# THE RELATIONSHIP BETWEEN STOCK RETURN AND ECONOMIC VALUE ADDED (EVA): A REVIEW OF KSE-100 INDEX

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***The research is conducted in order to exhibit the relationship between stock return and economic value added (EVA) as compare to the relationship with other variable such as net income (NI) and operating cash flow (OCF) with in Pakistani stock Market. It is evident from the study that the contribution of Operating cash flow is higher as compare to EVA and NI which is a prediction of the least contribution of the EVA in stock return as shown by the individual regression analysis of these variables with stock return. Finally EVA is negatively contributing to the stock return as compare to the other variable shown both by regression and Pearson correlation.***

Keywords : Stock return, EVA, Operating Cash Flows, Net Income

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## Introduction

As long as the debate of earning, residual income, net income in relation with stock return was going on, a new aspect of economic valued was introduced consider to be showing a more fruitful link than the variables stated above. All the income were excluding cost of debt where as none of them had any concept of excluding cost of equity showing a true value of the business is creating for the share that can lead to increase share prices and increased stock return. Here in this paper the focus is on EVA that is an extension of the stock return in the form of value addition leading to stock return. Though the theoretical ground is in favor of increasing stock return whenever there is dividend announcement that is one of the components of stock return. That will ultimately lead to contribution in stock returns. But in this paper it is tried to find out how much EVA is showing its worth in contribution to stock returns. Mostly investors are keen in the stock return an upward trend in stock return attract investors toward investment in stock that will further raise the demand in the stock market and will lead to increasing stock prices and performance of the stock market. In on the research components of cash flow and income statement were studied and in many others earning per share and accruals were studied for its contribution towards stock returns.

In this paper the focus is on value addition in terms of EVA and its impact on stock return as compare to Net income and Operating cash flow.

## Literature Review

This paper investigates the usefulness of two alternative measures of performance: value added and abnormal economic earnings (Bao & Bao, 1998). Using earnings as the benchmark, firm value analysis, levels analysis, and changes analysis were performed to evaluate their explanatory power. Results show that value added is a statistically significant variable; its explanatory power is higher than that of earnings. Abnormal economic earnings, however, are not a significant variable.

The study of (Gary, Wallace, Biddle, & Bowen, 1997) revealed that EVA is highly associated with stock return as compare to accrual earning but when studied for the component of EVA information content analysis and incremental analysis suggest the higher association of earning with return and thus outperforming EVA in relation to stock return.

This study is about rewarding employees on the basis of EVA as performance measure for the creation of wealth. It was find out by (Griffith, 2004) that firms using EVA as performance measure and considering as a contribution to firms and then pay the employees on this bases had suffered losses thus revealing the insignificance of it usage as a performance measure.

The paper is about the empirical evidence of the information content lying in EVA, RI and accounting earning but the research is showing no favor in the relationship of EVA with stock return and net income is outperforming both Residual income and EVA while taking the contribution of these variable.

The study explored that how EVA is more powerful in explaining the stock return as compared to the other traditional indicators of performance like NI, RI and OCF (Kyriazis & Anastassis, 2007).

The increasing trend for value creation has forced the researcher to find a trade mark measure of the firm financial performance on the basis of which the compensation plan can be develop to motivate the manager to work for the share holder worth creation. Here (Worthington & West, 2001) in this paper a generalized view of this performance measurement components known as EVA with respect to adjustment in GAAP is under observation.

EVA is in favor of the share holder as it is explaining the value of the firm in the form stock return as compare to other traditional indicator and thus leading to the operating efficiency of the firm( (Lehn & Makhija, 1997) and (Zimmerman, 1997).

The indicator to gauge the shareholder value, beside the traditional instruments EVA is also used to measure the performance of the firm and affects the stock return of the firm (Stern, Stewart, & Chew, 1995).

The U.S researcher (Peterson & Peterson, 1996) are of the conclusion that EVA is a poor indicator of the market value of the firm or it has insignificant relation with stock return thus leading to the lake of contribution of EVA.

It was find out by (Chen & Dodd, 1997) that EVA has lower explanatory power in variability of stock return as compare to ROA where as when it was compared with ROE and EPS it is predicting higher contribution in stock return than both of them.

(Clinton & Chen (1998) study is in favor of greater explanatory power of residual cash flow (RCF) as compare to EVA thus indicating a significant relationship of RCF with stock return.

