

# Is EVA an Effective Performance Measure

## Evidence from Colombo Stock Exchange, Sri Lanka

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### Abstract

The aim of this study is to explore the relationship between Economic Value Added (EVA) and stock return in Sri Lanka. The study sample consists of 1695 firm year observations covering 113 public limited companies listed in Colombo Stock Exchange (CSE) for 15 years period from 1999 to 2013. This study was based on secondary data, collected from the CSE data library and the published financial statements of companies considered in the sample. Pearson Correlation Coefficient analysis and the fixed effect model of Panel data Regression analysis techniques were used as the statistical techniques to analyze data. The statistical analysis revealed that there is no significant positive relationship between EVA and stock return in Sri Lanka. Contrary to the arguments of EVA proponents, the researcher suggests the market participants of Colombo Stock Exchange to select other performance measures instead of EVA to make rational economic decisions.

**Keywords:** EVA, Performance measure, Panel data, Stock Return, CSE

## 1. Introduction

Performance measurement of corporations is an important and essential task for any business entity. The Economic Value Added (EVA) is one of the financial performance measurement technique used by corporations worldwide. It is a value based performance measure which goes beyond the rate of return and considers the cost of equity capital as well. It measures the earnings of a company after providing for the cost of equity capital. According to Paliam (2006), the EVA is an incarnation of the underlying residual income (RI) concept. Pandey (2005) defined the EVA as net earnings (PAT) in excess of the charges (cost) for shareholders' invested capital (Equity).

This technique was initially developed by Stern Stewart & Company consultant group in 1980s (Stern, 1985; Stewart, 1991; Stern, Stewart and Chew, 1995; Ferguson, Rentzler and Yu, 2005; Paliam, 2006; Kumar and Sharma, 2011). They introduced this concept to the business world and argued that this is the superior performance measurement technique compared to other performance measures available. Later some other scholars and practitioners have empirically supported the argument of EVA proponents and many corporations have adopted EVA as a technique used in firm performance measurement and portfolio selections decisions (Teitelbaum, 1997) considering that the EVA as one of the best techniques that measures the true economic profit of a firm (Swaroop and Chandra, 2009).

The EVA is the most researched value based performance measure in the academic literature. However, having identified that many scholars confirmed the findings of EVA promoters (for example; O'Byrne, 1996; Uyemura, Kantor and Petit, 1996; Milunovich and Tsuei, 1996; Lehn and Makhija, 1997; Herzberg, 1998; and Forker and Powell, 2004; Worthington and West, 2004; Haddad, 2012) there are sufficient number of researchers (Peterson and Peterson, 1996; Appleby, 1997; Turvey et al., 2000; Garvey and Milbourn, 2000; Keef and Rush, 2003; Sparling and Turvey, 2003; Paulo, 2003; Threemanna and Gunaratne, 2015) who have concluded in contrary to EVA proponents argument on the value relevance of EVA.

According to Peterson and Peterson (1996), the EVA type measures do not provide much more information while Appleby (1997) have reported that the EVA is a measure which only looks into a company's historical performance where it provides no any indication of the future performance of the company. In contrary to the EVA proponents' argument, Turvey et al. (2000) have reported that there is no any relationship between EVA and stock return. Similarly, Keef and Rush (2003) too reported that EVA and Stock return shows no any relationship. Further Keef and Rush (2003) have mentioned that the concept of EVA as an enigma. Slightly different to Peterson and Peterson (1996); Appleby (1997); and Keef and Rush (2003) findings on the relationship between EVA and stock return, Sparling and Turvey (2003) have reported that there is a weak correlation between these two elements.

Though the reported results of the empirical studies which have been conducted worldwide show large discrepancies, this concept has not yet been studied adequately in Sri Lanka context. Kosalathevi (2013) has studied the impact of EVA on firm performance using data from selected private banks in Sri Lanka and found that there is a relationship between EVA and firm financial performance. However her study did not focus on the explanatory power of

EVA on the stock returns. Threemanna and Gunaratne (2016) have studied the association of EVA on stock return taking data only from the Beverage, Food and Tobacco sector companies in CSE. The reported results of Threemanna and Gunaratne (2016) indicated that the EVA is not a statistically significant performance measure which could explain stock return in Sri Lanka. It was hard to find any other published work other than these two studies.

