

## **“PERFORMANCE of PUBLIC-LISTED COMPANIES IN MALAYSIA: USING EVA”**

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### **ABSTRACT**

The main purpose of this study is to identify the relationship between Economic Value Added and the company performance in Malaysia. It also sought to explain the ability of EVA, compared to traditional tool, in measuring performance under various economic conditions; pre-economic crisis, during economic crisis and post-economic crisis period. Single and multiple panel pool regression, using pooled time-series, cross-sectional, with common and period specific coefficients with White's heteroscedasticity-corrected variances and standard errors were used for data analysis. This study found that traditional tools particularly EPS is able to correlate and had a relationship with stock return and this study revealed that EVA also able to correlate with stock return and it is superior in explaining the variations of the stock return as compared to the traditional tools under varying economic conditions. The finding disclosed that a component of EVA was not had a better relationship with stock return than EVA. While, this study indicates that EVA had a better relationship with stock return over a longer period of the study. The finding revealed that neither positive EVA (value creators) nor negative EVA (value destroyers) had a relationship with stock return. However, the positive EVA (value creators) had a better relationship with earnings than negative EVA (value destroyers) and this study indicates that value creators have better earnings multiplier than value destroyers. While the combination of traditional tool and EVA will not lead to increase the ability in developing relationship with stock return.

### **INTRODUCTION**

Company performance can be measured by using various techniques. Company performance measurement can be a quantitative or qualitative characterisation of performance. However, quantitative performance measurement is argued to provide a better view on company performance. Quantitative performance refers to physical measurement that enables investors to evaluate business activities through financial statements of the company.

The most basic measurement is earnings, such as “earnings per share” or EPS. This measurement divides earnings by number of outstanding shares. Investors’ use many other tools in evaluating stocks, but it all begins and usually ends with earnings. The financial success or failure of most firms depends on their ability to generate profit from their normal ongoing core business.

However, it is arguable if earnings or profit alone can be considered as the best performance tool. In an influential study, Stewart (1991) argued that accounting earnings fails to recognise the cost of capital and the riskiness of a firm’s operations. Earnings, EPS and earnings growth are misleading measures of corporate performance. As earning or EPS derived from accounting information can be easily manipulated. It is believed that for a new tool to be adopted it must have more elements in its calculation as compared to current performance tools such as EPS. The tool should combine factors such as economy, accounting and market information in its assessment consideration.

From the review of performance measurement literature, Economic Value Added (EVA) has recently amazed much attention as a tool that takes into consideration many factors which was discussed earlier. EVA incorporates more information as compared to traditional tools (i.e. EPS, Dividend Per Share (DPS), Net Operating Profit After Tax (NOPAT) and earning). Stern Stewart Company has advocated that an Economic Value Added (EVA™) should be used instead of earnings or cash from operations as a measure of both internal and external performance.

Isa and Lo (2001) said 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 make better investment and allocation of resources decisions.

However, some previous studies have found mix results in using EVA as performance tool. Some had found that EVA is a better predictor of performance as compared with traditional tools while others are not. As an EVA advocate and supporter, Stewart (1994) had suggested that EVA™ stands well out from the crowd as the single best measure of wealth creation on a contemporaneous basis and is almost 50% better than its closest accounting-based competitor (accounting measurement tool) in explaining changes in shareholder wealth. Taub (2003) found the change in EVA explains 35 percent of the change in Market Value Added (MVA), or seven times more than sales growth, consequently the change in EPS explains only about 3 percent of

the change in MVA. McClenahan (1998) similarly observed that traditional corporate performance measures are being relegated to second-class status as metrics such as EVA becomes management's primary tool and Herzberg (1998) said that there has been widespread adoption of EVA by security analysts.

Lehn and Makhija (1996) said that EVA<sup>TM</sup> measures take into account the cost of equity capital by considering the required rate of return of the investors in calculating the value of the companies. EVA<sup>TM</sup> is also the best measure for not-for-profit organisations. EVA is superior to accounting profits as a measure of value creation because it recognises the cost of capital and, hence, the riskiness of a firm's operations.

Berry (2003) said EVA is ideally suited to publicly traded companies because it deals with the cost of equity for shareholders, as opposed to debt capital. Davidson (2003) argued that while EVA does not only improve banks performance and profitability, its ability to boost stock performance is significant. Further, Burkette and Hedley (1997) have claimed in their report that implementing an EVA policy would trigger a company's stock to rise. EVA's long term performance is not compromised in favor of short-term results and provision at correct incentives for capital allocations (Booth and Rupert, 1997).

