ACCOUNTING AND VALUE BASED DETERMINANTS OF MALAYSIAN COMPANIES' STOCK PERFORMANCE

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This work is dedicated to my divine parents Mr Mohammad Hassan and Mrs Zahra who provide unconditional love and support throughout my life, my lovely wife Narges and gorgeous daughter Nadia who have always stood by me and dealt with all of my absence from many family occasions with a smile, My supportive and loving father and mother-in-law Mr Mohammad Reza and Mrs Masoomeh, my sisters, my brothers, and my brothers and sisters-in-law for their continuous support and encouragement.

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ABSTRACT

Evaluating the performance of a company is vital to ensure optimal allocation of its limited resources. To achieve this objective, accounting performance measures have been developed. These measures are often criticized for not including the company's capital cost and they could be manipulated. Based on literature reviewed, studies on the relationship between value-based measures and accounting measures with stock return are limited and there are contradictions among the existing results. Moreover, there are only a few studies on value-based measures in Asian countries, especially in Malaysia. EVA Momentum (EVAM) as the newest value based measure has not been empirically examined in public listed companies. Therefore, this research is the first Malaysian case in this area whereby an integrative model was developed to examine the relative information content (RIC) and incremental information content (IIC) between value based and accounting measures with stock return. The value based measures are economic value added (EVA), refined economic value added (REVA), EVAM, and market value added (MVA) whereas the accounting measures included net income (NI), net operational profit after tax (NOPAT), earnings per share (EPS), return on assets (ROA), return on equity (ROE), and return on sales (ROS). In addition, this study evaluated the RIC of the internal accounting and value based measures with MVA. Census method was applied to obtain data from non-financial public companies listed in the main market of Bursa Malaysia from the year 2002-2011. The historical financial data were analysed using E-Views 7 software. The RIC tests revealed that the value based measures including EVA, REVA, EVAM, and MVA, were not able to outperform accounting measures namely NI, NOPAT, EPS, ROA, ROE, and ROS, in their relationship with stock returns. Furthermore, the RIC test of internal measures and MVA indicated that internal value based measures involving EVA and REVA with the exception of EVAM outperformed accounting measures in their association with MVA, and their level was generally low. In addition, the IIC test illustrated that all value based measures jointly have IIC with stock return when compared to accounting measures. However, the accounting measures have more IIC with stock return when compared to value based measures. Finally, the IIC test showed that EVAM does not have IIC when compared to other value based measures, but NI has more IIC when compared to other accounting measures. The developed integrative model will serve as a guide on how to use value based measures involving EVA, REVA, and MVA with accounting measures for Malaysian companies in their annual reports.

ABSTRAK

Penilaian prestasi syarikat adalah penting untuk memastikan pengagihan yang optimum sumber syarikat yang terhad. Untuk mencapai tujuan ini pengukuran prestasi perakaunan telah dibangunkan. Pengukuran ini sering dikritik kerana tidak memasukkan kos modal syarikat dan ia boleh dimanipulasi. Berdasarkan ulasan literatur kajian tentang hubungan antara pengukuran berasaskan nilai dengan pengukuran perakaunan dengan pulangan saham tidak banyak dilakukan dan wujud percanggahan antara dapatan yang ada. Selain itu, terdapat hanya beberapa kajian sahaja yang dijalankan ke atas pengukuran berasaskan nilai di negara-negara Asia, khususnya di Malaysia. Momentum EVA (EVAM) sebagai ukuran berasaskan nilai terbaharu belum diuji secara emperikal dalam syarikatsyarikat awam yang tersenarai. Justeru itu, kajian ini adalah kes pertama di Malaysia dalam bidang ini yakni model integratif dibangunkan untuk menguji kandungan maklumat relatif (RIC) dan kandungan maklumat tambahan (IIC) antara pengukuran berdasarkan nilai dengan pengukuran perakaunan dengan pulangan saham. Pengukuran berdasarkan nilai terdiri daripada nilai tambah ekonomi (EVA), nilai tambah ekonomi dimurnikan (REVA), EVAM dan nilai tambah pasaran (MVA) sementara pengukuran perakaunan merangkumi pendapatan bersih (NI), keuntungan operasi bersih selepas cukai (NOPAT), pendapatan sesaham (EPS), pulangan ke atas aset (ROA), pulangan ke atas ekuiti (ROE) dan pulangan ke atas jualan (ROS). Di samping itu, kajian ini juga menilai RIC daripada pengukuran perakaunan dalaman dan pengukuran berdasarkan nilai dengan MVA. Kaedah banci telah digunakan untuk mendapatkan data daripada syarikat-syarikat awam bukan kewangan yang disenaraikan dalam pasaran utama Bursa Malaysia dari tahun 2002-2011. Sejarah data kewangan telah dianalisis menggunakan perisian E-views 7. Ujian RIC mendedahkan bahawa pengukuran berdasarkan nilai termsuk EVA, REVA, EVAM dan MVA tidak dapat mengatasi pengukuran perakaunan seperti NI, NOPAT, EPS, ROA, ROE dan ROS dalam hubungan kedua-duanya dengan pulangan saham. Selanjutnya, ujian RIC pengukuran dalaman dan MVA menunjukkan bahawa pengukuran berdasarkan nilai dalaman yang melibatkan EVA dan REVA dengan pengecualian EVAM mengatasi pengukuran perakaunan dalam hubungannya dengan MVA dan pada umumnya, tahapnya adalah rendah. Di samping itu, ujian IIC menunjukkan bahawa semua pengukuran berdasarkan nilai secara bersama-sama mempunyai IIC dengan pulangan saham jika dibandingkan dengan pengukuran perakaunan. Walau bagaimanapun, pengukuran perakaunan mempunyai lebih IIC dengan pulangan saham jika dibandingkan dengan pengukuran berdasarkan nilai. Akhir sekali, ujian IIC menunjukkan bahawa EVAM tidak mempunyai IIC jika dibandingkan dengan pengukuran berdasarkan nilai yang lain, sebaliknya NI mempunyai lebih IIC jika dibandingkan dengan pengukuran perakaunan yang lain. Model integratif yang dibangunkan ini berfungsi sebagai panduan tentang cara untuk menggunakan pengukuran berdasarkan nilai yang melibatkan EVA, REVA dan MVA dengan pengukuran perakaunan untuk syarikat-syarikat Malaysia dalam laporan tahunan mereka.