The discrepancies in the reported results of the relationship between EVA and stock returns in the international context for both developed and emerging markets and the inadequacy of the studies conducted in Sri Lankan context creates an obvious necessity to study this matter further in Sri Lankan context for Colombo stock exchange. Accordingly the present study was conducted to bridge the identified gap with the hypothesis that there is a strong positive relationship between EVA and stock return in Sri Lanka.

The remainder of this paper has been organized as follows. The section 2 describes the detailed analysis of literature and the section 3 explains the research methodology used in this study. The section 4 describes the results and discussion and finally the conclusion of the study is given in the fifth section.

## **2. Literature Review**

The Economic Value Added is commercially developed in 1982 by the corporate advisory team of Joel Stern and Stewart III (Grant, 2003) though the initial step of EVA was taken by Stewart in 1974. As the value has become primary concern of the investors, the proponents of EVA claimed that the EVA is a performance measures which tied directly to stock's intrinsic value (Stewart, 1991; Grant, 1996, 2003). Stewart (1991) has mentioned "Forget about earnings, earnings per share, earnings growth, rate of return, dividends, and even cash flow. All of them are fundamentally flawed measures of performance and value. EVA is all that really matters". Further Stewart (1994) argued that "EVA is almost 50% better than its closest accounting based competitor in explaining changes in shareholder wealth."

Finegan (1991) extended the initial analysis of Stewart (1991) by focusing the middle 450 companies in USA and have found that EVA outperformed the other performance measurers. EVA showed 61 percent explanatory ability compared to 47 percent explanatory ability of return on capital, the second best performance measure.

Grant (1996) too studied the association between EVA and MVA in US stocks and have reported that EVA has proven to be a valuable analytical tool for corporate managers. EVA has a significant impact on firm's market value added (MVA). Further Grant (1996) found that a fluctuation of EVA has a direct impact on the intrinsic value of firm's outstanding debt and equity securities. Grant (2003) validate the relationship between EVA and corporate valuation using a sample of 983 US companies. He argued that EVA has a significant impact on the MVA of a firm thereby supporting Stern Stewart hypothesis that EVA is superior performance measure compared to traditional accounting based performance measures.

Lehn and Makhija (1996) studied the relationship between the performance measures and stock returns using a sample of 241 US companies over the period from 1987 to 1993, and the reported results are consistent with the Stewart (1991) claim on the superior explanatory

power of the EVA on stock returns. O'Byrne (1996) found that EVA is systematically linked to the market value unlike NOPAT or other earnings measures and further he argued that the EVA is a powerful tool for understanding the investor expectations that are built into a company's current share price. Uyemura, Kantot and Pettit (1996) studied this taking data from 100 largest US banks for ten year period from 1986 to 1995. The results depicted that EVA is the performance measure that best correlated with the Market value added. The findings of Uyemura, Kantot and Pettit (1996) lend the support towards Stewart (1991). Milunovich and Tseui (1996) have found that EVA is more highly correlated with MVA. Bacidoreat. el (1997) too found that EVA can be used in explaining stock returns. Girotra and Yadav (2001) empirically investigated the EVA concept to find out its utility and limitations in value based management framework in Indian context. In common with Stewart (1991) they found that EVA has information content. Misra and Kanwal (2007) too studied the value relevance of EVA in Indian context. Results of their study revealed that EVA is the most significant determinant of MVA as it explains the variations in share value better than the other conventional accounting based performance measures.