EVA is also said to provide better goal congruence than Return on Investment or ROI (Brewer et al. 1999). EVA can eliminate the confusion and conflicts that arise when a firm uses multiple measures such as EPS, ROI, Return on Equity (ROE) and Net Operating Profit after Tax (NOPAT) (Kudla and Arendt, 2000). EVA can eliminate economic distortions of General Accepted Accounting Practice (GAAP) to focus decisions on real economic results, provides for better assessment of decisions that affect the balance sheet and income statement or tradeoffs between each other, and through the use of the capital charge against NOPAT and it covers all aspects of the managerial cycle (Stewart, 1991).

Taub (2003) observes that most tools in industries only concentrate on financial information or accounting information, however EVA is a combination of market, accounting and economic information giving it a much wider net. By focusing on financial results in economic terms but not accounting terms it provides a significant information value beyond the traditional accounting measures of EPS, Return on Asset (ROA) and ROE (Chen and Dodd, 2001).

EVA™ is said to have a value-based performance measurement system which have further practical advantages (Stern et al., 1989). It also provides an improvement in corporate environmental performance (Epstein and Young, 1998). EVA is more than a measurement of performance; it is a framework for a complete financial management and incentive compensation system (Ehbar, 1998). Drucker (1995) said EVA™ is a vital measure of total factor productivity and EVA is based on something we have known for a long time, i.e. what we call profits. EVA™ is regarded as a single, simple measure that gives a real picture of stockholder wealth creation (Tully, 1998). Johnson and Soenen (2003) had stated one of the benefits of EVA is its simplicity and its easiness to adjust for risk.

An EVA system helps managers to make better investment decisions, identify opportunities for improvement and consider short-term as well as long-term benefits for the company (Stewart, 1994). Furthermore, studies suggest that EVA™ is an effective measure of the quality of managerial decisions (Lehn and Makhija, 1996) as well as a reliable indicator of a company's value growth in the future (Fisher, 1995).

Isa and Lo (2001) had said that EVA has gained significant attention as alternative to traditional tools (as company valuation) for use in corporate performance and also can be used as incentive compensation plan. EVA measures have frequently been used in the determination of managerial compensation (Tortella, 2002). The purpose of EVA is to change the behavior of management and their performance (Wileman, 1999) and lead managers to act more like owners (Tully, 1993). It can be used to motivate managers to create shareholder value by being a basis for management compensation (Stern et al., 1989).

On the other hand, some empirical studies have questioned the efficiency of EVA™. For example, Fernandez (2001) observes a low (and sometimes negative) correlation between EVA™ and MVA, and concludes that traditional tools present higher levels of correlation with the increase in the MVA. This observation is supported by studies carried out by Riceman et al. (2000).

Armitage et al. (2001) states managers will remember the strong correlations claimed between the adoption of EVA measures and stock market performance. Recent evidence has shown that this correlation is much weaker than originally claimed - in fact, it is no better than the measurement systems it has claimed to displace. Studies carried out by Tortella (2002) observed her studies tends to conflict with some other studies that observed that EVA companies have high levels of

stock market returns. She claimed that the difference is probably due to the fact that the explosion of the EVA technique occurred in the middle and the second part of the 90s, coinciding with a strong stock market. The market price evolution may rely more on audited accounting earnings than on the non-audited EVA.

Biddle et al. (1997) found evidence that accounting earnings and operating cash flows are more closely associated to stock market returns than EVA<sup>TM</sup>. Chen and Dodd (2001) also found that traditional tools, ROA explained stock returns better and concluded that firms adopting EVA<sup>TM</sup> might as well adopt the simple residual income concept, since residual income correlates with share prices almost as well as its adjusted version called EVA.

Eljelly and Alghurair (2001) discover that accounting-based measures explain very well the stock price changes for the whole sample, for different sub- periods, and for different economic sectors. While Monczka and Morgan (2000) had stated that the top management is comfortable with the traditional financial measurement tools such as ROS, ROI or performance of company stock, since they are readily understandable. Further, Roztockki and Needy (1999) had found in their study that many small manufacturing companies in Pittsburgh still rely on traditional performance measures as the primary measures of their business performance.

Knight (1998) reported the EVA does not necessarily lead to improved financial performance, higher stock prices and higher compensation. Based on statistical evidence, Knight revealed that EVA is not as accurate as cash flow returns on investment. Broadening the issue, Prober (2000) stated that many believe that EVA<sup>TM</sup> correlates well with a firm's stock prices, however the several other studies have produced mixed results. For example, Lewis (2002) has described that high P/E ratio correlates well to performance, and Mäkeläinen (1998) claimed ROI or IRR are good performance measures compared to EVA. West and Worthington (2000) found that relative information content tests reveal earnings to be more closely associated with returns than EVA, while Telaranta (1997) concluded that EVA is not any better than traditional performance measures. On the other research by Turvey et al. (2000) had found that there is absolutely no relationship between EVA and stock market performance.

Based on the above observations, this study attempts to identify which performance tool (EVA or traditional tools) is superior in developing the relationship with stock return, and can EVA correlates with stock return under various economic conditions.

