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**INVESTIGATING RELATIONSHIP BETWEEN ECONOMIC VALUE ADDED,  
MARKET VALUE ADDED AND SHAREHOLDER'S WEALTH CREATION**

**Shrikant Krupasindhu Panigrahi**

**Yuserrie Bin Zainuddin**

**Noor Azlinna Binti Azizan**

Faculty of industrial management, University Malaysia Pahang, Kuantan, Malaysia

shri16june@gmail.com

yuserrie@gmail.com

aazlinna@gmail.com

**Abstract**

Profit maximization and increasing shareholder's wealth have been one of the most crucial concepts for the organization. The corporate manager and shareholders rely upon the traditional accounting measures like net income, Earnings per share (EPS), Return on Equity (ROE), Return on Net worth (RONW), Return on Capital Employed (ROCE) to measure the value created by the firm. But this study utilizes economic measures like Economic Value Added (EVA) and Market Value Added (MVA) combined with the accounting measures to perform a comparative study in order to conclude the most appropriate measures for the creation of shareholder's wealth. The EVA of 28 construction companies from the total 43 construction companies listed in Bursa Malaysia were selected for the study and analyzed during the period of 2003 to 2012. Overall the result for the study found that very few of the construction companies were having positive EVA for the creation of Shareholder's wealth. It was also found that there is a strong relationship between created shareholder's value and economic value added. Thus it is very important to know that whether in the long run the shareholders wealth would be maximized through the usage of EVA as a performance measurement tool. Furthermore, depending on the statement of EVA concept rather than accounting measures would help the shareholder's for future investment decisions and managing their investment portfolios.

*Keywords:* Shareholder's wealth, Economic Value based measures, Construction companies

## **Introduction**

This study is investigated to know the relationship between economic measures and shareholder's value for the construction industry listed in Bursa Malaysia. Maximizing shareholders value has become a new challenge for the organizations. It has been traditional goal for the managers of corporate level to maximize shareholder's value. It has been an major goal of organization in the past few decades to make a revolutionary change in the measurement of performance from traditional profit based measures like Earning per Share (EPS), Return on Capital Employed (ROCE), Return on Net Worth (RONW), Net Profit Margin (NPM), Operating Profit Margin (OPM), to the new modern economic value based performance measures like Market value Added (MVA), Shareholder's Value Added (SVA), Cash Value Added (CVA), Economic Value Added (EVA). From the above mentioned concepts in recognition to accounting and financial literature, Earning per share (EPS) has received high attention as an important tool to measure shareholder's value (Kapoor, 2011). In the market price of the common stock of companies shareholder's value is represented through the function of the company's investments, financing and dividend decisions. Among the most crucial decisions to be taken for efficient performance and attainment of objectives in any organization are the decisions relating to dividend. In the financial perspective of the firm's growth strategy, dividend decisions taken by the managers are very crucial in the organization. The objective of the finance manager should be to find out an optimal dividend policy that will enhance value of the firm. It is often argued that the share prices of a firm tend to be reduced whenever there is a reduction in the dividend payments. Traditional performance measures are not able to adequately consider company's true cost of capital investment. Even though the traditional profit measures of net income includes depreciation costs (Historical fixed cost and long term assets) and interest cost (Cost of Debt). But the Net Income does not include the equity cost that determines the returns of investors. Thus, the performance measures based on net income and operating income promotes and helps managers on short term decision making.

Malaysia as a developing country has a diverse economy including sectors like construction, consumer products, industrial products, plantation, properties, technology and trading services. Construction companies in Malaysia contribute 3.5% to GDP making an important role in the Malaysian economy. Thus the construction companies could be described as main economic driver for Malaysia (MGCC, 2014). There has been great demand by the investors focusing on shareholder's value creation. As the research is done on EVA and shareholder's value, the aim of the research is to determine whether positive EVA would leads to growth of share price for construction industry listed in Kuala Lumpur Stock Exchange (KLSE index). An economic decline in demand and reduction in real estate had greatly influenced the monetary policy of Malaysia. The construction industry sector is an important part of Malaysian economy. Construction industry contributes 5% of GDP and employs 3% of workforce. For the Malaysian market construction industry contributed 5% of GDP for year 2010 – 2011 (Malaysian Economic Report 2010 – 2011).