Irala (2007) revisited whether Economic Value Added has got a better predictive power relative to the traditional accounting measures taking data from 1000 companies across 6 years. The reported results very much support the claim that the EVA is the better predictor of market value compared to other accounting measures. Ismail (2008) revealed that EVA is able to correlate with stock returns and is superior in explaining variations in the stock returns in Malaysian context. Popa, Mihailescu and Caragea (2009) investigated the Romanian Banking systems and have found that EVA can be an important tool that bankers can use to measure and improve the financial performance of their bank. Haddad (2012) examined this relationship in Jordanian banking sector. The results showed a positive and significant relationship between EVA and stock returns. These results are consistent with the empirical results provided on banking sector by Girotra and Yadav (2001), and Popa, Mihailescu and Caragea (2009) for emerging markets. Further the results of Haddad (2012) are consistent with the argument of Stewart (1991) on the superiority of EVA over traditional accounting performance measures.

In contrary to the empirical evidence provided by the above studies on the positive relationship between EVA and stock return and the support lend to the argument brought to light by the proponents of EVA on the superior value relevance of the concept of EVA, many other scholars have come up with different findings. There are numerous studies that have argued that EVA is not superior to other measures and even it is not a significant performance measure to be considered in decision making.

Chen and Dodd (1997, 1998); Biddle, Bowen and Wallace (1997); Worthington and West (2001); Kim (2006); Ismail (2006) and Maditinos, Sevic and Theriou (2009) have reported that though EVA shows a relationship with return, the EVA is not a superior performance measure as argued by Stewart (1991). Some other researchers (Peterson and Peterson, (1996); Turvey et. al (2000); Keef and Rush, (2003); Sparling and Turvey, (2003); Palliam, (2006)) have concluded that the EVA does not have any correlation with stock returns, and the use of such value based method is somewhat invalid and unreliable. Kramer and Pushner (1997)

studied the effectiveness of the EVA as a proxy for MVA using the Stern Stewart 1000 companies for ten year period from 1982 to 1992 and have reported without lending any support to the EVA proponents, that there is no any evidence to prove the superiority of EVA over the traditional accounting performance measures. Kramer and Peter (2001) have undergone inter industrial analysis using data from the Stern Stewart 1000 database and by analyzing the data categorizing to 56 industries, they have not found any evidence to support the superiority of EVA instead they have found that in most of the industries the marginal cost of using EVA are not justified by any marginal benefits. Clinton and Chen (1998) analyzed the relationship of EVA to stock price and stock returns selecting 325 companies from Standard & Poor's 500 and the Stern Stewart 1996 Performance 1,000 databases and have found that EVA has no consistent significant association with either stock price or stock return.

Biddle, Bowen and Wallace (1997) too examined the US market to tests assertions that Economic Value Added (EVA) with stock returns and firm values. Further their study extended to evaluates which components of EVA, if any, contribute to these associations. Their conclusion is that, although for some firms EVA may be an effective tool for internal decision making, performance measurement and incentive compensation, it does not dominate earnings in its association with stock market returns for the sample firms and period studied. Further Biddle, Bowen and Wallace (1998) argued that their independent examination suggests that some of the claims over EVA are over stated while evidence confirmed that managers respond to EVA incentives, there is no evidence thus far to support claims that EVA is more closely associated with equity returns or firm values than is net income.

DeVilliers (1997), DeVilliers and Auret (1998) and DeWet (2005) among other have provided contradicting conclusion on this regard in South African market. DeVilliers (1997) found that EVA is not able to explain variation of stock return than accounting earnings. DeVilliers and Auret (1998) found that EPS had more explanatory power than EVA in explaining stock prices in South Africa. Gunter, Landrock and Muche (2001) examined this relationship in German market and they too do not found any evidence to prove the superiority of EVA in explaining stock returns in the context of Germany stock market. Worthington and West (2001) found the same for Australian context and Peixoto (2002) for Portuguese public companies listed on the Lisbon Stock Exchange. Ismail (2006) conducted a study and have found that EVA is not a superior performance measure in UK context. Paulo (2010) too used UK data to investigate whether the EVA is a superior financial performance metric as claimed by Stern and Stewart Company and argued that there is no supportive evidence to validate the claims of EVA. Kyriazis and Anastasis (2007) studied this for a sample of 121 non-financial publicly traded Greek firms listed in the Athens Stock Exchange and argued that EVA does not appear to have a stronger correlation with firms' Market Value Added than the other variables. The empirical results of Kumar and Sharma (2011a) too proposed that EVA is not a superior performance measure in Indian market.