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LIST OF ABBREVIATIONS

AR - Accounting Return
AP - Accounting Profit
AI - Accounting Income

BV - Book Value

BVS - Book Value of Share Dividend Per Share

CAPM - Capital Assets Pricing Model

CE - Cost of Equity
CD - Cost of Debt

CSP - Company Share Price

CSV - Created Shareholder Value

CVA - Cash Value Added

DDM - Dividend Discount Model

DPS - Dividend Per Share

EBIT - Earnings Before Interest and Taxes

EBITDEA - Earnings Before Interest, Taxes, Depreciation and Amortization

EPS - Economic Income
EPS - Earnings Per Share
EP - Economic Profit

EVA - Economic Value Added

EVAM - Economic Value Added Momentum

FCF - Free Cash Flow

GAAP - General Accepted Accounting Principle

GDP - Gross Domestic Product
GGM - Gordon Growth Model

GLCs - Government-Linked Companies

IE - Interest Expense

IIC - Incremental Information Content

IT - Income Taxes

KLCI - Kuala Lumpur Composite Index

KLSE - Kuala Lumpur Stock Exchange

LD - Long-term Debt

MI - Minority Interest

MV - Market Value

MVA - Market Value Added

NI - Net Income

NOPAT - Net Operational Profit after Tax

NP - Net Profit

NPV - Net Present Value

OCF - Operational Cash Flow

OP - Operational Profit

PBIT - Profit before Interest and Tax

PBT - Profit before Taxes

REVA - Refined Economic Value Added
REITs - Real Estate Investment Trusts

RI - Residual Income

RIC - Relative Information Content

ROA - Return on Assets
ROE - Return on Equity

ROIC - Return on Invested Capital

ROS - Return on Sales

RR - Retention Ratio

SD - Short-term Debt

SE - Shareholder Equity

SIC - Standard Industrial Classification

SR - Stock Return
TD - Total Debt

TI - Tax Shield on Interest
TS - Total Share Outstanding
TSE - Tehran Stock Exchange

TSR - Total Stock Return
TMV - Total Market Value

UTM - Universiti Teknologi MalaysiaVBM - Value Based Management

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The fundamental change in economic situation and its rate relations between countries have been witnessed in the last two decades. In this new state of economy, the managers of business faced with new challenges. Maximization of shareholder wealth is the main purpose of each company and performance evaluation of companies is the most important subject that is considered by investors, managers, and government. Recently, activity of stockholders has reached unparalleled levels and led to raised needs on companies to maximize stockholder wealth (Bacidore *et al.*, 1997a). Evaluating performance of companies is vital in ensuring and achieving optimal allocation of limited resources. Besides, it is necessary to use suitable criteria for evaluating performance of company and shareholder value as propelling value of company toward real value will result in proper fund allocation (Jahankhani and Sohrabi, 2010).

The stock price is the center of gravity for the investment decisions. The prices in market are resulted from objective application of decisions taken in the valuation of stock price. In the recent years, criticism and dissatisfaction had increased about accounting performance measures. Critics said that these criteria are conservative basis (Young and O'Byrne, 2000).

Performance of company can be calculated by using different methods. In other words, performance evaluation criteria are divided into quantitative measures and qualitative measures. However, quantitative performance measurement is claimed to give a better outlook on performance of company. Quantitative performance measurement relates to physical measurement that make possible investors to measure business activities during financial statement of a company (Ismail, 2006).

Reasonable decisions are directly related to company performance. Besides, company performance evaluation needs to identify criteria and indicators. These criteria are divided into two categories, financial criteria and non-financial criteria. Financial criteria is preferred over non-financial criteria, due to the characteristics; quantitative, objectivity, practicality, and the tangibility (Rahnamay-Roodposhti *et al.*, 2006).

Earning such as earning per share (EPS), is the most basic measurement, where earnings are divided by number of outstanding stocks. Investors employ numerous indicators for evaluation of share, but the all of them usually start and finish with earnings. The financial performance success or failure of most companies depends on their power to produce profit from their regular continues core business (Ismail 2006).

Basically, the criteria related to determine companies value and managers performance can be divided into two categories: (i) traditional financial performance measures (accounting measures), and (ii) value based financial performance measures (economic measures). In the accounting model, firm value is a function of various criteria such as profit, earning per share (EPS), rate of profit growth, return on equity (ROE), return on assets (ROA), divided per share (DPS), book value (BV), operational cash flow (OCF), return on sales (ROS), and shares of supply and demand. In the value based model, firm value is a function of power of assets profitability, potential investors, and different between rate of return and weighted average cost of capital (WACC) (Jahankhani and Zariffard, 1995). Most of the value based measures involve economic value added (EVA), refined economic value added

(REVA), market value added (MVA), cash value added (CVA), and free cash flow (FCF) (Pouyanfar *et al.*, 2010).

Value based financial performance measures are based on similar concepts as the NPV techniques (Peterson, 2000). Capitalize on the value based procedures would, therefore, effect the extension of NPV, and as such, ought to contribute to the formation of shareholder value. These procedures offer an approximation of a firm's economic profit by combining its total cost of capital in their design. In those cases, these procedures produce positive values. Economic profits are engendered, and subsequently shareholder value is anticipated to upsurge. Negative values designate the destruction of shareholder value (Stewart, 1991; Grant, 2003).

Traditional financial performance measures exclude the firm's cost of capital, and no provision is, therefore, made for the opportunity cost on the capital invested by the shareholders (Young and O'Byrne, 2001). These traditional measures are also based almost exclusively on information obtained from financial statements, which are compiled according to Generally Accepted Accounting Principles (GAAP). Consequently, these measures are exposed to accounting distortions (Stewart, 1991; Peterson, 1996). Despite these limitations analysts and investors still widely apply the traditional measures (Stewart, 1991). While some studies report statistically significant relationships with share returns (Peterson, 1996), others obtain far weaker results (Black *et al.*, 2001).

A number of different value based financial performance measures have been developed. These criteria include economic value added (EVA), refined economic value added (REVA), EVA momentum (EVAM), and market value added (MVA). Additionally, these measures contain a firm's cost of capital in their calculation (Fabozzi and Grant, 2000). They also attempt to overcome some of the accounting distortions by adjusting information obtained from the financial statements (Young and O'Byrne, 2001).

EVA is one of the operational performance measures and determining the value of company. This measure was first introduced by a consulting company of

management known as Stern Stewart. Stewart (1991) believes that the other criteria, such as profit, earning per share, and dividing of profit are not perfect indexes of measurement, whereas EVA in compared to them is more complete and more practical. Moreover, EVA is a more appropriate measure for evaluating the company's performance, because it is associated with changes in the shareholder wealth. Based on EVA, the value of a company depends on two factors: (i) what company makes the return on capital employed, (ii) and what is the cost incurred for capital employed. Therefore, the difference between EVA and other evaluation performance measures is that it reflects the expenses of all financial resources.

According to Stewart (1991), EVA is defined as the difference between company's net operational profit after taxes (NOPAT) and an appropriate charge for the opportunity cost of all capital invested in the company (Stewart, 1991, pp. 136-138). EVA focuses on the managerial effectiveness in a given year. It measures the business true economic profit (EP) and ignores the accounting profit (AP). EP implies the residual income generated from a division or project after the cost of capital for that division or project has been paid off (Stewart 1991). EVA is the financial performance measure that reflects most accurately a corporation's true profit. EVA is the difference between a company's net operating profit after taxes (NOPAT) and its cost of capital for both equity and debt (Stewart 1994).

EVA is profit after deducting all cost of capital. The advocators of EVA claimed that EVA is the best criterion of value creation. Stewart (2009) makes the bold claim for a new concept: EVA Momentum (EVAM), he said, it is the ratio that cannot be manipulated. It is the only present metric where more is always better than the less. It always rises when managers do things that make economic sense. If it is right, it is worth knowing for managers at each level as well as for investors. It is an alteration in the business EVA divided by prior period sales (Colvin, 2010). One recorded trademark of EVA dimensions is EVAM. EVAM came out as the newest EVA-related trade performance criterion in 2009 (Mahoney, 2011). Stewart (2009) stated that EVAM is "the one ratio that tells the whole story". Colvin (2010) said, intelligent investors and clever managers will concentrate on EVAM. EVAM has not been experimentally examined in any known prior research (Mahoney, 2011).

