



Intangible assets valuation in the Malaysian capital market

Intangible assets
valuation

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Abstract

Purpose – This study examines the intangible assets value of the Malaysian market. It measures the relationship between intangible assets and corporate market value of Malaysian firms and whether they are consistent with findings in other advanced markets.

Design/methodology/approach – Firstly, the development of intangible assets of Malaysian companies over 2000 to 2006 were measured statistically using Landsman's balance sheet identity model. Then, cross-sectional multi-regression procedure was used to ascertain the relationship between intangible assets and financial performance.

Findings – The findings reveal that the Malaysian market developed intangible assets at a rather slow pace, with significant development from year 2004 onwards. It also reveals that the book value of net assets (BVNA) are still dominant in Malaysian corporate valuation but this trend is declining as greater interest has now been developed in employing intangible assets and earnings as important variables. Furthermore, the results indicate that there is a positive trend in intangible assets development in Malaysia, consistent with those of advanced markets such as the US, Europe and Australia. However, the Malaysian market lags by about 20 years as compared to the more advanced ones.

Research limitations/implications – The limitations of this paper are as follows: the time frame for this study was seven years and it looked at the post-financial crisis period. A longer time frame may be desirable covering both pre- and post-crisis periods. Secondly, this study did not look into intangible assets at the micro-level perspective. Unless solid definition, classification, measurement and valuation of intangible assets have been ascertained, it is not worth dwelling on individual assets, such as brand, research and development (R&D), and human capital.

Originality/value – The main contribution of this study is that it provides empirical evidence that intangible assets or intellectual assets are strategic assets that require close attention in line with development of the knowledge-based economy.

Keywords Intangible assets, Intellectual capital, Assets valuation, Malaysia

Paper type Research paper



Introduction

The knowledge-based economy has transformed the manner companies are valued. Empirical studies on intangible assets (IA) in the advanced markets have indicated

that they are important strategic assets (Hall, 1992; Nakamura, 2003). The significant gap between corporate market value and accounting book value has invited wide research on the unexplained value or hidden reserve ignored by current financial reporting standards (FRS) and accounting professionals (Amir *et al.*, 2003; Ballow *et al.*, 2004; Daum, 2003; Edvinson and Malone, 1997; Kane and Unal, 1990; Leadbetter, 1999; Lev, 2001; Nakamura, 2003; Sullivan and Sullivan, 2000).

In the 1980s, the US market was dominated by tangible assets which comprised about 80 per cent of firms' market value. As the knowledge economy gained dominance, the value of tangible assets shrank substantially and intangible assets became increasingly important, reflecting 80 per cent of market value by the year 2000 (Lev, 2001; Sullivan and Sullivan, 2000). A UK study indicated that intangible assets represented 60 per cent of market value and most of this value related to the brand or portfolio of brands owned by the company (PricewaterhouseCoopers, 2004). Empirical evidence showed that brand was value relevant and contributed positively to a firm's performance (Aaker and Jacobson, 2001; Barth *et al.*, 1998; Kallapur and Kwan, 2004; Madden *et al.*, 2005; Mizik and Jacobsen, 2005; Pahud de Mortanges and Riel, 2003; Verbeeten and Vijn, 2006).

Currently, there are few studies on intangible assets in Malaysia. These studies do not address the extent to which intangible assets form a significant component of corporate market value (Bontis *et al.*, 2000; Goh and Lim, 2004; Muhd Kamil *et al.*, 2003; Seetharam *et al.*, 2002), but instead either looked at accounting and disclosure issues or value relevance of recorded intangible assets, specifically, goodwill. There was no focus on intangible assets within the context of unexplained value or hidden reserve. Thus, this provides an opportunity to study overall intangible assets relationship with corporate market value in Malaysia.

Objectives of the study

The subject of intangible assets has invited some research in Malaysia specifically in the area of intellectual capital accounting and disclosure (Seetharam *et al.*, 2002; Goh and Lim, 2004), market value relevance of goodwill (Muhd Kamil *et al.*, 2003), components of intellectual capital (Bontis *et al.*, 2000), financing of intangibles (Suresh *et al.*, 2007) and the value relevance of research and development (Kamarun *et al.*, 2006). Thus far, no study has examined the development of intangible assets as "unexplained value" or "hidden reserve" and the extent to which they contribute to the corporate market value of Malaysian firms. Three key objectives of this study are:

- to investigate whether Malaysian companies develop intangible assets;
- to ascertain the pattern of intangible assets in Malaysian capital market; and
- to study the relationship between intangible assets and financial performance.

Malaysian economy

For the most part of the 1990s, the Malaysian economy grew rapidly with its highest GDP growth being 10 per cent in 1996. When the Asian financial crisis hit the country in 1997, real economic growth contracted significantly, reaching its lowest point of -7.5 per cent in 1998 (Bank Negara Malaysia, 2002). Likewise, the equity market contracted from a total market capitalisation of US\$319 billion in 1996 to US\$97 billion in 1997. Malaysia finally recovered from the crisis in 1999, driven by strong domestic demand and improved

external demand. To further facilitate economic growth, various initiatives were introduced to strengthen the banking system and the capital market. There was also emphasis on investment in human capital to develop the workforce and enable transition towards higher value-added activities as well as to support the development of new growth industries. To remain competitive, Malaysia needed to develop its intellectual capital which was deemed to be an important source of future benefits.

