EFFECT OF TRADITIONAL AND MODERN PERFORMANCE INSTRUMENTS ON SELECTED COMPANIES FROM PAKISTAN

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ABSTRACT: *The objective of this study is to examine the performance of listed companies in Karachi Stock Exchange by using economic value added and market value added. To estimate performance of seven industrial sectors in Pakistan economic value added (EVA) is used along with growth of earnings per share, return on capital employed, operating cash flow, net operating profit after tax, net income, residual income, return on assets, return on equity and return on investment. Multiple regression models are applied on cross sectional data of thirty five firms from seven sectors of Pakistan for year 2010 and 2011. Results and their analysis are portraying the actual picture for economic value added in Pakistan indicating that ability of economic value added to explain market value added is not significant.*

Keywords: Stock Exchange, Economic Value added, Cross Sectional.

1. INTRODUCTION

Measuring performance is very crucial for an organization because this will decide the value that is to be handed over to all stakeholders by management of a business. Primary goal of business should be to maximize shareholder's value Sheela, and Karthikeyan [1] and this objective can be achieved by maximizing stock prices. Many methods are used to measure organization performance. This study aims to use traditional as well as modern performance evaluation tool such as economic value added to measure performance of an organization. The authers like Haddad [2] andSharma, and Kumar [3] have conducted research on performance measurement by using traditional and new techniques. These include economic value added, return on assets, return on equity, capital adequacy ratio, return on net worth, return on capital employed, operating cash flows, net operating profit after tax, net income, residual income and earning per share. Sharma and Kumar [3] decleared eeconomic value added as a third reliable measure when paired with earnings per share. Traditional performance measures have performed well in measuring the performance of a firm in past and modern era. But sometime these measures failed to predict true results due to income statement alterations by the management of a business. Such alterations will statisfy the investors who are looking for new investment as well as waiting for best return on investment. Moreover, investment decisions will be uncertain in presence of such circumstances.

Economic value added is modern shape of residual income. It is a concept which is reflected by the literature of a famous economist named Alfred Marshall, [4]. It can remove the drawback of alteration of traditional performance measures by considering the cost of equity. Cost of equity is mainly calculated by capital asset pricing model (CAPM) and dividend growth model. The auther's like [4], [2] and [5] calculated cost of equity by using capital asset pricing model (CAPM). The Economic value added is a technique established by Stern, Stewart, and Chew [6]. Alfred [7] described economic value added as a difference between operating profit after tax and cost of capital. Young [4] argued that economic value added can serve as a language

for the management of a business in measuring and communicating performance of a firm. Davidson [8] argues that economic value added will improve the stock performance. However, economic value added is also capable to improve the standard of managerial decisions. Moreover, managers will learn about the utilization of optimal opportunities for the betterment of business future in short run and long run. Ronald and Arendt [9] studied that economic value added usage will clear the concepts of business managers and ultimately solve the problem of selecting performance measure from a large list of metrics like net operating profit after tax, return on investment, return on equity and earnings per share. Irala, and Reddy [10] states that economic value added adoption in west is very much popular and from Asian context, this is getting popularity in India. In Pakistan concept of economic value added is not popular.

Market value added is another tool to estimate investments and activities of a firm. Improvement in economic value added will result in improvement of market value added. Young [4] defined market value as an aggregate of activities and investments of a firm. Sakthivel [11] defined market value added as a difference between market capitalization and net worth. Where, the term market capitalization is obtained by multiplying number of outstanding shares with their closing share prices and net worth is obtained by adding equity capital, reserves and surplus net of revaluation reserve less accumulated losses and miscellaneous expenditure. Moreover, [4] described market value added as a difference between firm's total value and total capital. Young [4] describes that if the net present value of a project is positive then investment in such project will cause an increase in market value added, such project is termed as "value creating project". On the other hand if the net present value of a project is negative then investment in such project will cause a decrease in market value added, such project is termed as "value destroying project".

2. LITERATURE REVIEW

In this section represents the empirical work carried out on economic value added as performance indicator in the chronological order. Tortella, and Brusco [12] investigate the reaction of the market before and after the adoption of economic value added in the long run. Irala and Reddy [10] investigated the importance of stock price maximization for the shareholders and other stakeholders. They are of the view that linkage of managerial compensation with economic value added can enhance the ability of managers to add value in the firm's value. Sakthivel [11] investigated the relationship between market value added termed as "value creation" and economic value added. Results indicate that low economic value added groups face more value destruction as compared with moderate economic value added groups.

ArabSalehi and Mahmoodi [6] investigated the superiority of economic value added (EVA) and traditional performance measures like return on assets (ROA), return on equity (ROE) and earning per share (EPS). Final conclusion of the study indicates that accounting measures are defeating the economic value added superiority. Patel and Patel [5] studied the shareholders' value of Indian private sector banking by employing economic value added (EVA) from year 2004-05 to 2009-10. Results show that only Kotak Mahindra Bank has positive relationship with economic value added and stock price. Haddad [2] canvassed the impression of economic value added on the banking sector of Jordan including fifteen banks listed in Amman Stock Exchange from year 2001 to 2009. [3] well-tried to propose the investors the utilization of economic value added along with other orthodox measures for appraising and making any scheme for future aspects. Economic value added can elaborate market value added better than orthodox performance measures. Sharma and Kumar [3] found that meeting shareholders anticipation is directly regulate share prices. Economic value added determined positive and substantial while addressing the issue of economic value added relationship with market value added.