Since the financial crisis in 1998, the construction sector growth rate has not reached anywhere near the pre-1998 growth rates reaching its highest at 2.1% in 2001 and declining to 2.0% in 2002, 1.5% in 2003 and into a contraction of -1.5% in 2004 estimated to improve to -1.1% in 2005. The construction industry gave itself ten years, from 2006 until 2015, to rectify the weaknesses and to improve the industry's performance as well as its image. Thus it is viable to study the growth rate of construction industry from 2003 till 2012 and evaluate the key performance indicators influencing the wealth of the shareholders of this sector. The construction sector in the fiscal year 2009 was expanded by 5.8% as compared to other economic sectors in Malaysia. The strong growth of this sector reflected in the second quarter of 2009 where the growth remained to 4.5% followed by the 3<sup>rd</sup> quarter 7.9 and 4<sup>th</sup> quarter by 9.3%. This strong growth of sector contributed heavily in the economic stimuli of the country (BNM, 2010). Isa, et al (2006) stated that construction industry have played a key role in the socio economic development of all the countries. Furthermore, Arif and Egbu (2010) uttered that Malaysian companies since mid of 1970s have been investing abroad. With the formation of ASEAN Free Trade Area in 1992, Malaysian companies were to invest abroad in the ASEAN countries. Isa, et al (2006) also stated that globalization of construction market bring along competition and challenges but also provides opportunities by opening new markets.

Construction industry in Malaysia is divided into two main categories: i.e. General construction and Special Trade Works (CIDB, 2007). Malaysian Construction industry has been considered as the population under study. There are several reasons that why Construction industry sector was chosen as population of ongoing research which has been explained as follows:

- The construction sector is one of the productive sectors that contribute constantly to the economy of Malaysia.
- The growth rate of this sector fluctuates heavily as it is related to other sectors. This shows that the demand of construction is heavily sensitive to developments in other sectors of the economy.

Without diverting the attention to the ongoing research on Shareholder's value through financial measures approach, it is now clear that the financial objective of construction industry need to be balanced. The shareholders in the market always have the option to withdraw their investment and diversified their investment portfolio to any other investment that gives good return and compensate (J. De Wet, 2010). The main objective of any firm is to maximize net profit and wealth of shareholders. It has been always a debatable issue of using measurement tools to evaluate the wealth of shareholders. There are various traditional measures and economic measures to identify shareholder's wealth (Bhunia, 2012). The concept of shareholder's value indicates the performance of the companies in the real market and the financial wealth of such companies (Liow & Ooi, 2004). Thus in order to identify the shareholder's wealth, value based economic measures like Economic Value Added (EVA) and Market Value Added (MVA) have been utilized as an important ramification. One of the basic and fundamental roles of the managers is to maximize shareholder's value. Maximization of shareholder's value means maximizing the wealth and

net worth of the company. Maximization in shareholder's value is reflected by the share price increase in the market place. Thus wealth maximization results to maximizing the market price of the shares.

### **Literature Review**

Profit and loss statement and Balance Sheet are the two important financial statement reports that are very famous in the corporate to know and evaluate the performance. Profit and loss statement shows the result of normally one year of period while Balance Sheet shows the financial position of the assets, liabilities and equity at the fiscal year end. This shows that both the statement shows the past performance of the company. But stock price is basically decided by considering the future growth of the company; no doubt the investors review the historical income and financial position of the company. As the future growth of the company is not included in the profit and loss statement and Balance Sheet statement, it is very difficult for the investors to calculate company value and stock price from these historical financial statements. Based on Profit and Loss statement, Net income and Return on Equity (ROE) are very popular evaluation index for the company. Also there is another evaluation method called Discounted Cash Flow (DCF) that calculates the present value of the company and its future cash flow through forecasting.

Furthermore, Minchington and Francis (2000) found three main difficulties for the implementation of new measures in practices. Firstly there is possible lack of awareness of new measures even if there are very active promotions by the management consultants. Once the measures are being selected the barrier to the implementation includes technical difficulties like establishment of cost of capital and the capital assets. There are also some of the organizational barriers like time and resistance to change; organizations may encounter cultural and political difficulties in gaining acceptance and ownership of new measures.