The next section presents the literature review followed by development of the model with research questions formulated. It then proceeds with the empirical results and analysis. Finally, the discussion, conclusion and direction for future research are given.

Literature review

Financial Reporting Standard – FRS 138 (MASB, 2005) defines intangible asset as an identifiable non-monetary asset without physical substance – IAS 38.12 (Ng, 1999). It is an asset controlled by a firm as a result of past events and from which future economic benefits are expected. However, internally developed intangibles are required to pass a basic recognition test before they are fit to be recorded in a firm's balance sheet. The test includes their ability to be measured and identified (Ng, 1999).

Although the FRS 138 definition has been commonly accepted and practically implemented in statutory reporting worldwide, it is confined within a limited scope of reported intangible assets (for example, purchased goodwill, patents, and franchises). Intangible assets are also intellectual capital, comprising human capital and knowledge-based intangible processes that are important sources of future benefits (Miller and Whiting, 2005). There seems to be general reluctance on the part of firms to disclose too much information on intellectual capital as it may affect their competitive advantage. As a result, the level of voluntary intellectual capital disclosure (ICD) by firms is low worldwide. Studies on voluntary ICD in Malaysia find that such practice is generally not extensive among public-listed companies, preferring instead to adopt a narrative description of their intellectual capital attributes in the annual reports (Foong *et al.*, 2009; Goh and Lim, 2004).

The term “intangible assets”, in this study, is distinct from reported intangibles in the balance sheet, familiarly known as “goodwill”. This paper refers to intangible assets as the difference between corporate market value (CMV) and accounting book value (ABV). This difference is difficult to explain by which current financial reporting standard fails to report and understand (Lev, 2001). Following stringent rules in accounting principles, valuable intangible assets (for example, intellectual capital, brand name, research and development) failed to be reported in the balance sheet. This has invited criticisms that current financial reporting is unreliable and outdated (Ghosh and Wu, 2007; Lev, 2001). Ballow *et al.* (2004) argue that current accounting practices, which do not allow intangible assets to be recognised, are the prime reason accounting balance sheets do not portray the true worth of companies. Pursuing the same argument, Foster *et al.* (2003) mention that the need to report intangible assets in the balance sheet is to provide the true value of a company's assets. Consequently, this paper addresses intangible assets as the gap between tangible assets (measured as book value of net assets (BVNA)) and corporate market value (CMV), which is similar to the terms used by different scholars such as unexplained value (Lev, 2004), hidden value (Edvinson and Malone, 1997), hidden reserve (Kane and Unal, 1990) or intellectual capital (Ross and Ross, 1997). This perspective differs from that of Pulic (2000) who developed a method to measure

intellectual capital via the value creation efficiency of a firm using data obtainable from the financial statements, without considering market-based data.

The present study investigates the relationship between intangible assets and corporate market value. It is important to note that advanced markets such as the US and the UK have reported the increasingly important role of intangible assets (specifically goodwill) in determining the market value of a firm (Lev and Daum, 2004; PricewaterhouseCoopers, 2004). Despite empirical support on value relevance of reported intangible assets, unreported intangible assets (unexplained value) have not been given much attention, specifically in Malaysia. Following this fact, the first hypothesis is formulated:

H1. Intangible assets value is positively associated with the corporate market value of Malaysian companies.

In the US, there seems to be a consistent upward trend in recognising the value of intangible assets. According to Lev (2001), the proportion of accounting book value to market value for S&P 500 firms from 1980 to 2000 has been declining over time and replaced by unexplained value or intangible assets. By the year 2000, the proportion of unexplained value was almost 80 per cent of corporate market value. With the advent of the knowledge-based economy, Malaysian companies are also expected to develop their intellectual capital base and show similar upward trend of intangible assets formation. Thus, the second hypothesis is:

H2. Intangible assets value has been increasing overtime in the Malaysian capital market.

Overview of the balance sheet identity model

The balance sheet identity model has been used extensively in the finance and accounting literature. It uses accounting equation, that is, balance sheet items in the regression. Acknowledged as an important valuation model, it has been used in many studies including research in banking, goodwill, net current assets, pension asset, research and development, and brand asset (Aboody and Lev, 1998; Jennings *et al.*, 1996; Kallapur and Kwan, 2004; Kane and Unal, 1990; Landsman, 1986, McCarthy and Schneider, 1995; Muhd Kamil, 1999; Muhd Kamil *et al.*, 2003; Ohlson, 1995; and Zaleha, 2007).

The balance sheet identity model shown below, states that market value of equity (MVE) can be decomposed into net non-pension assets (NETNPA), and net pension assets (NETPA) (Landsman, 1986):

$$MVE = \alpha_0 + \alpha_1 NETNPA_t + \alpha_2 NETPA_t + \epsilon_t$$

Later, Kane and Unal (1990) introduced the statistical market valuation accounting model (SMVAM) to explain intangible assets of US banking firms, which they refer to as "hidden assets". They identified two sources of hidden capital: misvaluations of on-balance-sheet items and neglect of off-balance-sheet sources of value. Their model explains market value of equity in terms of book value of net assets, that is:

$$MV = U + kBV + \epsilon$$

where U represents 'hidden assets', BV is book value of assets less book value of liabilities, k is valuation ratio, and ϵ , random error term.