Despite the broad and contradicting literature available on the field of EVA stock returns in international stock exchanges, the available knowledge on this context in Sri Lanka is very

poor. It was hard to find published studies related to this matter other than Kosalathevi (2013) and Threemanna and Gunaratne (2016).

Kosalathevi (2013) has studied the impact of EVA on firm performance using data from selected private banks in Sri Lanka and found that there is a relationship between EVA and firm financial performance. Her study too did not focus on the explanatory power of EVA on the stock returns. Threemanna and Gunaratne (2016) have reported that EVA is not a significant performance measure in explaining stock returns of Food Beverage and Tobacco sector companies in Sri Lanka.

The above analysis of literature clearly shows that there is no conclusion on the relationship between EVA and Stock return either in the international context or in the local context. Hence it is worth to study the association between EVA and Stock return in Sri Lankan context.

### **3. Methodology**

#### *3.1 Hypothesis*

H0: There is no significant positive relationship between EVA and stock return in Sri Lanka

H1: There is a significant positive relationship between EVA and stock return in Sri Lanka

#### *3.2 Population and sample*

The population of the study is all the quoted Public Limited Companies (PLC) listed in the Colombo Stock Exchange (CSE) Sri Lanka. The CSE has 295 companies representing 20 business sectors as at 31st August 2017, with a Market Capitalization of Rs. 2,897.7 Bn. The sample size of this study was 1695 firm year observations obtained from 113 public limited companies registered in CSE and the sample period spans for 15 years from the year 1998/1999 to the year 2012/2013. This sample was selected using five criterions. The first criterion is how long the company is trading in the CSE. As the sample period spans for 15 years from the year 1998/1999 to 2012/2013, any public limited company quoted on or before 1/4/1998 and operates continuously for 15 years period are qualified to consider in the sample of this study. But to calculate the variables under the study it is required to use the data of two prior years' to the sample period. Hence it was required to consider only the companies quoted on or before 1/4/1996 and operating 17 years continuously. The second and third criterion was to exclude the companies registered under the Bank Finance and Insurance sector and Diversified Holdings sector from the sample. The Bank Finance and Insurance sector companies were removed due to the inherent conditions of financial institutes compared to the companies in any other sectors in CSE. This exclusion is empirically supported by the Fogelberg and Griffith (2000) and Bandara and Weerakoon (2011). The fourth criterion is the balance sheet date (financial year end) of the companies. The researcher considered only the companies whose financial year ends as at 31<sup>st</sup> March each year. Hence the researcher removed all the companies whose financial year ending any dates other than 31<sup>st</sup> March from the sample of this study. The fifth and last criterion is the



availability of all the required data for entire 17 years period to have a strongly balanced panel data set. There were only 113 companies satisfied all five criterions.

### 3.3 Data and data collection

The entire study was based on secondary data. The required secondary data was collected from two main sources namely the data library of the CSE and the published financial statements of the companies considered in the sample of the study. Finally the relevant calculations were made by the researcher using Excel worksheets to derive the variables used in this study.

### 3.4 Variables definition and calculation

The dependent variable of the study is annual stock returns of the companies listed in CSE. The stock return calculation was based on the mostly applied reinvestment assumption. All the types of remittances such as Dividend Payment, Bonus Issues, Stock Splits and Right Issues were considered for the calculation of Stock return. As per the Ph.Dthesis of Nimal (2006) the following formula was used to calculate the monthly returns of each company.

$$R_{it} = \left[ \left( \frac{P_t P_c (1 + R_r + S_r + B_r + D_r)}{P_0 (P_c + R_r P_r)} \right) - 1 \right] \times 100$$

Where;

$R_{it}$  : Return of the stock i in the month t

$P_t$  : Price of the stock at the end of the month t

$P_c$  : Closing price of the stock on Ex-right date/ the stock price immediately before the ex-right date

$R_r$  : Right ratio

$S_r$  : Split ratio

$D_r$ : Dividend ratio

Br: Bonus Ratio

$P_0$ : Price of the stock at the beginning of the month t

$P_r$ : Right issue price of a stock

Finally the annual returns were calculated as the aggregation of the monthly returns extending nine months prior to the fiscal year end and three months after the fiscal year end. (ex. Return of the Year 2012/13 was calculated by aggregating the returns of April 2012 to March 2013).