Based on accounting standards, only cost of debt is considered for calculating the typical accounting measures. While both cost of debt and cost of equity is considered for calculating EVA. In other words, in order to calculate the EVA, the total cost of debt and cost of capital is deducted from operational profit after tax (Noravesh *et al.*, 2004).

MVA is equal to the present value of the firm's expected future EVA. MVA shows whether a firm has added value to the capital it has obtained from shareholders and lenders (Milunovich and Tsuei, 1996). Firms with positive EVA momentum are more likely to see their share price go up over time as the rising net profits of the overall capital costs increase in the firm's MVA. The objective of EVA is to understand which business unit's best leverage their assets to generate returns and maximize shareholder value. Other EVA applications include setting goals, measuring performance, communicating with investors, evaluating strategies, allocating capital, valuing acquisitions, and determining incentive bonuses (Stewart, 1994).

Proponents of the value based measures present these measures as a major improvement over accounting performance measures and report high levels of correlation between the measures and stock returns. A number of studies containing contradictory results have been published. On the basis of these conflicting results it is not clear whether the value based measures are able to outperform the traditional financial performance measures in explaining stock returns (Erasmus, 2008a).

Additionally, the empirical research for the value relevance of traditional accounting and modern value based performance measures are broad but with controversial results. Several studies have proved the superiority of EVA as a performance measure (Bao and Bao, 1998; Forker and Powell, 2004; Hajiabbasi, et al., 2012; Ismail, 2006, 2008, 2011b; Milunovich and Tsuei, 1996; Moeinadin, et al., 2011; Noravesh and Haidari, 2004; O'Byrne, 1996; Parvaei and Farhadi, 2013; Rahmani and Modanlo Joibary, 2012; Salehi, et al., 2011; Stewart 1991; Tamjidi, et al., 2012; Uymeura, et al., 1996; Worthington and West, 2004). While others

provided different and opposing results (Arab-Salehi and Mahmoodi, 2011; Biddle, et al., 1997; Chen and Dodd, 1997, 2001; Ebrahimi-Kordlar, et al., 2006; El Mir and Seboui, 2008; Erasmus, 2008b; Ismail 2006; Kyriazis and Anastassis, 2007; Maditinos, et al., 2006; Maditinos, et al., 2009; Noravesh and Mashayekhi, 2004; Palliam, 2006; Shourvarzi and Sadeddin, 2011; Sparling and Turvey, 2003; Wong, 2005; Worthington and West, 2001a, 2004).

For this conflicting results, this study conducted to examine whether value based measures are superior than accounting measures in explaining the stock return (SR) and created shareholder value (CSV) in Malaysian companies. In the next paragraphs some of the selected previous studies are discussed.

Karpik and Belkaoui (1990) used market model and found that value added variables process incremental information content beyond accrual earnings and cash flows in the context of explaining market risk. Bannister and Belkaoui (1991) suggested that value added was worthy of consideration as a tool for the evaluation of the company performance as it showed a clear dominance over both earnings and cash flow information.

Belkaoui and Picur (1994) studied the relative and incremental information content of value added and earning. They used joint earnings and value added valuation model and found that an association exists between both relative changes in earnings and net value added and relative changes in security prices. Belkaoui and Picur (1994) did again a research on information content of level versus change in net value added by using book value and wealth models. They found that both the levels of net value added and the changes in net value added play a role in security valuation.

Van Standen (1998) found that value added information does not have additional explanatory and predictive power when compared to earnings. However, the study found meaningful correlation between the values added measures and share price, but it was not more significant than the correlation between earnings and share

price. Peixoto (2002) examined the relative information content of EVA against operational profit (OP) and net profit (NP). The results illustrated that net profit (NP) have provided more explanatory power beyond operational profit (OP) and EVA in relevant of total stock return (dependent variable).

Firer and Saunders (2002) found sufficient evidence of the usefulness of value added information in order to incorporate value added data as an integral part of generally accepted accounting principle (GAAP). Besides, Shahriari (2002) in his study on relative information content of value added data in Iran, concluded that value added data have greater information content than earnings and operational cash flow (OCF).

According to Stern and Shiely (2001), EVA is the prime mover of shareholder value, but there is another measure, also originated by Stern Stewart, that precisely captures the gains or losses accruing to a company's shareholders. It is called Market Value Added (MVA) and is defined as the difference between the market value of a company and the sums invested in it over the years. To determine market value, equity is taken at the market price on the date the calculation is made, and debt at book value. The total investment in the company since day one is then calculated interest bearing debt and equity, including retained earnings. Present market value is then compared with total investment. In other words, the moneys the investors put in are compared with the funds they can take out. If the latter amount is greater than the former, the company has created wealth. If not, it has destroyed wealth.

A firm will create real stockholder value, if its return on capital is more than its capital's cost. Firms that constantly make high EVAs are valued most highly by stockholders (Dierks and Patel, 1997). The market value added (MVA) equals the different between the total market value (TMV) of the firm and the invested capital. The total market value is equal to sum of the market value of debt and the market value of equity (Reilly and Brown, 2003). Firer (2004) studied the relative an incremental information content of value added and earning in South Africa. He used

a capitalization market model and found that value added concept dominates earnings in terms of relative information content, while earnings dominate value added in terms of the incremental information content. However, value added is statistically significant in respect of explaining and predicting company performance.

Noravesh and Mashayekhi (2004) reported incremental information content of EVA and cash value added (CVA) beyond earning and operational cash flow (OCF) in Tehran Stock Exchange (TSE). The results indicated earning is the most important accounting index for the investment and financial decision making process of Iranian investors. Furthermore, their findings showed EVA and CVA have more incremental information content beyond earning and OCF. Additionally, OCF does not have significant relationship with stock return.

Stewart (1991) explains MVA as the extra of market value of capital (both debt and equity) over the book value of capital. He noted that MVA is accruing measure of company performance and it shows the stock market's estimation from a special time beyond of the net present value (NPV) of all a firm's past and planned capital projects. The firm has made wealth for stockholder, if the MVA was positive. It has destroyed the wealth of stockholders, if MVA has been negative. According to De Wet (2005), the total market value of the company is equal to the sum of the market value of equity and market value of debt. Theoretically, this amount is that can be taken away of the firm at any given time. The invested capital equals the fixed assets plus the net working capital, and the quantity that is invested in the firm. The best external measure of firm's performance is MVA.

Kim (2006) examined the relative and incremental information content of EVA and traditional performance measures (earning and cash flow) with hospitality firm values. Relative information content test showed earning is more beneficial than cash flow in explanation the market value of hospitality firms. EVA has a very small descriptive itself. Incremental information content test indicated that EVA compared to earnings and cash flow, makes only a marginal contribution to information content. Generally, the results do not uphold the suggestion that EVA is better than earnings and cash flow in relationship with market value of equity.

EVA is the opinion that companies do not earn a true profit until they have been covered all costs, including items such as opportunity costs and cost of capital. On the other hand, it is not enough to show the profit on the income statement. The amount of earning must cover cost of capital and opportunity cost. When a firm gets more than its total costs, then it has made a true profit or economic profit (Phillips, 2007).