It is also a fact that the income given in the Profit and Loss statement does not equal the cash inflow, and this arises with the company going bankrupt due to lack of cash, even though the company is making good profit. Companies have to spend their cash in new inventories to increase their sales but they are not able to collect cash from customer very soon. Thus rapid growing can easily go short on cash to pay their investors in the early stages. It is also a matter of fact that the company can run the business as long as they have enough cash instead of negative income. Thus according to the investors cash flows is very important to know rather than the accounting profit that measures corporate value and performance. Thus the method that is helpful for the investors to know the capital inefficiency using their expected return has been developed by researchers.

Researchers like Rajesh, Raman, and Narayan (2012) investigated a comparative study between EVA and MVA for the selected cement companies in India and found that EVA and MVA play an important role in order to assess the financial performance of the companies. The findings also proved the two measures (EVA and MVA) provide consistent shareholder's value creation activities. Furthermore, Sharma & Kumar (2010) presented a narrative literature review of published papers on EVA from 1994 to 2008. They found that

studies that have been conducted in advanced economy have largely found to be supporting EVA as compared to less developing economies. In addition, Aminimehr and Iqbal (2008) through the trend analysis and Pearson correlation analysis investigated the relationship between EVA and MVA. The study found that there is significant negative relationship between them. However, Mahmood et al (2008) examined the role of EVA to identify Malaysian property companies from the year 1997 to 2006 and found that most of the companies failed to cover the shareholder's wealth. Similarly, J. H. De Wet (2005) investigated the correlation between EVA and accounting measures like EPS, DPS, ROA, ROE and found that there is little correlation between them.

O'Byrne (1996), linked EVA with MVA and investor's expectation using nine year data for the period from 1985 to 1993 for companies in the 1993. Initial finding shows that Free cash flow (FCF) was able to explain 0% of the change in the market value divided by the capital ratio, whereas the R square for NOPAT was 33% and for EVA was 31%. There was some adjustment made to the original model. EVA multipliers were bigger for companies with a positive EVA compared to companies with a negative EVA. Then a bigger multiple was used for companies with more invested capital. This adjustment showed that EVA explained 31% of the variance in the market values whereas NOPAT showed 17%. Uyemura, Kantor, and Pettit (1996), used a sample of 100 largest banks of United States for the period of ten years from 1986 to 1995 to calculate the correlations between MVA and EVA including with four accounting measures like net income, EPS, ROE and ROA. The regression analysis measured with the variables as performance measures identified EVA as the most powerful performance measures as compared to other accounting measures to explain MVA and shareholder's wealth. Thus from the above mentioned previous researches it is evident that both the measures play a crucial role for shareholder's wealth creation. Thus it is obvious to investigate the relationship between MVA, EVA and CSV.

The performance measures referring to increase shareholder value need to be executed carefully by managers and executives carefully due to pitfalls in accounting measures. Traditional accounting measure like earnings per share when continue to be widely used is averse with many risks. Thus the aim of the research is to determine the influence of economic measures on the shareholder's value creation for the construction industry Malaysia for the period of 2003 to 2012.

### **Research Methodology**

All the financial information based on the variables necessary for the study has been sourced from Kuala Lumpur stock exchange and Thomson Reuter data based. The risk free rate information has been extracted from the annual reports of Bank Negara Malaysia.

The study is based on secondary data and there are two kinds of data and information collected which are as follows:

1. Historical information of construction companies
2. Financial reports of construction companies

Historical information for the companies is particularly having been collected from the research statistics department of Kuala Lumpur stock exchange (KLSE). Annual reports that are published for the companies include:

1. Balanced sheets
2. Income statement
3. Cash flow statement
4. Narrative report sections;

Annual report for the companies have been collected from company's website, furthermore, data have also been collected from some libraries of different universities and colleges, but information collected from Bank Negara Malaysia (BNM) and Construction Industry Development Board (CIDB) was very useful.

