Economic Value Added (EVA) And Market Value Added (MVA) Towards Value Creation

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Abstract. : The well-known value-based performance measures are Economic Value Added (EVA) and Market Value Added (MVA). EVA and MVA can help managers and shareholders to measure company's performance in order to create wealth. The main objective of this study is to examine the relationship between EVA and MVA in creating shareholders 'value. This study has analyzed the performance of 476 public listed companies in Bursa Malaysia. The companies represent 8 sectors and covers data for 10 years period (2007-2016). The findings seem to show a significant relationship between EVA and MVA for Malaysian firms. However, Malaysian firms indeed need some reliable measures that could evaluate their performance thoughtfully and assist investors to make right investment decisions and capital allocation.

Keywords: Economic Value Added, Market Value Added, Value-Based Performance Measures, Shareholders' Value, Malaysia.

1. Introduction

Value-based performance measures such as EVA and MVA are an improved measurements from traditional financial measures such as net profit margin (NPM), return on equity (ROE), retun on assets (ROA), price-earnings (P/E) ration, and earnings per share (EPS). EVA pays off the risk taken by the shareholders for investments, whereas MVA helps shareholders to make profit from an investment (Panigrahi, et al., 2014). These value-based performance measures are better than traditional financial measures in determining the performance of a firm because it does incorporate the full cost of capital that helps manager and investors to make rightful investment decision and allocation of resources decision (sharma, and kumar, 2010; Sikdar, 2013; Ismail, 2011). EVA and MVA are commonly studied in developed countries, but there are very few studies done in developing countries like Malaysia (sharma, and kumar, 2010). The relationship between EVA and MVA up to today are found to have mixed results i.e. either positive or negative relationship, so there exists a research gap, therefore, there is a need to study this relationship of EVA and MVA in Malaysian firms. The main objective of this study is to examine the association of EVA and MVA in creating shareholders' value. In fact, this study will definitely provide insightful benefits to shareholders and managers in making business and finance decisions.

2. Literature Review

2.1 Concept of EVA and MVA

One of the main value-based performance measures that received high attention to measure the corporate performance and shareholders' value maximization is EVA, that was initially introduced by Stern Stewart and Company consulting group as a management tool to calculate the economic value of a company in order to ease the managerial decision making (Chen, and Dodd, 1997).

Stewart mentioned that EVA is used to estimate the economic profit generated by the firm or another variant of residual income (Uyemura, et al., 1996). The economic profits are incorporated with all forms of cost of capitals that is debt and equity. Similarly, residual income is the adjusted value of equity equivalent reserves to both operating profit and capital charges. Therefore, EVA simply means the profit after cost of capital (Krupasindhu, et al., 2015).

Basically, EVA focused on monitoring, compensating, communicating effectively, and improving all management decision in order to create value for shareholder's investment (Panigrahi, et al., 2014). EVA is defined as "a financial measure based on operating income after tax, investment in asset to generate the income, and the cost of the investment in assets (WACC)" (Sekyere, 2016). EVA is an undeniable measure that is very much focused on liquidation of a company, as it provides accurate result of shareholder's return (Krupasindhu, et al., 2015).

EVA creates value to the company when there is an increase in operating profits without requiring additional capital, decrease the use of capital in same operation level, or invests in projects that earn more than the cost of capital (Chen, and Dodd, 1997). MVA is another form of value-based performance measures that shared the same goal as EVA, that is creating shareholders' value (Byrne and Stewart, 1992). Both EVA and MVA can sufficiently consider the true cost of capital and assist shareholders in making better investment decisions (Sekyere, 2016; Byrne, and Stewart, 1992). MVA is basically the difference between the company's current market value

(determined by its' stock price) and its' economic book value as presented in balance sheet (Ikbar, and Dewi, 2015).
In addition, MVA is used to measure the firm value through market's assessment (Vijayakumar, 2011). MVA has a similar meaning with market-to-book ratio but the only difference here is that MVA is an absolute measure whereas, market-to-book ratio is a relative measure (Thenmozhi, 2000). This means when MVA is positive, the market-to-book ratio will indicate value that is less than one. Based on Stern Stewart's model, when the total market value of a company exceeds the amount of capital invested, the company is said to have managed to create shareholders' value. When the company's market value is less than the capital invested, the company has destroyed shareholders' value.