Yaghoob-nejad and Akaf (2007) studied the relationship between EVA, residual income (RI), return on sales (ROS), return on investment (ROI), and market value added (MVA) on companies listed in Tehran stock exchange (TSE). Their result revealed there is meaningful relationship between EVA, RI, ROS, and ROI with MVA. Shubita (2010) selected a sample of 39 industrial firms listed in Amman stock exchange, during the period (2000-2008). The results revealed that net income (net profit) is superior couple of EVA and residual income (RI) in their relationship with stock return. The result does not support the claim of Stewart (1991) that EVA is greater to traditional measures in illumination stock return.

Mahoney (2011) in a research studied the value of EVAM as a performance measure in the U.S. lodging, restaurant, and real estate investment trusts (REITs) companies over the period 2001-2008. His results indicated no important statistical difference between lodging and restaurant EVAM. Moreover, the results revealed that Lodging EVAM was higher than for fixed asset-intensive REITs, but it was not statistically important. Regression results indicated EVAM was not associated to future financial performance as calculated by market capitalization or total capitalization. Additionally, the results exhibited EVAM was more higher associated to future performance such as ROA, ROS, and EPS for the collective sample, but not for the special lodging, restaurant, and REITs samples.

Roze et al., (2013) examined the relationship between EVA, ROA, ROE, ROS, and EPS with MVA in public listed companies on TSE over the period of 2006- 2010. Their findings exhibited that there is a significant association between all variables with MVA. Furthermore, the results showed EVA, after ROE, has the

strongest association with MVA. Besides, Das and Roy (2013) analyzed the relationship between EVA based ranking and traditional performance measures (liquidity, profitability, and efficiency ratios) based ranking. Their findings indicated that no single criterion can be formed with the help of traditional ratios. Furthermore, the results found that profitability and efficiency ratios have positively association with EVA, but the liquidity ratios has not impact on EVA. Additionally, the findings established that rankings based on EVA and rankings based on traditional criteria (profitability and efficiency) were approximately the same.

Soumaya (2013) analyzed the different between EVA and other performance measures (NI, RI, and cash flow), in explaining the firm value on sample of 82 French companies, over the period 1999-2005. The findings revealed cash flow (CF) is the best performance measure among other measures (RI, NI, and EVA). Therefore, the finding of Stern Stewart, as the superiority of the EVA is not verified in their context. Likewise, Baybordi et al., (2013) examined the relationship between EVA and stock return (SR). Their sample involved 70 companies listed in TSE for the period of 2004-2010. Their findings indicated there is significant and positive association between EVA and SR.

Pourali and Roze (2013) studied the relationship between EVA, REVA, and accounting criteria with MVA in firms listed in TSE over the period 2006-2010. The findings showed there is positive and significant relationship between MVA as dependent variable and all independent variables (EVA, REVA, ROA, ROE, and EPS). Besides, Azaltun et al., (2013) determined the association between EVA and EPS as performance measures in 15 cement firms in the Istanbul Stock Exchange (IMKB) over the period 1999-2010. The findings of this research exhibited that EPS is not a confidential method for company's performance calculation. The reason is that the manipulative and also speculative information could affect the share prices. In other words, the results indicated that EVA is really better than EPS in evaluating performance companies.

1.2 Research Conducted in Malaysia

There is some local research about the association between EVA and stock return, but these studies are limited and conducted on EVA, not all value based measures. According to Isa and Lo (2001), EVA has gained significant attention as an alternative to the traditional accounting measures for assessing corporate performance due to its transparency and capacity to provide more vital information. It is hoped that the introduction of this tool will help investors in Malaysia to make better investment and allocation of resources decisions. Zoolhelmi (2001) studied the relation between EVA and stock return. He had chosen 78 industrial product companies from main board of Kuala Lumpur Stock Exchange (KLSE). He found that there is no added advantage in EVA compared to traditional methods as a performance measurement.

Wong (2005) examined the impact of EVA and traditional performance measures (ROA, ROE, and EPS) on stock returns in the public companies listed in the main market of Bursa Malaysia for the year 1990-2000. The findings revealed that ROA, ROE, and EPS have significant influence on stock returns. Nonetheless, EVA was found to be the worst performer in predicting stock returns. As such, this study did not find a strong relationship for the assertion by Stewart, let alone championing the claim of Stewart in abandoning EPS and ignoring the ROA, ROE and ROI. This proved that EVA is not as best as what Steward claimed.

Ismail et al., (2008) examined EVA as a performance measurement for government-linked companies (GLCs) versus NON-GLCs in Bursa Malaysia. The results of this study revealed that firms with government as the stakeholders was unsuccessful to associate and had negative connection with EVA. Firms that had negative EVA point up these companies had high level of cost of capital. Therefore, it suggested for the government to keep away from investing in such firms.

Ismail (2011b) used EVA as a predictor for predicting company performance after 1997 economic crisis. His results showed that EVA had a better relationship

with stock return than traditional tools (EPS, DPS, and NOPAT) for the period of 1997-2002, for the main board company listed in Bursa Malaysia. Ismail (2011a) studied the ability of EVA characteristics in predicting company performance in Bursa Malaysia. His result indicated the value creators had a better relationship with earning than value destroyers. Moreover, this study exhibited that value creators have better earnings multiplier than value destroyers. This study also shown EVA had a better association with stock return over the study period.

Yahaya and Mahmood (2011) measured the property firms' performance under EVA criterion. Their sample involved 27 Malaysian property firms over the period of 1997-2006. Their results revealed that most Malaysian property firms failed to generate enough revenue for covering their capital cost. Therefore, these companies are failure in creating company wealth. Nevertheless, the results should be explained with careful because the companies should not only investigate the present performance but also to look for whether shareholders will benefit within the long-run. In fact, the management should look beyond EVA and strategically position by analyzing the trend of market and potential areas of future growth.

Thim et al., (2012) analyzed the factors affecting the performance of 36 property firms listed on the main board of Bursa Malaysia from 2003-2007. They employed ordinary last square (OLS) method for analyzing the relationship between ROA, ROE, debt ratio (DR), net profit margin (NPM), effective tax rate (ETR), EPS, and price earnings ratio (PE) with stock performance. The results showed that ROA, ROE, and EPS have strong significant association with the property stock performance. Additionally, they suggested that it is a small sample size, and in the future studies for obtaining better results can be included some relevant changes and modifications.

1.3 Accrual Accounting in Malaysian Public Companies

There are two types of approach in public sector's financial reporting which are cash accounting and accrual accounting. Accrual accounting is a method that measures the financial performance and financial position of an entity to recognize the effects of transactions or events as they occur. Accrual accounting is different from cash accounting since cash accounting is seen as cash or its equivalent, either when it is received or paid. In Malaysia, the transition from cash accounting to accrual accounting in the public sector is expected to be fully implemented by the year 2015 (Ahmad *et al.*, 2013).

Usually, it takes from five to ten years for a country to complete the conversion to accrual accounting. For example, in New Zealand, the process has reportedly taken ten years. In other words, the United Kingdom and Sweden are reported to take seven and eight years, respectively (Irvine, 2011). For Malaysia, it is expected to take five years for the implementation of accrual accounting (Accrual Accounting Project Team of AGD, 2011).