The current study is based on the secondary data covering a period of 10 years ranging from 2003 to 2012. The purpose of considering long time period for the investigation of the study is to decrease instability and cycles of business that might affect the results of the study. Since construction companies in Malaysia are considered as one of the major economic sectors, the author had an interest in the construction industry to recognize as a basic. The sample covers construction companies that are listed in Kuala Lumpur stock exchange. The firms in the population were selected based on the following criteria:

- Construction companies that have been listed on Kuala Lumpur stock exchange in or before 2003.
- They must be existed in KLSE till the financial year 2012.
- They must have positive values for average operating income during the study period.

The firms must have ability towards profitable relatively, furthermore, multinational companies, assembling companies that are not based on infrastructure, companies comes under sick industrial companies were excluded in order to maintain comparability and consistency. On the other hand, the construction industry is one of the core industries in the Malaysian economy and this industry is recognized as a basic mother industry. Therefore, any achievement in this area is extendable in other industries. The study covers some construction Companies listed in Kuala Lumpur stock exchange. There are more than 100 companies that are involved in construction activities in Malaysia. Forty three of these companies have been listed and active in Kuala Lumpur Stock Exchange. From the total 43 companies only 28 companies were taken into consideration for further analysis and 15 companies were excluded due to non availability of financial database from the year 2003 to 2012. To meet the objective of the study the analysis is divided into the following sections:

1. The analysis that indicates position of shareholder's value creation in Malaysian construction companies;
2. The analysis about economic value added for creation of shareholder's value

- Analyze the relationship between economic measures and traditional measures in addition to management decisions as performance measurement tools for the creation of shareholder's value;

In order to achieve the aim of the study the researcher had utilized trend analysis into the three sections: In the trend analysis the researcher followed the trend of the variables such as Created shareholder's value (CSV), Economic Value Added (EVA) and Market Value Added (MVA) for the construction companies of Malaysia. Calculation of figures for the formula of the variables has been performed and the data were compared with figures, graphs and trends and the growth rate of the mentioned variables. In order to find the relationship between the utilized variables Pearson correlation between the variables were examined. In order to fulfill the purpose of the study, Microsoft Excel and SPSS statistical software was taken into consideration. Furthermore, multivariate analysis was also conducted in order to identify the influence on the measurement tools considered for the research on the enhancement of shareholder's value. The following are the research hypothesis considered for the study:

H1: EVA is confirmed to be the best economic measure to identify shareholder's wealth

H2: MVA is confirmed to be the best economic measure to identify shareholder's wealth

H3: There is significant positive relationship between EVA and CSV

H4: There is significant positive relationship between MVA and CSV

### Analysis tools

EVA is calculated as:

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$$\text{EVA} = \text{NOPAT} - \text{Capital Employed} * \text{WACC} \dots\dots\dots (\text{eq.1})$$

Where,

Capital employed = Average of Debt + Average of Equity

WACC = (Average of Debt \* Rate of Interest Post Tax) + Average of Equity Capital \* Rate of Cost of Equity) / Average capital Employed

$$\text{MVA} = \text{Equity Market Value} - \text{Book value of Equity} \dots\dots\dots (\text{eq.2})$$

Where,

Equity Market Value = Number of shares issued \* Share price

Created Shareholder's value = Equity Market Value \* (Shareholder return – Ke)

Ke = (Risk free rate + Risk Premium) \* beta

$$\text{Shareholder's return} = \text{Shareholder value added} / \text{Equity market value} \dots\dots\dots (\text{eq.3})$$

EVA is known as the best value measurement tool for the shareholders as it has strong relation with MVA. MVA shows the additional value added to the book value of the invested

capital. For the calculation of MVA there was a need of data of number of ordinary shares issued, total shareholder's equity or book value of equity and market price of shares. Book value of equity and number of issued shares were obtained from annual reports of the selected construction companies whereas, share price of the selected construction companies were obtained from the historical share prices section in Bursa Malaysia website. From the product of number of shares issued and share price, equity market value is achieved which is subtracted with shareholder's equity to obtain MVA.

### **Data Analysis**

In order to confirm EVA to be the best performance measurement tool for the shareholders, the relationship between MVA, EVA and CSV have been considered. The relationship between EVA, MVA and Shareholder's wealth Creation have been literally reviews and analyzed and was found that EVA is the best measure to identify value of shareholders for the construction companies of Malaysia. Furthermore, De Lange (2010) investigated the relationship between shareholder's wealth creation, MVA and EVA and found significant relationship between them. In addition, shareholder's value is operationalized as Market Value Added (MVA).