The independent variable of this study is EVA. As the study used Easton and Harris (1991) formal valuation model both EVA and change in EVA ( $\Delta$ EVA) need to be calculated for the

study. Stewart (1991) calculated EVA by deducting a cost of operating capital from net operating Profit after Tax (NOPAT- Cost of Capital). Obtaining NOPAT figures of Sri Lankan companies is much difficult since it is not published. Pandey in his book financial management 9<sup>th</sup> edition has stated that EVA is defined as net earnings (PAT) in excess of the charges (cost) for shareholders' invested capital (Equity). Further Fraker (2006) and Bandara et al (2008) have used PAT instead of NOPAT in calculating EVA. Therefore in this study the EVA of each company was calculated by deducting the cost of equity from the profit after tax (PAT). This figure represents the EVA contribution only for the equity shareholders.

The equation used to calculate EVA could be stated as follows.

$$EVA = PAT - (K_e * TE)$$

Where;

EVA : Economic Value Added

PAT : Profit after Tax

$K_e$  : Cost of Equity

TE : Total Equity

The Capital Assets Pricing Model (CAPM) of Sharpe (1964) was implemented to calculate cost of equity ( $K_e$ ). Accordingly the cost of equity was calculated by using the following equation.

$$K_e = R_f + \beta_i (R_{mt} - R_f)$$

Where,

$K_e$  : Cost of equity

$R_f$  : Risk free rate

$\beta_i$  : Beta coefficient

$R_{mt}$  : Market rate of return

Three hundred and sixty five days Treasury bill rate was considered as the risk free rate.

The beta coefficients for each company for each year were estimated by using 36 monthly returns employing regression technique. The slope of the regression line of following equation was considered as stock's beta coefficient.

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it}$$

Where,

$R_{it}$  : The periodic return for the firm j in time t



$\alpha_i$  : The constant term

$\beta_i$  : The estimated beta (systematic risk) for the firm for the year

$R_{mt}$  : The periodic return for the market index

$e_{it}$  : The random error term whose expected value is zero

The periodic return of the market index ( $R_{mt}$ ) was calculated using the all share price index (ASPI) data. The formula used to calculate the market return can be shown as follows.

$$R_{mt} = \left[ \frac{P_t - P_0}{P_0} \right] \times 100$$

Where,

$R_{mt}$  : Market Return in the month t

$P_t$  : All Share Price Index of end of the month t

$P_0$  : All Share Price Index of beginning of the month t

Change in Economic Value Added ( $\Delta EVA$ )

The  $\Delta EVA$  indicates the annual growth or decline in net earnings in excess of cost of capital. The  $\Delta EVA$  was calculated in this study as the quotient of the difference between the two consecutive observations ( $EVA_t - EVA_{t-1}$ ) dividing by the previous time period observation ( $EVA_{t-1}$ ). Accordingly the following formula was used to calculate the  $\Delta EVA$ .

$$\Delta EVA = (EVA_t - EVA_{t-1}) / EVA_{t-1}$$

### 3.5 Data analysis techniques

This study used correlation coefficient analysis and regression analysis techniques to analyze the collected data in order to achieve the research objective. As the panel data analysis endows regression analysis with both a spatial and temporal dimension, this study used panel data regression analysis technique.