These two models of Landsman (1986) and Kane and Unal (1990) form the basis of the model used in this present study, as explained below. Intangible assets valuation

Development of the valuation model

In the present study, cross-sectional multiple regression model (NAnED – “Net Asset and Earnings Deflated model”) is used to determine the relationship between intangible assets and corporate market value. The NAnED model consists of three key variables namely corporate market value (CMV), book value of net assets (BVNA) and sales-deflated earnings (EARN). Corporate market value (CMV) is measured as the number of outstanding shares multiplied by share price of a firm. Book value of net assets (BVNA) is the difference between book value of assets (BVOA) and book value of liabilities (BVOL). Sales-deflated earnings (EARN) is the ratio of earnings divided by sales.

Discussion on the core model starts with the basic model of this study, as stated below:

$$CMV_{rt} = \alpha_0 + \alpha_1 BVOA_{rt} - \alpha_2 BVOL_{rt} + e_{rt} \quad (1)$$

where:

- CMV_{rt} = corporate market value of firm r in year t .
- $BVOA_{rt}$ = book value of assets of firm r in year t .
- $BVOL_{rt}$ = book value of liabilities of firm r in year t .
- e_{rt} = error term.

According to McCarthy and Schneider (1995) and Jennings *et al.* (1996), the above equation is a valid model to replace market value of assets and liabilities as both are difficult to quantify and are non-observable. Furthermore, literature supports that employing BVOA and BVOL as separate exogenous variables could lead to misleading interpretation (Kane and Unal, 1990; Muhd Kamil, 1999).

It is pertinent to note that previous literature describes the result of BVNA model to be more accurate than estimating independently BVOA and BVOL in the regression analysis, that is:

$$BVNA_{rt} = BVOA_{rt} - BVOL_{rt} \quad (1a)$$

Both BVOA and BVOL are highly correlated and would suggest severe multicollinearity problem. To manage this econometric issue, the net assets model is formulated as follows:

$$CMV_{rt} = \alpha_0 + \alpha_1 BVNA_{rt} + e_{rt} \quad (2)$$

To improve the results, literature supports the inclusion of earnings as an important variable (McCarthy and Schneider, 1995; Ohlson, 1995). Following this argument, the final regression model is proposed:

$$CMV_{rt} = \alpha_0 + \alpha_1 BVNA_{rt} + \alpha_2 EARN_{rt} + e_{rt} \quad (3)$$

where: $EARN_{rt}$ = profit after tax of firm r in year t , deflated by sales of year t .

The next section discusses the methodology used and solutions to various econometric limitations.

Methodology*Sample data*

This study examines corporate market value (CMV) of Malaysian companies for the period 2000-2006. The list of companies was obtained from the Bursa Malaysia website (www.bursamalaysia.com.my) and the Annual Companies Handbook Database (Kuala Lumpur Stock Exchange, 2006).

Sampling was done via a three-step process: first, we identified companies that fit the intention of this research. The sample included all companies in the Main Board of Bursa Malaysia (formerly known as the Kuala Lumpur Stock Exchange). This is the only stock exchange in Malaysia comprising the Main Board (for large established companies), Second Board (for smaller companies) and MESDAQ (for newly established information technology and biotechnology companies). MESDAQ is the acronym for "Malaysian Exchange of Securities Dealing and Automated Quotations" following the model of NASDAQ in the US. All industrial sectors were included except for Mining, Real Estate Investment Trust (REIT) and Warrant sectors. These three sectors did not meet the selection criteria used in the study. Mining had only one company while REIT was relatively new to the Malaysian market and the first one was listed in 2005. Thus, these two sectors had insufficient sample. Exclusion of warrants was justified to avoid double counting since the mother shares of such warrants were already incorporated in the sample. The final sample represented approximately 80 per cent of total companies registered in the Bursa Malaysia. We named this sample as the "Market Intangibles Portfolio" (MIP). Next, relevant balance sheet variables were collected using Datastream. These included end-of-year share prices, number of shares outstanding, book value of assets and liabilities, shareholders' equity and profit after tax. Finally, outliers were omitted (257 altogether) and descriptive statistics of companies involved obtained. The usable sample comprised 2,121 firm-year observations. We finally ran the MIP sample using Microfit ver 4.1.

Econometrics limitation

According to Landsman (1986), McCarthy and Schneider (1995), and Muhd Kamil (1999), the market valuation model tends to produce econometric problems related to heteroscedasticity and multicollinearity. Heteroscedasticity refers to unequal spread of the error terms around the ordinary least square line where large firms may produce large disturbances and vice versa; this leads to misleadingly overstated t-values and misinterpretation of results (Gujarati, 1995). Meanwhile multicollinearity refers to a situation where independent variables are correlated causing inaccurate estimation of regression coefficients and individual impact of the independent variables cannot be distinguished (Gujarati, 1995). Following previous studies, this paper will adopt similar approach to minimise the above problems.