3. DATA SOURCES AND METHODOLOGY

In this section all about data sources and methodology.

Data Sources

The data of thirty five companies from seven industrial sectors was used out of seven hundred eighty seven companies listed in Karachi Stock Exchange (KSE). The annual data for a period of 2002 to 2011 was used. The source of data was annual reports available from Karachi Stock Exchange Library.

METHODOLOGY

In this study both simple regression and multiple regression models are used for analysis. Simple regression model is used to evaluate the ability of each independent variable to explain variation in market value added. Cross sectional data collected for each year are evaluated separately to estimate significant role by using multiple regression model:-

$$Y_{it} = \beta_0 + \beta_i X_{it} + e_{it}$$

Where "Y_{it}" is the market value added (stock return), "i" is the name of company, "t" is the time subscript, "β" is the intercept, "e_{it}" is the error term and "X_{it}" are the independent variables like economic value added, growth of earnings per share, return on capital employed, operating cash flows, net operating profit after tax, net income, residual income, return on assets, return on equity and return on investment. Simple regression models are used to evaluate the ability of each independent variable to explain variation in market value added.

$$Y = \beta_0 + \beta_1 X + e$$

Where "Y" is the market value added (stock return), "e_{it}" is the error term, "β_0 and β_1" intercept and slope parameters, respectively. "X" is the independent variable like economic value added, growth of earnings per share, return on capital employed, operating cash flows, net operating profit after tax, net income, residual income, return on assets, return on equity and return on investment.

4. ANALYSIS AND INTERPRETATION OF DATA

Estimated results for multiple regression for year 2010 and 2011 are identical for economic value added. Relationship between economic value added and market value added is insignificant having p-value (=0.4130) and (=0.8644) for year 2010 and 2011, respectively. However, relationship of ROE and NOPAT is found to be significant for year 2011.

Table 1

Model	2010			2011		
	B	T	Sig.	B	T	Sig.
(Constant)	3723.343	0.47	0.6426	-1931.295	-0.1918	0.8495
EVA	2611.43	0.8332	0.4130	-435.4302	-0.1726	0.8644
GEPS	1458.5053	0.5934	0.5585	-3259.666	-0.6952	0.4936
NI	42.4847	1.6784	0.1063	15.1803	1.4793	0.1521
NOPAT	-13.5149	-1.0122	0.3215	-32.2293	-2.8748	0.0083
OCF	8.8513	1.0526	0.3030	9.2246	1.6554	0.1109
RI	-39.096	-1.4303	0.1655	4.2138	0.8405	0.4089
ROA	-5450.6	-0.0888	0.9300	-25855.2	-0.3316	0.7430
ROCE	15093.951	0.2572	0.7992	26153.21	0.2511	0.8039
ROE	1470.7076	1.2385	0.2275	2245.3382	2.2148	0.0365
ROI	-22023.49	-0.3021	0.7652	-5249.77	-0.0637	0.9497

Note: For t-statistics and p-values of each estimated parameter reader is advised to see Table 1.

Table 2

Model	Sum of Squares	Df	Mean Square	F	Sig.
2010					
Regression	4851034127	10	485103412.7	1.5256	0.1907
Residual	7631273598	24	317969733.3		
Total	12482307725	34			
2011					
Regression	8216794207	10	821679420.7	2.3858	0.03939

| Residual | 8265375799 | 24 | 344390658.3 | | |
| Total | 16482170006 | 34 | | | |

Note: For analysis of variance reader is advised to see Table 2.

The goodness of the fit of model is supported by data which is represented by F-statistics (=1.52562764) for year 2009 and (=2.38589346) for year 2010 is insignificant having p-value (= 0.19072253) and (0.03939882), respectively.

Table 3

Correlation Coefficient			R Square		
Particulars	2010	2011	Particulars	2010	2011
	MVA	MVA			
MVA	1	1	Overall Variables	0.3886	0.4985
EVA	0.31	0.19	EVA	0.0931	0.0374
GEPS	-0.01	0.13	GEPS	0.0000	0.0173
NI	0.45	0.36	NI	0.2048	0.1288
NOPAT	0.42	0.3	NOPAT	0.1786	0.0887
OCF	0.4	0.32	OCF	0.1625	0.1028
RI	0.44	0.4	RI	0.1917	0.1589
ROA	0.34	0.41	ROA	0.113	0.1651
ROCE	0.14	0.37	ROCE	0.0206	0.1347
ROE	0.45	0.50	ROE	0.2067	0.2467
ROI	0.14	0.26	ROI	0.0196	0.065

Note: For correlation coefficient and R-square of each estimated parameter reader is advised to see Table 3.

Correlation results of Table 3 show that correlation between economic value added (EVA) and market value added (MVA) is not encouraging which suggests that ability of EVA alone cannot be trusted due to better correlation results among traditional performance measures. Moreover, Ability to explain variation in market value added is high when a combination of modern and traditional performance measures is used instead of using economic value added alone.

5. CONCLUSION

Economic value added (EVA) is used in this study to estimate performance of industrial sectors in Pakistan along with traditional performance measures. Results and their analysis are portraying the actual picture for economic value added in Pakistan by comparing economic value added with market value added for year 2010 and 2011. Results of Pearson correlation between economic value added and market value added is low as compared with traditional measures. Moreover, findings indicate that ability of economic value added individually to explain market value added is insignificant. But economic value added plays a vital role when combined with other variables. Results are aligned with [3, 6, 10].

6. REFERENCE

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