Traditionally, cash accounting in public sector focused on the control of expenditure. The reform of the public sector has changed the traditional role of accounting to one that is focused on accountability and the efficient allocation of resources. This implies that accounting should concentrate upon outputs, performance measurement, efficiency, cost saving, productivity and performance measurement (Hoque and Moll, 2001). Accrual accounting generates better quality of financial information in terms of accountability, enhancement of the transparency, and better decision making by internal management. In addition, the traditional cash accounting method, as used in many countries, is perceived as no longer relevant (Ropidah *et al.*, 2004). Moreover, the traditional cash accounting system adopted in many countries is perceived as no longer satisfactory. This in turn requires that new accounting technologies be employed such as planning program budgeting, accrual accounting, performance indicators and annual reporting mechanism (Hoque and Moll, 2001).

The Malaysian Cabinet through its Ministry of Finance, in October 2003 has directed the Accountants General's Office and Bank Negara Malaysia to study the possibility of adopting the widely practiced accrual accounting system, in place of the current cash accounting system (New Straits Times, October 21, 2003). Likewise, the International Public Sector Accounting Standards Board (IPSASB), which is under the Federation of Accountant (IFAC), is known to be responsible for developing International Public Sector Accounting Standards (IPSAS) and it strongly encourages the national government to implement accrual accounting (Zakiah and Pendlebury, 2006). In Malaysia, previously, the main focus was on the management of accounting initiatives for the development of governmental accounting. Currently, the use of accruals accounting is being considered in an attempt to improve the financial management procedures in Malaysia. In June 2011, the Malaysian government took the challenge to switch from cash accounting to accrual accounting. Wynne (2004) believes that the migration to accrual accounting is part of the process of adopting the style of financial statements practiced by companies in the private sector into the public sector.

On the other hand, under accruals basis of accounting, income must be recorded in the accounting period in which it is earned. Therefore, accrued income must be recognized in the accounting period in which it arises rather than in the subsequent period in which it will be received. Conversely, prepared income must not be shown it as income in the accounting period in which it is received but instead it must be presented as such in the subsequent accounting period in which the services or obligations in respect of the prepaid income have been performed.

Expenses, on the other hand, must be recorded in the accounting period in which they are incurred. Therefore, accrued expense must be recognized in the accounting period in which it occurs rather than in the following period in which it will be paid. Conversely, prepaid expense must not be shown as expenses in the accounting period in which it is paid but instead it must be presented as such in the subsequent accounting periods in which the services in respect of the prepaid expense have been performed. Moreover, accruals basis of accounting ensures that

expenses are matched with the revenue earned in an accounting period. Therefore, accruals concept is very similar to the matching principle.

Accrual accounting increases the complexity of a business's accounting system. Unlike cash accounting, where transactions are recorded when cash is received or paid out, accrual accounting requires both revenue and expense transactions to be recorded in the reporting period during which they occur. Moreover, Accrual accounting increases the accuracy of a business's balance sheet and income statement and as a result, more accurately represents a business's financial position. Because revenues and expenses are recognized on the income statement in the reporting period during which they are earned, the income statement more accurately represents revenue-producing activities and expenses a business incurs during a reporting period. In the same way, accrued revenues and income listed in the current assets section and accrued expenses listed in the current liabilities section of the balance sheet more accurately reflect the overall financial state of the business at a specific point in time (Ropidah *et al.*, 2004).

According to Malaysian Public Sector Accounting Standards 1 (MPSAS 1) (2013), the accounting bases of all public companies listed in Bursa Malaysia is accrual accounting. Furthermore, the bases of accounting reports and market information are accrual accounting. As mentioned before, accrual accounting has some benefits, namely, convenient to users (Rowles, 2004), comparable (Walker, 2008), as well as better quality of financial information in terms of accountability, enhancement of the transparency, and better decision making by internal management (Ropidah *et al.*, 2004). Likewise, accounting and value based measures are calculated based on financial reports. For calculating the accounting measures in this study, net profit (NP), sales, and NOPAT are used. These measures are calculated based on accrual accounting. Additionally, for computing the value based measures (EVA, REVA, EVAM, and MVA), this study applied adjusted NOPAT (Adj. NOPAT) and cost of capital. Both of these variables are calculated based on accrual accounting. Therefore, in this study, all accounting and value based measures are based on accrual accounting.

1.4 Problem Statement

Company performance evaluation is always a main concern participants in capital markets, especially those interested in how the financial performance related to stock returns (Huang and Wang, 2008). EVA was suggested more than two decades ago as a residual income-based measure of financial performance that employs the balance sheet, income statement components, and also the cost of capital to supply a single performance tool (Stewart, 1991). A series of measures related to EVA were introduced at later times and tested to decide the worth of EVA as a performance criterion. There is evidence that EVA or EVA-based criteria are related to future financial performance has been questionable (Mahoney, 2011). Moreover, Chen and Dodd (2001) declared that insufficient empirical research exists to support the claim of EVA's superiority as performance measure in term of value-relevance.

Three decades of research have found that accounting earnings have provided useful information, but the superiority of EVA over accounting earnings have only recently been empirically tested and studied (Chen and Dodd, 2001). Likewise, Anastassis and Kyriazis (2007) have been noted that traditional performance measures such as, ROE, ROA, do not consider the capital cost (equity and debt) in order to make the profits generated by a firm. Therefore, based on the conventional approach two firms that have the similar ROE would be measured as equal success, while based on the EVA approach the similar conclusion could not be made if the two companies had a various capital cost.

Furthermore, one recorded trademark of EVA dimensions is EVAM. EVAM came out as the newest EVA-related trade performance criterion in 2009 (Mahoney, 2011). Stewart (2009) stated that EVAM is "the one ratio that tells the whole story" (P. 74). Colvin (2010) said, intelligent investors and clever managers will concentrate on EVAM. EVAM has not been experimentally examined in any known prior research (Mahoney, 2011). Additionally, Stewart (2009) makes the bold claim for a new concept, EVAM; he noted it is the ratio that cannot be manipulated. It is the only per cent metric where more is always better than less. It always rises when managers do things that make economic sense. If he is right, it is worth knowing for

managers at each level also for investors. It is an alteration in the business, EVA divided by prior period sales (Colvin, 2010).

Internationally, there are many studies that have been directed to recognize the relationship between accounting and value based financial performance measures with stock return, but the most of these studies have been managed in developed countries. Very little research has been conducted on EVA in Asian countries specially Malaysia (Sharma and Kumar 2010). In addition, more research is needed on performance measures tools, especially on value based criteria (Al Mamun and Abu Mansor, 2012; Ismail, 2006).

As mentioned earlier, there are some studies on EVA and traditional performance measures in Malaysia, but these studies is limited with inconsistent results. Therefore, more study is needed in this area. On the other hand, there are still low in depth and comprehensive studies managed in this issue in Malaysia. In brief, there are some studies that have drawn inconsistent results; for example, a research directed by Isa and Lo (2001) has supported the idea that EVA is better tool in explaining the stock return and company values. However, the findings of Zoolhelmi (2001) showed there is no added advantages in EVA compared to traditional tools as a performance measurement. Besides, Wong (2005) found that EVA is the poorest performer in predicting stock returns beyond accounting measures (ROA, ROE, and EPS). In contrast, the findings of Ismail (2011a) revealed that EVA had a better association with stock return compared to accounting variables (NOAT, EPS, and DPS).

In addition, to the best author's knowledge, no research has been directed on REVA and EVAM in Malaysian context. Therefore, due to the limited studies with controversial results on value based measures and none comprehensive study in Malaysia this study looks for to examine the RIC and IIC of values based measures (EVA, REVA, EVAM, and MVA) and accounting performance measures (NI, NOPAT, ROA, ROE, ROS, and EPS) with stock return in Bursa Malaysia.