We are aware that employing both book value of assets (BVOA) and book value of liabilities (BVOL) as two different sets of exogenous regressors will lead to interpretative problems. To take a rigorous approach, we first conducted the analysis based on the basic model equation (1), where BVOA and BVOL were amongst the variables used. This model however showed a problem of multicollinearity where BVOA and BVOL were highly correlated at 0.91. Thus, we do not report the results in this paper. To solve this problem, we ran model (2) in Net Assets form using BVNA as the difference between BVOA and BVOL. This became "Model 1: Net Assets".

Another concern mentioned by previous studies is the problem of heteroscedasticity. To overcome this problem, we employed White t-test procedures. Finally, we ran our core model of this study which was model 2: NAnED (net assets and earnings-deflated by sales).

Empirical findings

This section provides the descriptive statistics, methods to ensure accuracy of results and finally the findings of our research.

Descriptive statistics

Table I presents the breakdown of 2,121 firm-year observations for each year from 2000 to 2006.

The sample comprised major industries listed in Bursa Malaysia. The majority of these firms are in the consumer products, trading and services, industrial products and properties sectors as shown in Figure 1.

The largest sector in our sample comprised industrial products which form 18 per cent of total market value, followed by consumer products, and trading and services with 17 per cent each, and properties which form another 14 per cent. These four sectors constituted 66 per cent of market value of sample used in this study.

The regression variables used are as shown in Table II.

Empirical results and analysis

Since the main objective is to observe whether the Malaysian market develops intangible assets, the key consideration of this paper is the intercept α_0 . Results of the intercept coefficient are shown in Figure 2.

Year	2000	2001	2002	2003	2004	2005	2006	Total
Number of companies	176	301	295	321	349	347	332	2,121

Table I.
Total sample for the year 2000-2006

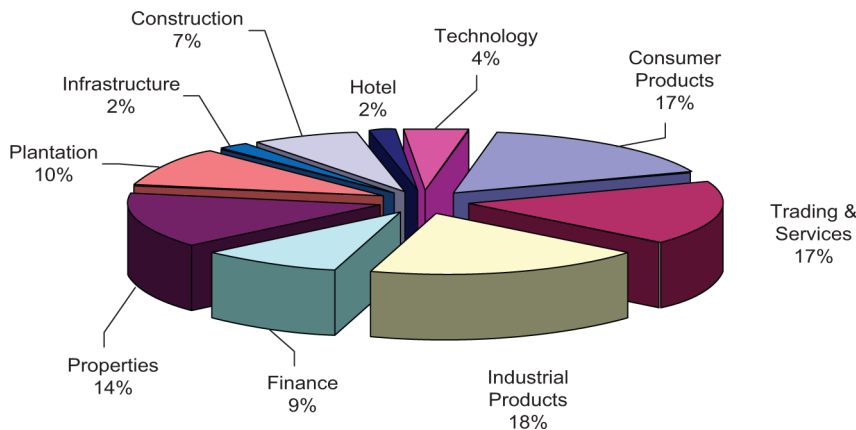


Figure 1.
Market sample average by industry year 2000-2006

Table II.
Variables for regression

Variables	Symbol	Datastream variables
Corporate market value	CMV	Share price (P) × number of shares (NOSH)
Share price	P	Year-end closing price
Number of shares	NOSH	Number of ordinary shares outstanding at end of respective year
Book value of net assets	BVNA	Total assets less Total liabilities (Net Asset) BVNA = BVOA – BVOL
Book value of assets	BVOA	Total assets
Book value of liabilities	BVOL	Total liabilities
Earnings	EARN	Profit after-tax deflated by earnings

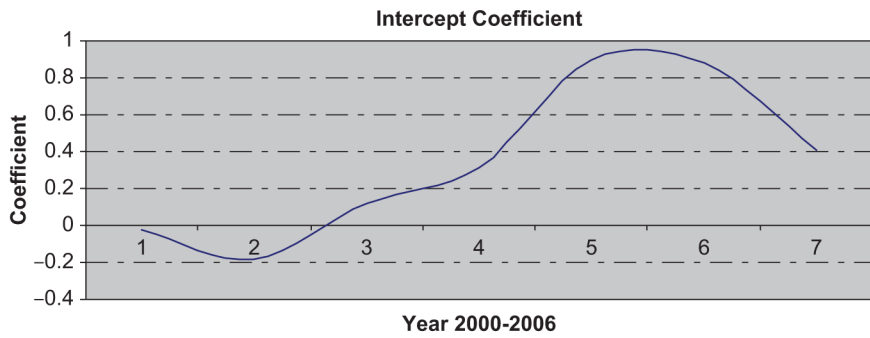


Figure 2.
Market intangible assets
intercept coefficient trend
year 2000-2006

Note: Year 1 is 2000 and year 7 is 2006

If the market considers unreported intangible as valuable, then α_0 should be positively related to a firm's corporate market value. Tables III and IV provide statistics from the cross-sectional regression model for the market intangibles portfolio. The first statistical procedure used is the basic regression ordinary least squares (OLS) estimation. If the result shows presence of heteroscedasticity in the OLS estimators, then White's Heteroscedasticity Adjusted Standard Errors (White-*t* test) procedure is employed to make it robust. Table III reports the results for model (1) where every year, White-*t* test results are given since the samples exhibit heteroscedasticity. However in Table IV, which shows the results for model (2), only 2005 and 2006 samples are free from heteroscedasticity. Thus the OLS estimation results are shown for these two years, while the rest are based on the White-*t* test.