Among EVA and NOPAT the variation in MVA are explained by NOPAT more thus predicting the insignificance of EVA in MVA determined by (Kramer & Pushner, 1997).

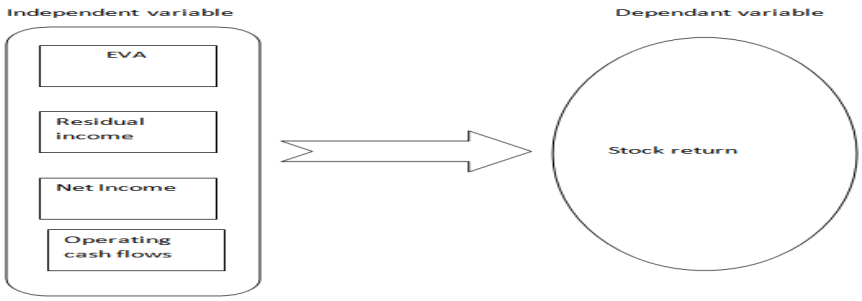
The study of (Lehn and Makhija (1996, 1997)) is in favor of EVA as compare to other earning variables which is of an opinion different than most of the researcher who are of the other opinion.

EVA and REVA are both used to evaluate the efficiency of the firm, but in comparison the REVA is superior to the EVA in this concern (Bacidore, Boquist, & Milb, 1997).

The study conducted by (Anand, Greg, & Arora, 1999) illustrated that profit after tax has a greater degree of correlation with MVA. The consideration of shareholder value EVA, Refined EVA and MVA measure the firm performance in an efficient way.

The study of (O'Byrne, 1996) pointed out EVA as of higher significance and predicting high explanatory power as compare to NOPAT in contribution toward market to equity ratio where as EVA coefficient is carrying both negative and positive values and similar is the case with changes in market value.

## Theoretical Frame work




## Methodology

The methodology of the topic is as under.

## 1. Sample size

The study sample size consists of 60 firms for the period of seven years from 2004 to 2010. The study is conducted on non financial firms registered on Karachi Stock Exchange. The criteria for the inclusion are the availability of the required data limited to the presence of the variable in the financial statements taking 2009 as reference year and extending the same firms data till 2010.

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## 2. Model and variables

As the data contains time series as well as cross-sectional data, so pooled regression model is use for the association (Gujrati, 2004). The general form of the model is

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

"Yit" is the stock return, "$\beta_0$"is the intercept, "Xit"are the independent variables where "eit "is the error term.

The included variables of the study are

SR, stock return;

NI, net income;

OCF (cash flow from operating activity);

EVA (economic value added).

## 3. Objective of the study

The relation is studied to reach the focused variable results as compared to the others.

The objectives of the research to be accomplished are

1. Providing independent empirical evidence on the information content of EVA, Net income, and accounting earnings measures.
2. Increasing interest in EVA in the business press, increasing use of EVA by firms and among academics, and potential interest in EVA among accounting policy makers.
3. Introducing evidence about the information content of economic value added from the Pakistani market.

## The Findings

The descriptive summary of the study is shown in Table 1. The stock return has the mean value of 3.04 with the standard deviation of 5.844. This shows that the stock return has greater deviation. The distribution of data is positively skewed and ***lepto-kurtic*** in nature as shown by the value 2.688 and 8.439 respectively. Similarly the EVA has the mean value -0.029822 with standard deviation of 0.08845, the skewness and kurtosis value of -4.029 and 19.84 shows that the distribution of EVA is negatively skewed and ***lepto-kurtic***.

**Table 1 Descriptive statistics**

| Variables | Mean | Std. Deviation | Skewness | Kurtosis |
|---|---|---|---|---|
| | Statistic | Statistic | Statistic | Statistic |
| SR | 3.04 | 5.844 | 2.688 | 8.439 |
| NI | .006032 | .0334691 | -6.535 | 58.222 |
| OCF | .009363 | .0205408 | 1.554 | 16.988 |
| EVA | -.029822 | .0864469 | -4.029 | 19.840 |

The correlation between the included variables is shown by the Pearson's correlation matrix and is illustrated in Table 2. The table shows that stock return (SR) of the firm is positively correlated with net income (NI) as designated by the value of 0.293. This correlation is statistically significant as indicated by the p-value. The relationship of operating cash flow (OCF) with the stock return is also significant and has the value 0.338. The association of OCF with NI is 0.163 with p-value of 0.001. Similarly the correlation of EVA with SR has a value of -0.796 with the p-value of 0.000. This shows that EVA is significantly negatively correlated with the stock return. The correlation of EVA with net income and OCF has a negative association, but statistically significant for OCF while insignificant for NI as point out by the p-values of 0.000 and 0.747 respectively.

