cause problems in comparing studies across different countries. The corporations do need an authoritative guidance in this area. Intellectual capital disclosures are increasingly becoming part of the integrated reporting that deals with value-creation (Abhayawansa, 2014). The relative contribution of intellectual capital disclosures to natural, financial, and/or social capital might be another innovative area of research.

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APPENDIX 1

List of Top 100 Listed Companies in the Bursa Malaysia, Based on Market Capitalization, for the Year Ending December 31, 2013

	Name of company
1	AEON CO.(M) BERHAD
2	AFFIN HOLDINGS BERHAD
3	AIRASIA BERHAD
4	ALLIANCE FINANCIAL GROUP BERHAD
5	AMMB HOLDINGS BERHAD
6	ASTRO MALAYSIA HOLDINGS BERHAD
7	AXIATA GROUP BERHAD
8	BATU KAWAN BERHAD
9	BERJAYA CORPORATION BERHAD
10	BERJAYA LAND BERHAD
11	BERJAYA SPORTS TOTO BERHAD
12	BIMB HOLDINGS BERHAD
13	BINTULU PORT HOLDINGS BERHAD
14	BOUSTEAD HOLDINGS BERHAD
15	BRITISH AMERICAN TOBACCO (MALAYSIA) BERHAD
16	BUMI ARMADA BERHAD
17	BURSA MALAYSIA BERHAD
18	CAHYA MATA SARAWAK BHD
19	CAPITAMALLS MALAYSIA TRUST
20	CARLSBERG BREWERY MALAYSIA BERHAD
21	CIMB GROUP HOLDINGS BERHAD
22	DAYANG ENTERPRISE HOLDINGS BERHAD
23	DIALOG GROUP BERHAD
24	DIGI.COM BERHAD
25	DRB-HICOM BERHAD
26	DUTCH LADY MILK BERHAD
27	FELDA GLOBAL VENTURES HOLDINGS BERHAD
28	FRASER & NEAVE HOLDINGS BERHAD
29	GAMUDA BERHAD
30	GAS MALAYSIA BERHAD
31	GENTING BERHAD
32	GENTING MALAYSIA BERHAD
33	GENTING PLANTATIONS BERHAD
34	GUINNESS ANCHOR BERHAD
35	HAP SENG CONSOLIDATED BERHAD
36	HARTALEGA HOLDINGS BERHAD
37	HONG LEONG BANK BERHAD
38	HONG LEONG CAPITAL BERHAD
39	HONG LEONG FINANCIAL GROUP BERHAD
40	IGB CORPORATION BERHAD
41	IGB REAL ESTATE INVESTMENT TRUST
42	IHH HEALTHCARE BERHAD
43	IJM CORPORATION BERHAD
44	IJM LAND BERHAD
45	IJM PLANTATIONS BERHAD
46	IOI CORPORATION BERHAD
47	KECK SENG (MALAYSIA) BERHAD
48	KLCC PROPERTY HOLDINGS BERHAD
49	KOSSAN RUBBER INDUATRIES BERHAD
50	KPJ HEALTHCARE BERHAD
51	KUALA LUMPUR KEPONG BERHAD
52	KULIM (MALAYSIA) BERHAD
53	LAFARGE MALAYSIA BERHAD
54	LPI CAPITAL BERHAD
55	MAGNUM BERHAD
56	MAH SING GROUP BERHAD
57	MALAYAN BANKING BERHAD
58	MALAYSIA AIRPORTS HOLDINGS BERHAD
59	MALAYSIA BUILDING SOCIETY BERHAD
60	MALAYSIA MARINE AND HEAVY ENGINEERING HOLDINGS BERHAD
61	MALAYSIAN AIRLINE SYSTEM BERHAD
62	MAXIS BERHAD
63	MEDIA PRIMA BERHAD
64	MISC BERHAD
65	MMC CORPORATION BERHAD
66	MSM MALAYSIA HOLDINGS BERHAD
67	NESTLE (MALAYSIA) BERHAD
68	ORIENTAL HOLDINGS BERHAD
69	PARKSON HOLDINGS BERHAD
70	PAVILION REAL ESTATE INVESTMENT TRUST
71	PETRONAS CHEMICALS GROUP BERHAD
72	PETRONAS DAGANGAN BERHAD
73	PETRONAS GAS BERHAD
74	POS MALAYSIA BERHAD
75	PPB GROUP BERHAD
76	PUBLIC BANK BERHAD
77	QL RESOURCES BERHAD
78	RHB CAPITAL BERHAD
79	SAPURAKENCANA PETROLEUM BERHAD
80	SARAWAK OIL PALMS BERHAD
81	SHANGRI-LA HOTELS (MALAYSIA) BERHAD
82	SIME DARBY BERHAD
83	SP SETIA BERHAD
84	SUNWAY BERHAD
85	SUNWAY REAL ESTATE INVESTMENT TRUST
86	TAN CHONG MOTOR HOLDINGS BERHAD
87	TELEKOM MALAYSIA BERHAD
88	TENAGA NASIONAL BERHAD

89	TOP GLOVE CORPORATION BERHAD
90	TSH RESOURCES BERHAD
91	UEM SUNRISE BERHAD
92	UMW HOLDINGS BERHAD
93	UMW OIL & GAS CORPORATION BERHAD
94	UNITED PLANTATIONS BERHAD
95	UOA DEVELOPMENT BERHAD
96	WCT HOLDINGS BERHAD
97	WESTPORTS HOLDINGS BERHAD
98	YTL CORPORATION BERHAD
99	YTL POWER INTERNATIONAL BERHAD
100	ZHULIAN BERHAD