In Table III, the R-squared of 0.68 to 0.86 reveal that the coefficients of net assets (BVNA) are positively significant throughout the years 2002-2006. However, the empirical findings of this paper produce mixed results as far as the intercept α_0 is concerned. The results indicate that intangible assets are negative and not significant in the years 2000-2001. They are present in years 2002-2006. The *p*-value is positive and marginally significant at 10 per cent level in year 2004 only, while the rest are positive but not significant.

To provide rigorous and robust result, we extended the above model by considering earnings as an important variable (McCarthy and Schneider, 1995; Ohlson, 1995). We

Coefficient estimates						Intangible assets valuation
Predicted sign	α_0	α_1	Adj R ²	DW Stat	n	
2006 ^a						399
Coefficient	0.2959	0.9663				
OLS-t	1.2338	31.8075				
<i>p</i> -value	0.2180	0.0000	0.7215	1.9268	332	
2005 ^a						
Coefficient	0.2929	0.9559				
OLS-t	0.8980	23.7974				
<i>p</i> -value	0.3700	0.0000	0.7664	2.0297	347	
2004 ^a						
Coefficient	0.5615	0.9278				
OLS-t	1.7078	22.4665				
<i>p</i> -value	0.0890	0.0000	0.6985	2.0930	349	
2003 ^a						
Coefficient	0.1616	0.9600				
OLS-t	0.5388	25.0544				
<i>p</i> -value	0.5900	0.0000	0.7364	1.7356	321	
2002 ^a						
Coefficient	0.1473	0.9713				
OLS-t	0.4772	24.7851				
<i>p</i> -value	0.6340	0.0000	0.7316	1.7653	295	
2001 ^a						
Coefficient	-0.4689	1.0220				
OLS-t	-1.4877	25.4569				
<i>p</i> -value	0.1380	0.0000	0.6832	1.8801	301	
2000 ^a						
Coefficient	-0.0313	0.9901				
OLS-t	-0.1636	29.7345				
<i>p</i> -value	0.8700	0.0000	0.8570	1.7485	176	

Table III.
Model 1 – net assets market value predictions (regression summary statistics)

deflated each earnings variable with its corresponding sales value in accordance to the model suggested by Landsman (1986). The findings are shown in Table IV.

Referring to Table IV, the adjusted R-squared of the model ranges from 0.64 to 0.83. No significant improvement occurs in terms of predictive power of the model. However, the results show an improvement in the intercept α_0 . Estimated *t*-values of intangible assets range from 0.62 to 4.32 and the *p*-values are positive for the entire duration of the study. The findings reveal that intangible assets developed in years 2004 to 2006, results being positive and significant at 1 per cent in 2004 and 2005 and at 5 per cent in 2006. The study also provides further evidence that the net assets (BVNA) predicted sign are consistently positive and significant throughout the duration from 2000 to 2006. Estimated *t*-values of BVNA range from 19.7 to 30.4, implying its dominance in Malaysian market valuation.

The findings are consistent with a prior study on assets predictive power whereby using a smaller sample from the Malaysian market for the period 1990 to 1997

JIC 11,3	Coefficient estimates						
	Predicted sign	α_0	α_1	α_2	Adj R^2	DW Stat	n
400	2006 ^a						
	Coefficient	0.2701	0.6915	0.3538			
	OLS-t	1.9004	22.9458	9.4761			
	p -value	0.0369	0.0000	0.0000	0.7750	1.9498	332
	2005 ^a						
	Coefficient	0.1024	0.6898	0.2548			
	OLS-t	2.9174	19.7075	6.1397			
	p -value	0.0040	0.0000	0.0000	0.6735	2.0747	347
	2004 ^b						
	Coefficient	0.1503	0.7741	0.0977			
	OLS-t	4.3210	22.6669	2.2211			
	p -value	0.0000	0.0000	0.0270	0.6916	2.0519	349
	2003 ^b						
	Coefficient	0.0503	0.8430	0.1126			
	OLS-t	1.4155	23.1948	2.9773			
	p -value	0.1580	0.0000	0.0030	0.7108	1.8195	321
	2002 ^b						
	Coefficient	0.1186	0.7793	0.1205			
OLS-t	2.7419	21.7616	2.8940				
p -value	0.1676	0.0000	0.0040	0.6492	1.9044	295	
2001 ^b							
Coefficient	0.0358	0.7744	0.1954				
OLS-t	0.7904	19.9551	4.1246				
p -value	0.4300	0.0000	0.0000	0.6378	1.9879	301	
2000 ^b							
Coefficient	0.0240	0.9723	-0.0139				
OLS-t	0.6262	30.4914	-0.4898				
p -value	0.5320	0.0000	0.6250	0.8294	1.7356	176	

Table IV.
Model 2 – NAnED.
Market value predictions
(regression summary
statistics)

Notes: $n = 2,121$; ^aresults based on ordinary least square (OLS); ^bresults based on OLS White- t test; $CMV_{rt} = \alpha_0 + \alpha_1 BVNA_{rt} + \alpha_2 EARN_{rt} + e_{rt}$

(pre-financial crisis), Muhd Kamil *et al.* (2004) reported that the market considered book value of assets and liabilities in determining corporate market value. They suggested that financial reporting numbers (balance sheet variables) had content value to investors.