The appropriate panel data regression model for the collected data was selected by performing three tests, Fisher F test, Lagrange Multiplier (LM) test and Hausman specification test. The F test recommends the best panel model out of pooled data regression model and fixed effect model while the LM test recommends the best model out of pooled regression model and random effect model. The Hausman specification test compares the fixed effect model and the random effect model. Further the researcher used Easton and Harris (1991) formal valuation model in this study. According to that model the following regression model was developed and tested using panel data approach in this study.

$$R_{it} = a_{t0} + a_1 EVA_{it}/P_{it-1} + a_2 \Delta EVA_{it}/P_{it-1} + e_{it}$$

Where;

$R_{it}$  = The annual compounded returns for firm i time t.

$EVA_{it}$  = Economic Value Added of firm i time t

$\Delta EVA_{it}$  = Change in Economic Value Added of firm i time t

$P_{it-1}$  = The market value per share of firm i at the first trading day of the ninth month prior to fiscal year end

This regression equation was tested for multi-colinearity using variance inflation factor (VIF) analysis. Further the researcher conducted Harris- Tzavalis unit root test and Breitung's unit root test in order to test whether the data set of this study consists of unit roots.

#### 4. Results and discussion

This study was conducted to investigate whether the EVA is a significant performance measure in terms of explaining stock returns in Sri Lanka. The person correlation coefficient analysis was used to identify the relationship between EVA and stock return in Sri Lanka. The results of the correlation analysis are shown below.

Table 1. Pearson Correlation Coefficient

Variable	Return	EVA	$\Delta EVA$
Return	1		
EVA	0.0317	1	
$\Delta EVA$	0.0324	0.1674***	1

N.B: The correlations between each pair of variables were measured at 10 percent, 5 percent and 1 percent significant levels. The resulted correlation coefficient values that are significant at the 1 percent level have been marked with \*\*\* , significant at 5 percent level have been marked with \*\* and significant at 10 percent level are marked with \*.

The results of the Pearson correlation coefficient analysis presented in table 1 above clearly shows that both EVA and  $\Delta EVA$  have positive correlation with stock return but the value is very low (week positive correlation). However this relationship is not statistically significant as the P values of both EVA and  $\Delta EVA$  are greater than 0.1 level.

Even though the relationship between EVA and stock return identified through correlation coefficient analysis was not significant, the researcher further analyzed this using panel data regression approach. The most suitable panel data regression model for the current data set was fixed effect regression model. Hence the researcher tested fixed effect regression model and the results obtained were depicted below.

Table 2. Fixed effect regression model of EVA and stock return

This table shows the result of the panel data regression analysis conducted to test the significance of EVA in explaining Stock Return. Further to check the existence of multi-collinearity among variables, the Variance Inflation Factor (VIF) analysis was conducted and the relevant VIF values have been presented in the same table.

Variable	Coefficient	Robust Standard Error	P- value	VIF
Constant	37.4498	.2823596	0.000	
EVA	1.63e-07	1.77e-07	0.357	1.03
ΔEVA	8.65e-07	4.90e-07	0.080	1.03
Sigma u	28.022576			
Sigma e	92.183593			
Rho	0.0846			
R <sup>2</sup>	0.0017			

VIF > 10 indicates presence of multi-collinearity.

$$R_{it} = 37.4498 + 1.63e-07 \text{ EVA} + 8.65e-07 \Delta \text{EVA}$$

The table 2 presents the results of the estimated fixed effect regression model which was regressed on the stock returns (dependent variable) with the EVA and ΔEVA to test the hypothesis that there is a significant positive relationship between EVA and stock returns in Sri Lanka. As per the results presented in the table the researcher failed to reject the null hypothesis in favour of the alternative hypothesis. Hence it was failed to prove that the EVA is a significant performance measures in explaining the cross section of stock returns in Sri Lanka. The results revealed that the model could explain only a 0.17 percent return variation. The intra-class correlation known as rho is 8.5 percent which is the variance due to the differences across companies and the total variance due to cross sections is (sigma u) 28.02 percent.