## **RESEARCH METHODOLOGY**

The research hypotheses of the study are as follows;

- Hypothesis H<sub>0</sub>1: There is no traditional tool able to provide information in explaining the variation of stock return
- Hypothesis H<sub>0</sub>2: EVA per share is not able to provide information in explaining the variation of stock return
- Hypothesis H<sub>0</sub>3: EVA per share is not able to provide more information than traditional tools in explaining the variation of stock return Hypothesis
- Hypothesis H<sub>0</sub>4: Components of EVA (i.e. NOPAT, WACC and Invested Capital) are not able to provide more information than traditional tools in explaining the variation of stock return
- Hypothesis H<sub>0</sub>5: Positive EVA per share is not able to provide more information than negative EVA per share in explaining the variation of stock return
- Hypothesis H<sub>0</sub>6: Companies with positive EVA per share will not able to explain the accounting performance better than companies with negative EVA per share
- Hypothesis H<sub>0</sub>7: EVA per share is not able to explain the variation in stock return better when the study period is longer
- Hypothesis H<sub>0</sub>8: A combination of EVA per share with traditional tools (i.e. EPS) will not lead to more information in explaining the variation in stock return

### **Research Design**

Exploratory designs and correlational method have been chosen for this study since the purpose of the study is to explore the relationship of EVA and stock return against traditional tools and stock return.

To test the hypothesis, the panel pool single and multiple regression with common and period specific coefficients least squares analysis with White's heteroskedasticity-consistent (corrected) variances and standard errors are used. By using this tool, the data analysis is much more prudent because the analysis will regress data on cross sectional and time series simultaneously (Gujarati, 2001).

White (1980) has derived a heteroskedasticity consistent covariance matrix estimator which provides correct estimates of the coefficient covariances in the presence of heteroskedasticity of unknown form. The White covariance matrix is given by:

$$\hat{\Sigma}_W = \frac{T}{T-k} (X'X)^{-1} \left( \sum_{t=1}^T u_t^2 x_t x_t' \right) (X'X)^{-1},$$

where is T the number of observations, k is the number of regressors, and  $U^t$  is the least squares residual.

The sample of the companies comprise most of the companies listed in Bursa Malaysia (and which data available) over the period 1993-2002. A longitudinal study been chosen since the performance tools must be able to correlate with most companies listed in Bursa Malaysia and the period of 10 years would be sufficient to monitor the relationship between EVA and traditional tools against stock return under varying economic condition. The period of 10 years been chosen because it covers period before the economic crisis (i.e. 1993-1996) and after the economic crisis (i.e. 1999-2002) while 1997 to 1998 represent the period of economic crisis.

The study is limited to only public listed company or Limited (Berhad) Company in Bursa Malaysia, Malaysia. The company must be active in the business and trades on Bursa Malaysia. The sample companies comprise different industries and types of boards.

Based on these criteria, for period between 1997 to 2002, 245 samples of Main Board companies were selected which involved 1440 observations. While for period between 1993 to 2002, 75 Main Board companies were selected which involved 750 observations. In turn, 69 companies were selected from Second Board which involved 404 observations for period between 1997 to 2002.

### **Calculation Of Eva**

In this study, EVA is calculated based on Cordeiro and Kent Jr (2001) which is as follows:

$$EVA = NOPAT - (WACC \times \text{Invested Capital}).$$

where,

$$\text{NOPAT} = \text{Profit\&Lost Before Tax} + \text{Interest Expense} - \text{Income Taxes} - \text{Tax Shield on Interest (Tax Rate X Interest Expense)}$$

and,

$$\text{Invested Capital} = \text{Short Term Debt} + \text{Long Term Debt} + \text{Minority Interest} + \text{Shareholders Equity}^1$$

where,

$$\text{WACC} = \text{Cost of Debt} \times \left\{ \frac{\text{Total Debt}}{\text{Total Debt} + \text{CMVE}} \right\} \times (1 - \text{Tax}) + [\text{Cost of Equity} \times \left\{ \frac{\text{CMVE}}{\text{Total Debt} + \text{CMVE}} \right\}]^2$$

where,

$$\text{CMVE} = \text{Company's Share Price} \times \text{Total Shares Outstanding.}$$

where,

$$\text{Market Value of Company} = \text{CMVE} + \text{Total Debt} + \text{Minority Interest}$$

where,

Cost of Equity is calculated by using CAPM Model <sup>3</sup>

## **SUMMARY OF THE FINDINGS**

Reviewing the hypothesis of the study, our results are consistent with the findings by O' Byrne and Stephen F. (1997), King and Langli (1998), O'Hara et al. (2000), Makhamreh (2001) and Dongwei Su (2003) notably that traditional tools particularly EPS is able to correlate and had a relationship with stock return.