In addition, earnings have also shown significant presence in Malaysian corporate valuation. Earnings are positive and significant throughout the duration of the study (except year 2000) indicating that besides net assets, the Malaysian market has also considered earnings as an important variable. This finding answers the third research objective.

Discussions and strategic implications

This section discusses the two research questions:

- (1) Are intangible assets developed in the Malaysian capital market?
- (2) What is the trend of intangible assets value in Malaysia?

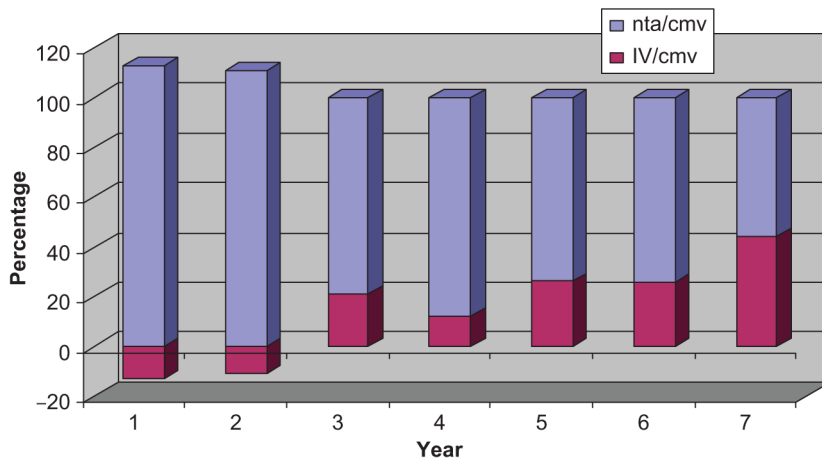
The results from our core model (model 2) support the first hypothesis (*H1*). Intangible assets seemed to be present in year 2000 to 2006, being significant in year 2004 onwards. Findings suggest that intangible assets have become an important determinant of corporate valuation in the Malaysian market lately. Investors seem to be keeping an eye on intangible assets and willing to provide a premium over a firm's book value.

Further support is provided in Figure 3 that shows the declining value of tangible assets and the emerging importance of intangible assets in Malaysia. Values of intangible assets increased tremendously from 10 per cent in 2002 to 43 per cent in 2006.

Statistically, despite positive development of intangible assets, net assets are still too dominant in the Malaysian market. The empirical findings are consistent with Muhd Kamil *et al.*'s (2004) study which shows significant association between balance sheet numbers (assets and liabilities) and corporate market value. This implies that investors in the Malaysian market rely more on reported financial statements rather than on unreported intangible assets to value firms. These results also support earlier findings that voluntary disclosure of intellectual capital has little impact on market value (Goh and Lim, 2004).

In summary, the results answer the first research question, where intangible assets have been acknowledged to be present and developed in the Malaysian capital market. The second research question is explored by plotting the trend of intangible assets as reported in Figure 4.

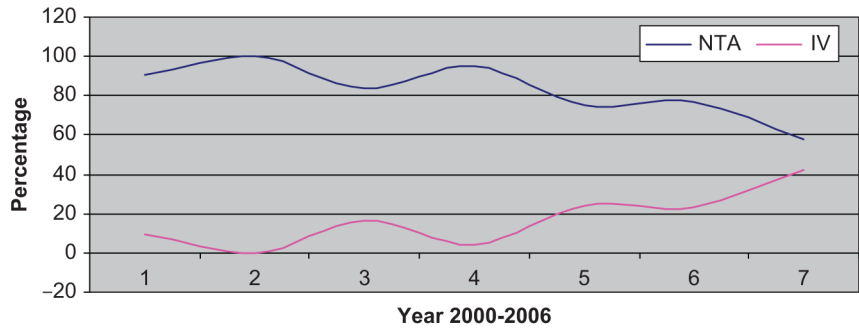
The above figure shows a declining trend of net assets and an increasing trend of intangible assets over the period from 2000 to 2006. As can be seen, the trend shows the gap between net tangible assets and intangible assets getting smaller, particularly in years 2004-2006. By extrapolating the graph, it is possible that intangible assets might surpass net assets in the coming years. Therefore, this answers the second research question, where there is an upward trend of intangible assets development in the Malaysian capital market.



Note: Year 1 is 2000 and year 7 is 2006

Figure 3.
Declining BVNA and emerging value of intangible assets: Malaysia market year 2000-2006

Figure 4.
Intangible assets trend
year 2000-2006



Note: Year 1 is 2000 and year 7 is 2006

The strategic implications of this study reveal three key opinions. First, this study has shifted traditional paradigm where investors and analysts depend on a firm's financial statements for stock valuation purpose. Indeed there are other factors that warrant their attention, one of which is being the amount of intangible assets. This study shows that such assets had increased tremendously in the Malaysian market, representing approximately 44 per cent of total corporate market value in 2006.