Since the prior literature show mixed results about the associationship between EVA and MVA, therefore, there still exists research gap which needs to be investigated particularly from the Malaysian context as there is limited evidence in this regard.

Problem Statment:
Value creation in an organization is inherently positive, and it involves a set of competencies and capabilities at different levels, because they have a predominantly determining role in the transformation of assets and processes, but in order to effectively create value, it is essential for companies to define their goals in terms of value creation for whom and how to measure the same.
It is posited that there is an urgent need for Malaysian firms to apply the value-based models to fully assess their firms' performance rather than depending on outdated and ineffective traditional approaches. Since there are few studies using value-based management techniques such as EVA and MVA to explore value creation for shareholders of publicly listed firms in Malaysia, these valuation models can be fully tested in this part of the world. This provides opportunity to explore further in this area and review the possible benchmarking for shareholders value creation.
Research objective:
To examine the applications of corporate value based management tool in value creation and maximization of shareholders wealth in publicly listed firms of Bursa Malaysia.

Hypothesis Development:
H1: There is value creation in Malaysian listed firms.
H2: Malaysian firms do maximize value for their shareholders.

2.2 Empirical Studies on EVA and MVA

There is some evidence that studies on EVA and MVA in Malaysia has been conducted since 1992, but there are few studies conducted in the subsequent years. In 1992 to 1996, the study on 100 largest non-financial listed companies in Malaysia showed the result of EVA and MVA to be both positively and negatively correlated (Isa, and Lo, 2001). These studies further explained positive EVA reflects the future profits (value creators), whereas negative EVA indicates the loss in a firm (value destroyers). A positive EVA could have a positive MVA when the stock market expects to perform better in the future. Otherwise, a negative MVA is resulted when market expects the company to face poorer prospects. This is rather inconsistent with the normal expectations, and these studies concluded that positive EVA has higher correlation with MVA (Isa, and Lo, 2001).
The study on construction companies between the perriod of 2002 to 2012 had proven that the value-based performance measures are an excellent performance measurement tool in motivating managers to increase their performance (Panigrahi, et al., 2014). The correlation analysis showed that a negative MVA leads to negative EVA on year to year basis, with strong correlation of 62.4% (Panigrahi, et al., 2014). However, another study on construction companies from 2003-2012, found to have no significant relationship between EVA and MVA as their correlation was found to be -15.8% (Panigrahi, et al., 2014).
The reason for weak or negative EVA may be explained because the company has poor management where the value of net operating profit after tax is negative or very small. By other means, the company's management on sales and operating expenses are extremely weak. In order to encounter this matter, it is recommended to the managers to pay more attention on optimal capital structure and improve strategic and scenario planning (Yahaya, and Mahmood, 2011).
Another study on Malaysian construction sector between 2003 and 2012 found to have a strong impact on EPS, EVA and management's dividend payout decisions; and the shareholders' value creation. These result in a significant support of EVA; as an increase in EVA will increase the shareholders' wealth. However, MVA was found to have negative relationship with shareholders' value creation that was contradicting with the theory of increases in stock market value and efficiency will also increase shareholders' value (Panigrahi, 2016). Actually, MVA can be a very useful measure to analyze the stock returns of a company listed in Bursa Malaysia. While the use of both MVA and traditional accounting measures, it will be more accurate in evaluating the company's

performance, eventually helping managers to make business and investment decisions through cost of capital (debt and equity) and the capital returns (Nakhaei, 2016).