Table 1.

*Trend Analysis of the variables (mil)*

<b>Year</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
<b>MVA in MYR</b>	-14	25	-93	-116	224	74	-142	66	286	156
<b>EVA in MYR</b>	-693	-1723	-2219	-2318	-2558	-8061	-31467	-10602	-6218	-12253
<b>CSV in MYR</b>	-1054	-1367	-895	-923	-4636	-6385	-3778	-7336	-11951	-11251

From the trend analysis depicted in the above table.5.9 market value added for the companies were positive in six years of the study whereas; in four years (2003, 2005, 2006 and 2009) were negative. The highest MVA for the construction companies was found in the year 2011 where MYR 286 million were added as market value for the shareholders of the selected construction companies. Similarly it was noted that from the year 2003 to 2012 the EVA and CSV were found to be negative all over the years of investigation. Pearson correlation analysis was performed between MVA, EVA and CSV as shown in table.2 below:



Table 2.

*Correlation between MVA, EVA and CSV*

<b>Variables</b>	<b>CSV</b>	<b>EVA</b>	<b>MVA</b>
Created Shareholder's value	1.00		
Economic Value Added	.744**	1.00	
Market Value Added	-.575**	-0.158	1.00

\*\* Correlation is significant at the 0.01 level (2 tailed)

From the Pearson correlation coefficient between CSV, EVA and MVA as shown in the above table 5.10, the p value to be less than 0.01 except the relationship between EVA and MVA. It was found that there is no significant relationship between EVA and MVA. The table also showed that there is 74.4% of correlation between CSV and EVA. It means that there is a complete positive correlation between CSV and EVA. Thus the hypothesis three EVA having positive relationship with created Shareholder's wealth is confirmed whereas; hypothesis four MVA having positive relationship with created shareholders wealth is rejected.

Table 3.

*Regression analysis for the variables*

<b>Model Summary<sup>b</sup></b>								
Mode 1	R	R Square	Adjusted R Square	Change Statistics				Durbin- Watson
				R Square Change	F Change	df1	df2	
1	.958 <sup>a</sup>	.918	.912	.918	140.390	2	25	2.716

a. Predictors: (Constant), EVA

b. Dependent Variable: CSV

The result of regression analysis in assessing the influence of economic measures (EVA and MVA) on the shareholder's wealth was found to have significantly influenced at p value less than 0.01. From the result it was revealed that there was R = 0.918 (91.8%) of influence of economic measures to create value for the shareholders. Thus the hypothesis one and two confirming the significant influence of EVA and MVA on CSV is accepted.

Table 4.

*Correlation coefficient results for the study*

Coefficients <sup>a</sup>						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
(Constant)	-370831.7	848135.368		-.437	.666	
1	EVA	477.885	63.171	.553	7.565	.000
	MVA	-18.314	2.628	-.510	-6.969	.000

a. Dependent Variable: CSV

The correlation beta coefficient provided in the above table showed that when there is one unit of increase in the usage of EVA concept by the companies there is 55.3% of increase in shareholder's value. Furthermore, regarding the beta coefficient of MVA concept, when there is one unit of decrease in MVA there is 51% of increase in shareholder's value.

### Conclusions

Thus in conclusion, EVA has been proved to be excellent performance measurement tool for motivating managers to increase their performance and create shareholder's wealth. Study based on the listed construction companies of Malaysia revealed that on a year to year basis negative MVA leads to negative EVA. The shareholder's wealth can be received wither by dividend or by appreciation of capital. Thus the forecast for the future growth of capital is very important for the shareholders. The comparison of shareholder's wealth with economic measures like MVA and EVA confirmed that shareholder's wealth creation through EVA would enable the construction companies to create wealth of their shareholders. From the regression findings there was in total It was also found that MVA have negative significant influence on CSV. The finding suggests that when there is negative EVA so the stocks will sell at negative MVA. The negative EVA and MVA is due to high fixed assets which makes the market value of the stocks to be reflected and in turn leads to negative rate of return. Such shares will be sold below the book value. The final result found that there is negative relationship between EVA and MVA. The negative relationship between MVA and CSV evidenced that managers have negative consequences for their shareholders.

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