Secondly, intangible assets are important strategic corporate assets, which are either ignored or not managed. These assets include brand name, research and development, human capital, customers' database, technology and innovation. In the new knowledge economy, managing tangible assets alone is not sufficient. There is a need for Malaysian companies to also focus on intangible assets to improve their competitive advantage.

Finally, the paper also suggests that companies that develop higher intangible assets tend to show better financial performance. The results indicate that investors place higher value on firms with higher intangible assets. Thus, Malaysian companies need to take the initiative to value their respective intangible assets and voluntarily disclose these to the public. Furthermore, to regulators, policy makers and standard setters, the findings of this study suggest a need to review and propose new accounting standards and regulations for corporate reporting and disclosure. Consistent with other advanced markets, Malaysia needs to develop policies that enforce disclosure of both intangible resources and tangible assets, as part of its corporate governance initiative.

Conclusion and direction for future research

The empirical contribution of this paper is to address the intangible assets position of Malaysian companies. It attempts to answer the research question – whether the Malaysian market is developing intangible assets. The results indicate that the market has begun developing intangible assets, providing a clue that the trend is slowly moving towards recognising the importance of intangible assets in the coming years.

Recognising the limitation of this study, future research on this subject should be able to expand this study horizontally in terms of greater sample size. In particular, comparative studies pre- and post-financial crisis should be done. Alternatively, it is worth expanding studies on individual components of intangible assets such as brand value, research and development (R&D), intellectual capital and human capital

contribution to corporate market value. Finally, corporate performance tools such as the balanced scorecard (BSC) methodology should also be studied to ascertain whether it creates value to Malaysian companies.

References

- Aaker, D.A. and Jacobson, R. (2001), "The value relevance of brand attitude in high-technology markets", *Journal of Marketing Research*, Vol. 38 No. 4, pp. 485-93.
- Aboddy, D. and Lev, B. (1998), "The value-relevance of intangibles: the case of software capitalization", *Journal of Accounting Research*, Vol. 36, pp. 161-91.
- Amir, E., Lev, B. and Sougiannis, T. (2003), "Do financial analysts get intangibles?", *European Accounting Review*, Vol. 12 No. 4, pp. 635-59.
- Ballow, J., Burgman, R. and Molnar, J. (2004), "Managing for shareholder value: intangibles, future value and investment decision", *Journal of Business Strategy*, Vol. 25 No. 3, pp. 26-34.
- Bank Negara Malaysia (2002), Annual report.
- Barth, M.E., Clement, M.B., Foster, G. and Kasznik, R. (1998), "Brand values and capital market valuation", *Review of Accounting Studies*, Vol. 3, pp. 41-68.
- Bontis, N., Keow, W.C. and Richardson, S. (2000), "Intellectual capital and business performance in Malaysian industries", *Journal of Intellectual Capital*, Vol. 1 No. 1, pp. 85-100.
- Daum, J. (2003), *Intangibles Assets and Value Creation*, John Wiley & Sons, Bognor Regis.
- Edvinson, L. and Malone, M.S. (1997), *Intellectual Capital: Realizing your Company's True Value by Finding its Hidden Brainpower*, Harper Business, New York, NY.
- Foong, S.Y., Loo, S.C. and Balaraman, R. (2009), "Intellectual capital reporting and corporate characteristics of public-listed companies in Malaysia", *Journal of Financial Reporting and Accounting*, Vol. 7 No. 1, pp. 17-35.
- Foster, B.P., Fletcher, R. and Stout, W.D. (2003), "Valuing intangible assets", *The CPA Journal*, October.
- Ghosh, D. and Wu, A. (2007), "Intellectual capital and capital markets: additional evidence", *Journal of Intellectual Capital*, Vol. 8 No. 2, pp. 216-35.
- Goh, P.C. and Lim, K.P. (2004), "Disclosing intellectual capital in company annual reports: evidence from Malaysia", *Journal of Intellectual Capital*, Vol. 5 No. 3, pp. 500-10.
- Gujarati, D.N. (1995), *Basic Econometrics*, 3rd ed., McGraw-Hill, New York, NY.
- Hall, R. (1992), "The strategic analysis of intangible resources", *Strategic Management Journal*, Vol. 13, pp. 135-44.
- Jennings, R., Robinson, J., Thompson, R.B. II and Duvall, L. (1996), "The relation between accounting goodwill numbers and equity", *The Journal of Business Finance Accounting*, Vol. 23 No. 4, pp. 513-34.
- Kallapur, S. and Kwan, Y.S. (2004), "The value relevance and reliability of brand assets recognized by UK firms", *The Accounting Review*, Vol. 79 No. 1, pp. 151-72.
- Kamarun, M., Rohaida, A.L., Robiah, A.B., Wan, N.W. and Ku Nor, I. (2006), "The value relevance of R&D expenditure: experience from Malaysia", *IIUM Journal of Economics and Management*, Vol. 14 No. 2, pp. 205-26.
- Kane, E.J. and Unal, H. (1990), "Modeling structural and temporal variation in the market's valuation of banking firms", *The Journal of Finance*, Vol. XIV No. 1, pp. 113-36.