3. Research Methodology

This study highlights the relationship between EVA and MVA in Malaysia based on 8 selected sectors, out of 10 sectors, that are categorized according to Bursa Malaysia. They are construction, consumer product, hotel, industrial product, plantation, properties, technology and trading/services. However, finance and IPC sectors have been excluded from this study because finance sector has special regulation imposed by the central bank that may affect its financial characteristics and the use of leverage whereas IPC sector has insufficient data required. All the financial data was collected from Bloomberg Professional Service through Bloomberg Terminal. There are a total of 476 public listed companies selected as sample for a period of 10 years ranging from 2007 to 2016. After excluding the companies that have missing values, the total number of observations is 4,760. EViews and Microsoft Excel were used for data entry and analysis.

EVA is defined as the surplus of NOPAT with adjustment for capital charge, whereas Net Operating Profit After Tax (NOPAT) represents the profit after depreciation and taxes but before interest costs while capital charge is the multiplication of Weighted Average Cost of Capital (WACC) and invested capital, as shown in the formula below (Chen, and Dodd, 1996).

$$EVA = NOPAT – (Invested\ Capital * WACC). \quad (1)$$

MVA is the difference between company's market and book value of shares. In a public limited company, the market value is considered as market value of its equity (number of outstanding shares multiply by the share price) plus book value of debt. Capital employed is the book value of investments that made-up of debt and equity (Vijayakumar, 2011). Therefore, with the assumption that the debt in both market value and book value are equal, MVA is simplified as market value of its equity minus the book value of its equity, as shown in the formula below (Thenmozhi, 2000).

$$MVA = (No.\ of\ Outstanding\ Shares * Share\ Price) – Total\ Common\ Equity. \quad (2)$$

4. Findings

There are several statistical tests and analyses performed to obtain the results for this study. The empirical test in this study is explored through Econometric Views (EViews). First, a descriptive statistics is conducted for both EVA and MVA as shown in Table 1. The Trading and Services sector is having the highest mean value for EVA, whereas Plantation sector has the highest mean value for MVA. However, Consumer Product sector and Industrial sector have the lowest mean value for EVA and MVA, respectively. It is also observed that the mean value of EVA is negative in all sectors and all MVA values are positive except Hotel and Properties sector. Eventually, it showed that the relationship between EVA and MVA is negative.

Pearson Correlation analysis is carried out between EVA and MVA which is presented in

Table **2**. The results reveal that out of 8 sectors, 4 sectors (Consumer Product, Hotel, Industrial, Technology) are having positive correlation while another 4 sectors (Construction, Plantation, Properties, Trading/Services) are having negative correlation. Overall, negative or weak relationship between EVA and MVA is indicated.

Based on the Ordinary Least Square (OLS) method conducted using Eviews 8 and the results are presented in Table 3. From the results, it is observed that in Plantation and Technology sector, the result does not show any significance. Only 6, out of 8, sectors, the results are significant. It is clear that only 6 sectors in Malaysia have a significant relationship between EVA and MVA.

Overall, it is found that there is a weak relationship between EVA and MVA in Malaysiaan context. This is proven as the p-value is zero which is less than the probability of 0.05. Hence, the alternate hypothesis is accepted. In conclusion, the relationship of EVA and MVA in Malaysia public listed companies is negatively significant at 0.05.

Table 1: Descriptive Statistics on EVA and MVA

SECTOR	MEAN (RM Million)		STD DEV. (RM Million)		NO. OF COMPANIES
	EVA	MVA	EVA	MVA	
Construction	-36.24	201.99	204.09	870.52	28
Consumer Product	-5.36	600.89	233.26	2,416.26	69
Hotel	-90.52	-88.60	136.52	906.11	3
Industrial	-11.22	34.43	76.68	590.37	156
Plantation	-22.83	827.95	106.97	2,589.12	28
Properties	-35.84	-94.06	73.45	472.26	59
Technology	-9.59	71.38	43.03	231.84	25
Trading/Services	-123.54	685.34	2,128.11	3,495.32	108