The results of the second hypothesis disclose that EVA per share is able to correlate and had a relationship with stock return. The finding is consistent with studies carried out by Lehn and Makhija (1996), Uyemura et al. (1996), Milunovich and Tsuei (1996), Turvey et al. (2000), Biddle et al. (1997), West and Worthington (2000), Eljelly and Alghurair (2001), and Isa and Lo (2004).

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<sup>1</sup> All the above items are based on the financial statements in the annual report of each company for the year 1993-2002

<sup>2</sup>  $\text{WACC} = \text{CD} \times \left\{ \frac{\text{TD}}{\text{TD} + \text{CMVE}} \right\} \times (1 - \text{T}) + [\text{CE} \times \left\{ \frac{\text{CMVE}}{\text{TD} + \text{CMVE}} \right\}]$

<sup>3</sup> CAPM Model, equal Risk free rate + Beta (Market Return- Risk free Rate) or Risk free Rate + Company's Risk Premium or Risk free Rate + (Company's Beta X Market Risk Premium)

The third hypothesis makes comparisons between EVA and traditional tools in developing the relationship with stock return. The study found that EVA had a better relationship with the stock return than traditional tools for the period 1993 to 2002 covering 75 Main Board companies and for the period 1997 to 2002 covering a larger sample 245 Main Board companies, and also over the period 1997 to 2002 covering different board structures, i.e. 69 Second Board companies. The study found that generally EVA had a better relationship with the stock return than traditional tools for Main and Second board companies. These findings are in line with findings by Lehn and Makhija (1996), Uyemura et al. (1996), Milunovich and Tsuei (1996), Turvey et al. (2000), Biddle et al. (1997), West and Worthington (2000), Eljelly and Alghurair (2001), and Isa and Lo (2004).

It is worth noting, however that this study revealed that traditional tools had a better relationship with the stock return than EVA before the crisis period. However, during economic crisis in 1997 and 1998, EVA had a better relationship with the stock returns than traditional tool. It remained a superior tool in developing relationship with stock return during the period economic crisis of 1997 and 1998 exhibiting an adjusted  $R^2$  which was twice that of traditional tools. After the crisis period, none of the performance tools had a relationship with the stock return.

In summary, this study revealed that EVA had a better relationship with the stock return than traditional tools, in line with the finding of Lehn and Makhija (1996), Grant (1996), Uyemura et al. (1996), Milunovich and Tsuei (1996), Telaranta (1997), Turvey et al. (2000), Biddle et al. (1997), West and Worthington (2000), Eljelly and Alghurair (2001), and Isa and Lo (2004).

The study found that for panel pool regression with common coefficients over the period 1993 to 2002 (750 observations) and 1997 to 2002 (1440 observations), traditional tool had a better relationship with stock return than any components of EVA. However, for panel pool regression

with period specific coefficients for both periods i.e. 1993 to 2002 and 1997 to 2002, components of EVA (WACC) had a better relationship with stock return than traditional tools. It concluded that a component of EVA was not had a better relationship with stock return than EVA because  $R^2$  for EVA is much higher than component of EVA alone. Such findings contradicted with findings by Fernandez (2001) O'Byrne (1996) and Riceman et al. (2000). However, the study found that WACC is the most robust component of EVA in developing relationship with the stock return, yet it failed to replace EVA as performance measurement tool.

From the analysis stemming from the fifth hypothesis, the study has drawn conclusions that regression analyses between positive EVA (value creator) and negative EVA (value destroyer) with stock return over the period of 10 years (covering 750 observations) and over the period of 6 years (covering 1440 observations), found that neither value creator nor value destroyer had a relationship with stock return as both models prove to be statistically insignificant. This finding is contrary to findings by Turvey et al. (2000).

In relation to the analysis on the sixth hypothesis, the study found that when value creator and value destroyer were regressed with earnings (represented by EPS and NOPAT), value creators had a better relationship with earnings than value destroyers and this study indicates that value creators have better earnings multiplier than value destroyers (such finding are consistent with findings from Turvey et al., 2000 and, Isa and Lo, 2004). It indicates that the increments of EVA value in value creator company tend to increase accounting profit at a higher rate than in value destroyer companies.

The seventh hypothesis evaluates regression for common coefficients and period specific coefficients analysis over a longer period and shorter period of study. It indicates that EVA had a better relationship with stock return over a longer period of the study. These findings are

consistent with finding from O' Byrne and Stephen F. (1997) but are contradicted by findings by Isa and Lo (2004).

The final hypothesis analysis reviews the combination of EVA and traditional tool in developing the relationship with stock return. The study concludes that combination of traditional tool and EVA will not lead to increase ability in developing the relationship with the stock return, however in some cases the combination had a better relationship with the stock return but the percentage increase is very nominal. These findings are in line with finding by Isa and Lo (2004).

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