- Kuala Lumpur Stock Exchange (2006), *Annual Companies Handbook*, Kuala Lumpur Stock Exchange, Kuala Lumpur.
- Landsman, W. (1986), "An empirical investigation of pension fund property rights", *The Accounting Review*, Vol. 61 No. 4, pp. 662-91.
- Leadbetter, C. (1999), "New measures for the new economy", paper presented at International Symposium Measuring Reporting Intellectual Capital: Experiences, Issues and Prospects, OECD, Amsterdam.
- Lev, B. (2001), *Intangibles: Management, Measurement and Reporting*, Brookings Institution Press, Washington, DC.
- Lev, B. (2004), "Sharpening the intangibles edge", *Harvard Business Review*, Vol. 82 No. 6, pp. 109-16.
- Lev, B. and Daum, J.H. (2004), "The dominance of intangibles assets: consequences for enterprise management and corporate reporting", *Measuring Business Excellent*, Vol. 8 No. 1, pp. 6-17.
- McCarthy, M.G. and Schneider, D.K. (1995), "Market perception of goodwill: some empirical evidence", *Accounting and Business Research*, Vol. 26 No. 1, pp. 69-81.
- Madden, T.J., Fehle, F. and Fournier, S. (2005), "Brands matter: an empirical demonstration of the creation of shareholder value through branding", working paper, University of South Carolina, Columbia, SC.
- Malaysian Accounting Standards Board (MASB) (2005), *Financial Reporting Standard (FRS138) – Intangible Assets*, Malaysian Accounting Standards Board, Kuala Lumpur.
- Miller, J.C. and Whiting, R.H. (2005), "Voluntary disclosure of intellectual capital and the 'hidden value'", available at: www.afaanz.org/web2005/papers/millerj-ACC.pdf (accessed 28 January 2010).
- Mizik, N. and Jacobsen, R. (2005), "How brand attitude drives financial performance", *Marketing Science Institute Reports: Marketing Science Institute*.
- Muhd Kamil, I. (1999), "Market value, book value and goodwill", PhD thesis, University of Wales, Bangor.
- Muhd Kamil, I., Marzita, M.S., Radziah, A.L. and Zaleha, A.S. (2003), "Value-relevance of accounting numbers: an empirical investigation of accounting of purchased goodwill", *Malaysian Accounting Review*, Vol. 2 No. 1, pp. 106-23.
- Muhd Kamil, I., Merani, C.A., Haslinda, Y. and Normahiran, Y. (2004), "The balance sheet identity model: testing ordinary least square assumptions in the Malaysian market", Discussion Paper 1/2004, UiTM-ACCA Financial Reporting Research Center, Shah Alam, Malaysia.
- Nakamura, L. (2003), "A trillion dollars a year in intangible investment and the new economy", in Hand, J. and Lev, B. (Eds), *Intangible Assets: Values, Measures, and Risks*, Oxford University Press, Oxford, pp. 469-85.
- Ng, E.J. (1999), *International Accounting Standards (Malaysia)*, 2nd ed., Longman, Harlow.
- Ohlson, J. (1995), "Earnings, book values and dividends in security valuation", *Contemporary Accounting Research*, Vol. 11, pp. 666-87.
- Pahud de Mortanges, C. and Riel, A.V. (2003), "Brand equity and shareholder value", *European Management Journal*, Vol. 2 No. 4, pp. 521-7.
- PricewaterhouseCoopers (2004) in Davis, A. and Spicer, L. (Eds), *An International Perspective on Brand Valuation and Management. Special Focus Report: Building and Enforcing IP Value 2004*, PricewaterhouseCoopers, London.

-
- Pulic, A. (2000), "VAIC – an accounting tool for IC management", available at: www.measuring-ip.at/papers (accessed 3 November 2007).
- Ross, G. and Ross, J. (1997), "Measuring your company's intellectual performance", *Long Range Planning*, Vol. 30 No. 3, pp. 413-26.
- Seetharam, A., Helmi, S. and Saravanan, A. (2002), "Intellectual capital accounting and reporting in the knowledge economy", *Journal of Intellectual Capital*, Vol. 3 No. 2, pp. 128-48.
- Sullivan, P.H. Jr and Sullivan, P.H. Sr (2000), "Valuing intangible companies: an intellectual capital approach", *Journal of Intellectual Capital*, Vol. 1 No. 4, pp. 328-40.
- Suresh, R., Annuar, M.N., Murali, S. and Huson, J. (2007), "Financing intangibles in Malaysian firms – is there a pecking order?", *New Zealand Journal of Applied Business*, Vol. 6 No. 1, pp. 63-86.
- Verbeteen, F. and Vijn, P. (2006), "Do strong brand pay-off?", NRG Working Paper Series, No. 06-03.
- Zaleha, A.B. (2007), "The information content of non-current assets", PhD thesis, UiTM, Shah Alam.

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