**Table 2 Correlations Matrix**

| | | SR | NI | OCF | EVA |
|---|---|---|---|---|---|
| SR | Pearson Correlation | 1 | .293** | .338** | -.796** |
| | Sig. (2-tailed) | | .000 | .000 | .000 |
| NI | Pearson Correlation | | 1 | .163** | -.016 |

| | | | | | |
|---|---|---|---|---|---|
| | Sig. (2-tailed) | | | .001 | .747 |
| OCF | Pearson Correlation | | | 1 | -.344** |
| | Sig. (2-tailed) | | | | .000 |
| EVA | Pearson Correlation | | | | 1 |
| | Sig. (2-tailed) | | | | |

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

As the data time series as well as cross-sectional in nature, so pooled OLS is used to describe the relationship of the stock return with the net income, operating cash flow and economic value added. In Table 3 illustrates the individual association of each independent variable with the stock return. The result of net income shows a coefficient of 51.09 with the t-value 6.256. This illustrates that net income and stock return has positive significant impact. The same is also verified by the p-value. The R square value of 0.0856 indicates that about 8 percent of the variation is explained by this explanatory variable. The result of OCF also illustrates the positive and significant as indicated by the F-value. The R-square value designates that 11.44 percent variation in explained variable is determined by the OCF. Similarly the association of EVA with SR indicates the relationship is negative and significant as pointed out by the value of -53.83 and -26.91. This indicates that EVA affects the SR in opposite direction i.e. the increase in EVA will decrease the stock return and vice versa. Comparing the three among NI, EVA and OCF the contribution of OCF is more as compare to NI and EVA as evident by the coefficients and the value of the R2 showing a higher positive explanatory power of the Operating cash flow. Thus it can be stated the contribution in bringing a unit change is the highest as compare to the other variable of the model shown by the following table.

**Table 3 Pooled Regression Model (simple regression)**

| Variables | Coefficients | t-value | F-value | R-square | p-value |
|---|---|---|---|---|---|
| NI | 51.0941 | 6.256 | 39.14217 | 0.085624 | 9.76e-10 *** |
| OCF | 96.2388 | 7.349 | 54.00680 | 0.114420 | 1.06e-12 *** |
| EVA | -53.8304 | -26.91 | 724.2045 | 0.634041 | 2.80e-09** |

EVA =NOPAT –WACC* IC, IC is the invested capital and is equal to the deduction of short term liabilities from total assets.

WACC is the weighted average cost of capital, NOPAT is the net operating profit after taxes and OCF is the cash flow from operating activity.

## Summary and Conclusion

The study shows that ultimately the EVA is not showing a greater contribution in predicting stock returns as evident from the lower value of its coefficient -53.83 as compare to 96.2388 and 51.0941 coefficients of the cash flow from operating activities and net income respectively. Though all the variables are significant as evident from the lower p-values but the R-square value shows the higher explanatory power of the cash flow from operating activities. Pearson correlation among the variables predict that all of the variable are positively correlated except EVA which is negatively correlated and with net income it does not show any significant relationship so it means none of relationship is found between net income and EVA. The negative correlation between Stock return and EVA is also predicting their dependencies on each other.

It can be concluded that EVA is not contributing to the stock return as the investor reliance and belief is on the provision of dividends to the share holder rather than increasing worth of the business. So higher is the payment of dividend will ultimately contribute to stock return as investor are valuing it more as evident from the OCF significance and coefficient. A higher OCF means higher cash generation potential from operation thus ultimately predicting greater potential of payout ratio thus leading to increasing stock return rather greater than the net income as it do count the noncash account receivable which is unable to contribute in the form of dividends.

The study is considering 60 firms out 634 listed companies in Karachi stock exchange due many constraints. EVA also possesses some qualitative aspects such as the behavior of the top management and board of governors and their knowledge about the EVA and the attitude of investors to this concept which were not taken due to difficulty in measurability of these variables.

Future perspectives of the research are open for taking a wide range of different concerned variables such as components of income statement and cash flow statement variable along with EVA. Besides increasing number of variables an extension in the sample size should be made to other listed companies to further support the findings in order to generalize the results if possible from the extended research.

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