Table 2: Correlation analysis of EVA and MVA

SECTOR	VARIABLE	EVA
Construction	MVA	-0.2802
Consumer Product	MVA	0.3863
Hotel	MVA	0.7272
Industrial	MVA	0.3568
Plantation	MVA	-0.0407
Properties	MVA	-0.1643
Technology	MVA	0.0681
Trading/Services	MVA	-0.115
Overall	MVA	-0.0797

Table 3: Regression Output of EVA and MVA

SECTOR	Coefficient	Standard Error	t-Statistic	Probability	Decision	Conclusion
Construction	-0.0657	0.0135	-4.8672	0.0000*	Reject Ho	Significant
Consumer Product	0.0373	0.0034	10.9864	0.0000*	Reject Ho	Significant
Hotel	0.1096	0.0195	5.6066	0.0000*	Reject Ho	Significant
Industrial	0.0463	0.0031	15.0766	0.0000*	Reject Ho	Significant
Plantation	-0.0017	0.0025	-0.6787	0.4979	Accept Ho	Not Significant
Properties	-0.0256	0.0063	-4.0387	0.0001*	Reject Ho	Significant
Technology	0.0126	0.0118	1.0748	0.2835	Accept Ho	Not Significant
Trading/Services	-0.0700	0.0184	-3.7999	0.0002*	Reject Ho	Significant
Overall	-0.0392	0.0071	-5.5151	0.0000*	Reject Ho	Significant

*statistically significant at 5%.

The coefficient of determination known as R-squared in Table 4 shows that 0.64% of EVA can be explained in the variation of MVA, where the remaining 99.4% are affected by other factors.

Table 4: R-squared and Adjusted R-squared

SECTOR	R-squared	Adjusted R-squared
Construction	0.0785	0.0752
Consumer Product	0.0373	-27.7733
Hotel	0.5289	0.5121
Industrial	0.1273	0.1268
Plantation	0.0017	-0.0019
Properties	0.0270	0.0253
Technology	0.0046	0.0006
Trading/Services	0.0132	0.0123
Overall	0.0064	0.0061

5. Conclusion and Recommendation

Value-based performance measures, that are EVA and MVA have been proven as an excellent performance measurement tool for managers and investors to make business decision. This study examined 8 selected sectors, with 476 public listed companies from 2007 to 2016 in Malaysia. The findings of negative EVA leads to positive MVA, and vice versa; hence, there is a negative significant relationship between EVA and MVA. This result is supported by Pearson Correlation analysis to point out that there is a negative correlation between EVA and MVA at -0.0797.

Although the R-squared is low in all sectors, except hotel sector (52.89%), this does not means that the result is unreliable, since EVA and MVA are statistically significant. A low R-squared can be affected by the behavior of the firm such as employees' attitude, management of the company, and book-keeping record. These unpredictable factors may have affected the company's firm value which may be needed to take into account.

On top of that, both EVA and MVA did play a vital role where they assist managers and investors in making internal and external oriented decision for year-to-year and long-term changes in value (Dierks and Patel , 2012). EVA helps to manage the capital and cash flow generated from the company while MVA foresees the market's perception of the growth opportunities' value (Dierks, and Patel, 2012). If EVA or MVA is being used on its own, the result will be less satisfying and managers might face difficulties in solving business problems. The negative relationship between EVA and MVA supported that the ability of managers using the capitals are adverse.

Investors also have to be alert while making an investment decision though MVA is positive, but EVA is negative as the company might not make real profit; vice versa. In conclusion, EVA and MVA have to be taken into consideration while making decision for the company.

For future reference, researchers plan to constantly experiment the suitable performance measures such as cash flow return on investment, shareholder value added, cash value added and financial value added that is appropriate to use to enhance shareholders' value.

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