Additionally, the previous studies (Isa and Lo, 2001; Zoolhelmi, 2001) involve limited variables, small numbers of firms and cover a short time of period. This research includes a larger sample size that covers main board companies listed in Bursa Malaysia and includes longer time of period (10 years) over the period 2002-2011.

Furthermore, Ismail (2006) and Wong (2005) also have applied few measures, notably one value based measure (EVA) and three accounting criteria to evaluate the company performance in Malaysia. Nevertheless, this study involves four value based measures (EVA, REVA, EVAM, and MVA) and six accounting variables (NI, NOPAT, ROE, ROA, ROS, and EPS). Likewise, this study is more comprehensive since it involves more accounting and value based measures as well evaluation of internal and external measures. Similarly, the scope of this study also focus on the recent information of Bursa Malaysia from year 2002-2011 as compared to Ismail (2006) who studied from the period of 1993-2002.

Finally, the evaluation of information content controlled by traditional variables (NI, NOPAT, ROA, ROE, ROS, and EPS) and non-traditional variables (EVA, REVA, EVAM, and MVA) from the substructure of the research question, i.e., can a mixture of traditional and non-traditional variables significantly explain performance of companies in Bursa Malaysia? Deciding whether the performance of companies can be significantly explained by a mixture of traditional and non-traditional variables is the primary focus of this study.

The summary of problem statements is shown as bellow:

 There are some studies on EVA and accounting measures in Malaysia, but these studies is limited with inconsistent results. Therefore, it is needed to more study about EVA and EVA-related measures in Malaysia.

- 2. In Malaysia, there are still low in depth and comprehensive studies managed in this issue.
- 3. EVAM came out as newest value based measures in 2009. To the beast of my knowledge, EVAM has not been experimentally examined in any known prior research on public companies.
- 4. To the best of author's knowledge no research has been conducted on EVAM and REVA in Malaysian text. This is the first research in this area.
- 5. Malaysian's firms have applied financial ratios. These ratios are unable to measure the firm created value over the period.
- 6. Malaysian's companies have used accounting criteria to evaluate the performance of firm and also management. These measures are unable to consider the cost of capital (debt and equity) in order to make the profit generated by a firm.

1.5 Justifications for Choosing Malaysia

In general, the most of studies on accounting and value based criteria as performance measures have been conducted in developed countries, such as US and European countries. Moreover, very little research on value based measures has been directed in developing countries, especially Asian countries involving Malaysia.

As mentioned earlier, the starting point of this study is to examine the RIC and IIC of accounting and value based measures as well as the explanatory power of these criteria in respect to explanation the stock return of company in developing countries. Based on these conditions, Malaysia would be the best choice and is a unique example for various reasons. First, Malaysia was hit badly by the financial

crisis and managed to overcome the problems independently by taking their own initiatives (Ramakrishnan, 2012). In addition to this, the Malaysian financial markets managed to survive during the global financial crisis of 2008-2009, but on the other hand, its exports, oil prices and Gross Domestic Product (GDP) has to suffer with a sharp downfall (Abidin and Rasiah, 2009; Angabini and Wasiuzzaman, 2010). Secondly, Malaysia is an emerging market that is developing at a rapid rate. The advancement and vibrancy of its financial market, particularly the bond market, is observable in comparison to other emerging markets (Ramakrishnan, 2012). Thirdly, to the best of author's knowledge, none of the previous studies focuses on the RIC and IIC of REVA and EVAM as well as using the largest number of observations in Malaysian companies. Moreover, this is the first extensive study across developing countries that examine the RIC and IIC of four value based measures (involving EVAM as the newest value based criterion) and six accounting measures with stock return and MVA, and their impact on the financial decision-making for reducing the cost of capital and, thus, maximization the shareholders wealth.

1.6 Purpose of the Study

The aim of this study was to assess the relative and incremental information content of large numbers of value based measures (EVA, REVA, EVAM, and MVA) and accounting measures (NI, NOPAT, EPS, ROA, ROE, and ROS) with stock return (as proxy of company performance) on public listed companies in Bursa Malaysia. Furthermore, this study examined the relationship between external measure (MVA) and internal measures (EVA, REVA, EVAM, NI, NOPAT, ROA, ROE, and ROS) for analyzing the created shareholder value (CSV) in Bursa Malaysia.

In other words, the literature review indicates that in spite of the importance of performance evaluation using accounting and value based measures, few empirical studies have examined the RIC and IIC of accounting and value based measures with stock return. Therefore, this study fills the gap in the literature series by the capturing

the indirect impact of value based and accounting measures on stock performance decision making. Furthermore, since most of the studies concentrate on the developed markets, this study serves to fill the gap in the empirical evidence in the context of developing markets. Likewise, investors, executive managers, government, and other users of financial statement for evaluating the firms' performance in spite of the financial statements, need the performance measure tools. Performance measures can help them for making the best decision. Consequently, this study provides good guidelines for financial decision making on the Malaysian companies.

1.7 Objective of the Study

Numerous scientific studies have been published after Fortune Magazine cover story called Stern Stewart & Co.'s EVA practice (Tully, 1993). Following research concentrated upon the application of EVA to firm and separation results, EVA as an incentive reward tool, to turn up at net operational profit after taxes (NOPAT) and capital employed, the use of financial adaptation, and refined economic value added (REVA). Calculation of REVA is such that it replaces book value in the traditional EVA estimation with market value (Bacidore *et al.*, 1997b).

Stewart (2009) reported EVAM is the single best performance measure. He has suggested EVAM captures the economic performance of a firm and provides stakeholders with an early warning signal of future performance. EVAM is calculated using adjusted generally accepted accounting principles (GAAP) financial statement earnings, adjusted publicly held capital amounts, stakeholder return requirements and recent sales information. Specifically, EVAM is the change in current period EVA divided by prior period sales. One of the purposes of this study is to examine EVAM as a newest performance measure in the Bursa Malaysia and understand whether EVAM is related to financial performance. This study reviews performance measurement techniques used in the public company, includes a discussion of the development of EVA and EVA-related measures from inception

through the introduction of EVAM, and compares EVAM performance in some kind of industries. Therefore, the objectives of the research are:

- 1. To investigate the relationship between the value-based financial performance measures (EVA, REVA, EVAM and MVA) and the stock return.
- 2. To identify the relationship between the accounting performance measures (ROA, ROE, ROS, NI, NOPAT, and EPS) and stock return.
- 3. To investigate the relationship between external performances measure (MVA) as proxy of shareholder value creation and internal performance measures (EVA, REVA, EVAM, ROA, ROE, ROS, EPS, NI, and NOPAT).
- To determine the incremental informational content of the value based measures with stock return compared to the accounting performance measures.
- 5. To determine the incremental informational content of the accounting performance measures with stock return compared to the value-based measures.
- 6. To determine the incremental information content of EVAM with stock return compared to other value-based measures (EVA, REVA, and MVA).
- 7. To determine the incremental information content of NI with stock return compared to other accounting measures (NOPAT, EPS, ROA, ROE, and ROS).
- 8. Providing independent empirical evidence on the information content of EVA, REVA, EVAM, MVA, NI, NOPAT, ROA, ROE, ROS, and EPS with respect to explanations of the stock returns of companies.

9. To decide whether a combination of traditional and non-traditional financial performance measures have significant explanatory power with respect to explanations of the stock returns of companies (performance of companies).

1.8 Research Question

Relative information content (RIC) comparisons will be used when the purpose is ranking the accounting and value based measures. In other words, relative comparisons ask whether the information content of X alone is greater than, equal to, or less than the information content of Y alone. In contrast, incremental information content (IIC) comparisons assess whether one measure (or set of measures) provides information content beyond that provided by another. In the other hand, incremental comparisons assess whether the information content of X and Y together is greater than that of one variable alone; if so, then the other variable provides IIC (Biddle *et al.*, 1997).

This study investigated the RIC and IIC of value based measures (EVA, REVA, and EVAM) with stock return compared to accounting performance measures (ROA, ROE, ROS, EPS, NI, and NOPAT). Furthermore, this study examined the RIC of internal accounting and internal value based measures with external measure (MVA). Similarly, it examined whether value based measures provide IIC beyond that contained in accounting performance measures and viceversa. This study also investigated the IIC of EVAM versus other value based measures (EVA, REVA and MVA). Finally, this study identified the IIC of NI versus other accounting measures (NOPAT, EPS, ROA, ROE, and ROS). In sum up, in this study the following two groups of questions have to be answered:

The first group that is about relative information content (RIC) includes:

RQ1: Whether value based measures (EVA, REVA, EVAM, and MVA) have greater relative information content with stock return compared to accounting measures (NI, NOPAT, EPS, ROA, ROE, and ROS)?

RQ2: Whether internal value based measures (EVA, REVA, and MVA) have greater relative information content with MVA compared to internal accounting measures (NI, NOPAT, EPS, ROA, ROE, and ROS)?

The second group that is about incremental information content (IIC) includes:

RQ3: Whether value based measures have greater incremental information content with stock return compared to accounting measures?

RQ3a: Whether EVA has greater incremental information content with stock return compared to accounting measures?

RQ3b: Whether REVA has greater incremental information content with stock return compared to accounting measures?

RQ3c: Whether EVAM has greater incremental information content with stock return compared to accounting measures?

RQ3d: Whether MVA has greater incremental information content with stock return compared to accounting measures?

RQ4: Whether accounting measures have greater incremental information content with stock return compared to value based measures?

RQ4a: Whether NI has greater incremental information content with stock return compared to value based measures?

RQ4b: Whether NOPAT has greater incremental information content with stock return compared to value based measures?

RQ4c: Whether EPS has greater incremental information content with stock return compared to value based measures?

RQ4d: Whether ROA has greater incremental information content with stock return compared to value based measures?

RQ4e: Whether ROE has greater incremental information content with stock return compared to value based measures?

RQ4f: Whether ROS has greater incremental information content with stock return compared to value based measures?

RQ5: Whether EVAM has greater incremental information content with stock return compared to other value based measures?

RQ6: Whether NI has greater incremental information content with stock return compared to other accounting measures?

1.9 Significance of the Study

In general, the significant contributions of this study are twofold, namely, theoretical contribution and practical contribution. In relation to the theoretical contribution, this study fills the gap in the literature series by the capturing the indirect impact of value based and accounting measures on stock performance decision making. In other words, the literature review indicates that in spite of the importance of performance evaluation using accounting and value based measures, few empirical studies have examined the RIC and IIC of accounting and value based measures with stock return (Stewart 1991, Isa and Lo, Wong 2005, Ismail 2006, 2008, Al Mamun and Abu Mansor, 2012). Additionally, to the best of author's knowledge, no research has reported on the RIC and IIC of EVAM and REVA with stock return in the context of Malaysian firms. Also, very little research directed on

the relationship between EVA and accounting criteria with stock return in Malaysian firms that drawn inconsistent results (Al Mamun and Abu Mansor, 2012; Sharma and Kumar, 2010).

Since most of the studies concentrate on the developed markets, this study serves to fill the gap in the empirical evidence in the context of developing markets. The RIC and IIC of accounting and value based measures on stock performance decision making is likely to differ across developing countries due to its enormous institutional differences, particularly among the emerging markets.

The development of emerging capital markets also varies across countries which contribute to the degree of accessibility of funds as firms become more dependent on external funds. Additionally, capital cost and debt cost (interest expenses) have indirect effect on stock performance. Furthermore, the theoretical contributions can be seen on several aspects as the study concentrates on the different measures. Value based measures provide an estimate of a firm's economic profit by incorporating its total cost of capital (debt and equity) in their calculation. In those cases where these measures yield positive values, economic profits are generated, and consequently shareholder value is expected to increase. Negative values indicate the destruction of shareholder value (Stewart, 1991; Grant, 2003). While accounting measures exclude the firm's cost of capital, and no provision is, therefore, made for the opportunity cost on the capital invested by the shareholders (Young and O'Byrne, 2001).

From a practical point of view, this study provides good guidelines for financial decision making on the Malaysian companies listed in Bursa Malaysia. As for the Malaysian companies, this study provides a good recipe for managers to consider an appropriate set of accounting and value based determinants related to company performance and created shareholder value (CSV) in their evaluation of firms' performance.

Comprehending which performance criteria most precisely explain the firm performance requires a significant investment in education and research. For evaluation of company's performance, many performance criteria have been used, but no single measure can completely imprison the client dynamic, capital invested competitive area, and macroeconomic area. According to Stewart (2009) EVAM has been put forward as the single measure that best capture past performance and signals the future financial performance of a company. However, this study does not support the claim of Stewart that EVAM is the best single measure.

Abdullah (2004) claimed that in Malaysia, firms applied financial ratios to measure the performance of company. These ratios are unable to measure the created value of firm over the period. Also Ismail (2011b) and Sharma and Kumar (2010) noted to evaluate the performance of companies in Malaysia, the new financial measure tools are needed. Similarly, the findings of this study showed combination of accounting and value based measures (EVA, REVA, and MVA) can better explain the performance of company.

Consequently, it seems that there is a growing need to use new performance measure tools which can show the value of stockholders. In addition, more research is needed on performance measure tools, particularly, on value based financial performance measures. But so far, none of the public companies listed in Malaysia have issued which used EVA as performance measuring tool in their annual reports. In this case, EVA can be recommended to calculate the performance of company, because EVA not only explains accounting information but illustrates economy and market information. Moreover, there have been very little research printed on the current position of EVA in Asian countries involving Malaysia (Al Mamun and Abu Mansor, 2012).

Worthington and West (2001b) claimed that there is an obvious requirement to study the helpfulness of EVA over traditional measures during the longer period of framework, which would permit superior empirical certainty on EVA's status as a company performance measure. Likewise, the period of this study contained the current long time (10 years) from 2002 to 2011.

There is no evidence conclusive that supporting whether EVA and EVA-related measures are associated to financial performance. In addition, EVA and EVA-related research in the public company has been limited. Furthermore, EVAM is a newest performance measures that referred by Stewart in 2009. To the best author's knowledge, none research directed on EVAM, and REVA in Malaysian firms. On the other hand, there is limited research about EVA in Malaysia. Therefore, this study extends previous EVA research. Besides, to the best of author's knowledge, it is the first known study that empirically examines EVAM and REVA as a performance measures in the Bursa Malaysia. Also, the results of this study indicated that value based measures, namely, EVA, REVA, and MVA (except EVAM) are effective and useful measures for evaluating the firms' performance in Bursa Malaysia.

Finally, investors, executive managers, government, and other users of financial statement for evaluating the firms' performance in spite of the financial statements need the performance measure tools. Performance measures can help them for making the best decision. Accordingly, performance criteria are the key tools for performance measurement systems, they play a vital role in every organisation as they are often viewed as forward-looking indicators. These criteria assist management to predict the company's economic performance and many times reveal the need for possible changes in operations (Maditinos *et al.*, 2006; Nanni *et al.*, 1990; 1999).

1.10 Scope of the Study

The sample of study was involved the non-financial companies listed in the main market of Bursa Malaysia, from 2002-2011. The historical and secondary data was comprised companies' financial statement and used to calculate EVA, REVA, EVAM, MVA, ROA, ROE, ROS, NI, NOPAT, and EPS. The data was abstracted from the income statement, balance sheet, cash flow statement, and financial highlights, available from Bursa Malaysia website, and DataStream of Universiti Teknologi Malaysia (UTM). The statistical society of this study was involved all

non-financial companies listed in Bursa Malaysia that their data was available during the period of 2002-2011. The large numbers of companies expect to make the study more transparent and representative of a cross-section of companies in Malaysia. Therefore, the scope of the study was included all non-financial companies listed in the main market of Bursa Malaysia with availability of data through over the period 2002- 2011. Furthermore, this study involves ten independent variables (EVA, REVA, EVAM, MVA, ROA, ROE, ROS, NI, NOPAT, and EPS) and two dependent variable, (MVA and stock return).

The sample data of this study was restricted to non-financial companies listed in the main market of Bursa Malaysia, with available annual trading data during the period of 2002 through 2011. The financial companies (such as holdings and investments) were excluded from the sample data, in order to have consistent interpretation on certain company characteristics such as earnings and size. Besides, the financial companies in Malaysia are governed by special rules and regulations known on the Banking and Financial Institutions Act 1989 (BAFIA).

1.11 Operational Definitions

There are a number of terms which was used frequently in this study. In this section a brief definition of these terms provided. A more complete explanation was presented in the next chapter.

1.11.1 Value Based Financial Performance Measures (Economic Measures)

Value based financial performance measures include a firm's cost of capital in their calculation, and an attempt is also made to remove some of the accounting distortions contained in financial statement information resulting from the application of GAAP (Erasmus, 2008a).

1.11.1.1 Economic Value Added (EVA)

EVA is the difference between a companies' net operating profit after taxes (NOPAT) and its cost of capital of both equity and debt (Stewart 1994).

$$EVA = NOPAT - (Capital \times Cost of capital)$$

1.11.1.2 Refined Economic Value Added (REVA)

REVA is equal, NOPAT_t minus the cost of capital based on market value of company at beginning of the period. Cost of capital is equal weighted average cost of capital (WACC) times the total market value of the firm's assets at the beginning of period t (MV_{t-1}). The total market value is given by the market value of the firm's equity plus the Book value of the firm's total debts less non-interested-bearing current liabilities all at the beginning of period t (Bacidore *et al.*, 1997b). In other words, REVA is the difference between firms' NOPAT and cost of capital that cost of capital calculated based on market value of company.

$$REVA_t = NOPAT_t - (MV_{t-1} \times WACC)$$

1.11.1.3 EVA Momentum (EVAM)

"The change in EVA from the prior period divided by prior period sales" (Stewart, 2009).

1.11.1.4 Market Value Added (MVA)

MVA is the different between market value of a company and the invested capital (both bondholders and shareholders). On other hand, MVA is the difference between the market value of debt and equity and the capital invested in the firm (Kramer and Peters, 2001).

1.11. 2 Traditional Financial Performance Measures (Accounting Measures)

Traditional financial performance measures are those measures that do not incorporate the firm's cost of capital in their calculation, and are mainly based on the accounting information contained in the firms' financial statements.

1.11. 2.1 Earnings before Interest and Taxes (EBIT)

Based on Generally Accepted Accounting Principle (GAAP), the EBIT, by net profit plus interest and income tax expense is calculated.

1.11.2.2 Net Operational Profit after Tax (NOPAT)

NOPAT is operational profit after tax minus depreciation and amortization expense but before finance costs and other adjustments. On the other hand, NOPAT is equal net operational profit minus tax expenses.

NOPAT = Net operational profit – (1- Tax rate)

1.11.2.3 Earnings before Interest, Taxes, Depreciation, and Amortization (EBITDA)

EBITDA is equal earning before the deduction of interest expenses, taxes, depreciation, and amortization.

1.11.2.4 Net Profit (NP) or Net Income (NI)

NP is calculated by subtracting the total expenses of company from total revenues. It shows what the firm has earned (or lost) in a given period of time (usually one year). Furthermore, it is called net income (NI) or net earnings (NE).

1.11.2.5 Earnings per Share (EPS)

EPS is part of firm's profit allocated to each outstanding share of common stock.

 $EPS = (Net\ profit-Dividends\ on\ preferred\ stock)\ /\ Average\ outstanding$ shares

1.11.2.6 Return on Total Assets (ROA)

ROA is one of the profitability ratios. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Calculated by dividing a company's annual earnings by its total assets,

ROA= Net profit / Total assets

1.11.2.7 Return on Equity (ROE)

ROE is the amount of net profit return as a percentage of stockholders equity. ROE assesses a corporation's profitability. It measures a corporation's profitability by revealing how much profit a firm generates with the money shareholders have invested. ROE is expressed as a percentage and calculated as:

ROE = Net profit / Stockholder's equity

1.11.2.8 Return on Sales (ROS)

ROS measures the net income earned for each dollar of sales. ROS point outs a firm's profit (or loss) for a special period-usually one year.

ROS = Net profit / total sales

1.11.3 Residual Income (RI)

Accounting profit in dollars less capital charges based on invested capital (Dillon and Owers, 1997).

1.11.4 Incremental Information Content (IIC)

Incremental information content indicates whether one financial measure (or set of measures) provides additional information over and above that provided by another measure.

1.11.5 Relative Information Content (RIC)

Relative information content refers to the information content of one financial measure compared to another.

1.11.6 Value Based Management (VBM)

Value based management refers to the management process where the focus is continuously placed on shareholder value maximization.

1.11.7 Generally Accepted Accounting Principles (GAAP)

Financial accounting standards; Board (FASB) Standards and Interpretations, Accounting Research Bulletins (ARB), Accounting Principles Board (APB) Opinions, and other bulletins, guides, and statements used to prepare financial statements. In the United States, GAAP is applied to private, public, and non-profit organizations (Kieso *et al.*, 2004).

1.12 Chapter Organization (Outline of Thesis)

This research consists of five chapters. The overview of the thesis is presented in chapter one. Problem statement was presented, research objectives were determined, and significant of the study was discoursed.

Chapter two reviews the concerning literature of the conceptual and practical aspects of performance evaluation using accounting and value based financial performance measures process. This review was provided a reasonable for the scope and the conceptual model.

In chapter three the research methodology was defined. The conceptual model, research questions, sampling design, sampling period, research tools, collecting of data, and data processing and analysis was debated.

In chapter four, an analysis of collected data and evidences with the initial model is presented. Finally, chapter five contains discussion and conclusion of research findings. This is followed by description and limitations of the study and possible avenues for further research.

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