## 5. Conclusion

This study examined the relationship between EVA and stock return in Sri Lanka taking data from 113 public listed companies in CSE. The results of the study revealed that there is no significant positive relationship between EVA and stock return in Sri Lanka. Both the EVA and change in EVA shows a weakly positive relationship in the Pearson correlation coefficient analysis where the relationship was not statistically significant as the P value was greater than 0.1 level for both EVA and  $\Delta$ EVA. The panel data regression analysis too evidenced that there is no statistically significant positive relationship between the independent and dependent variable as the results revealed that only 0.17 percent return variation could be explained by EVA. Accordingly, in Sri Lankan context the EVA is not a suitable performance measure to be used in explaining stock returns in the companies whose stocks are traded in the CSE. Hence the researcher recommends the market participants to use any other technique/(s) in making the respective decisions in Sri Lankan context.

## References

- Appleby, C. (1997). The new lingo of added value. *Hospitals & health networks/AHA*, 71(3), 50-52. <https://doi.org/10.2469/faj.v53.n3.2081>
- Bacidore, J. M., Boquist, J. A., Milbourn, T. T., & Thakor, A. V. (1997). The search for the best financial performance measure. *Financial Analysts Journal*, 53(3), 11-20.
- Bandara, R. M. S., & Weerakoon, B. Y. K. (2011). Impact of working capital management practices on firm value. <http://www.kln.ac.lk/uokr/ICBI2011/A&F%20140.pdf>
- Biddle, G. C., Bowen, R. M., & Wallace, J. S. (1997). Does EVA® beat earnings? Evidence on associations with stock returns and firm values. *Journal of accounting and economics*, 24(3), 301-336. [https://doi.org/10.1016/S0165-4101\(98\)00010-X](https://doi.org/10.1016/S0165-4101(98)00010-X)
- Biddle, G. C., Bowen, R. M., & Wallace, J. S. (1998). Economic value added: some empirical EVA evidence. *Managerial finance*, 24(11), 60-71. <https://doi.org/10.1108/03074359810765714>
- Chen, S., & Dodd, J. L. (1997). Economic value added (EVA™): An empirical examination of a new corporate performance measure. *Journal of managerial Issues*, 318-333. <http://www.jstor.org/stable/40604150>
- Chen, S., & Dodd, J. L. (1998, March). Usefulness of operating income, residual income, and EVA: A value-relevance perspective. In *Working Paper presented at MBAA Conference*
- Chen, S., & Dodd, J. L. (2001). Operating income, residual income and EVA™: Which metric is more value relevant?. *Journal of managerial issues*, 65-86. <https://www.jstor.org/stable/40604334>
- Clinton, B. D., & Chen, S. (1998). Do new performance measures measure up? *Management Accounting*, 80(4), 38-43

- De Villiers, J. (1997). The distortions in economic value added (EVA) caused by inflation. *Journal of Economics and Business*, 49(3), 285-300. [https://doi.org/10.1016/S0148-6195\(97\)00001-5](https://doi.org/10.1016/S0148-6195(97)00001-5)
- De Villiers, J. U., & Auret, C. J. (1998). A comparison of EPS and EVA as explanatory variables for share price. *Journal for Studies in Economic and Econometrics*, 22, 47-63.
- De Wet, J. H. (2005). EVA versus traditional accounting measures of performance as drivers of shareholder value—A comparative analysis. *Meditari Accountancy Research*, 13(2), 1-16. <https://doi.org/10.1108/10222529200500009>
- Ferguson, R., Rentzler, J., & Yu, S. (2005). Does economic value added (EVA) improve stock performance profitability?. *Journal of Applied Finance*, 101-113
- Finegan, P. T. (1991). Maximizing shareholder value at the private company. *Journal of Applied Corporate Finance*, 4(1), 30-45. <https://doi.org/10.1111/j.1745-6622.1991.tb00570.x>
- Fogelberg, L., & Griffith, J. M. (2000). Control and bank performance. *Journal of Financial and Strategic Decisions*, 13(3), 63-69.
- Forker, J., & Powell, R. (2004, April). Does EVA beat earnings? Evidence on associations with stock returns and firm values—revisited. In *Conference paper, presented in EAA Meeting in Prague* (pp. 1-3)
- Gabriela, P. O. P. A., Laurentiu, M. I. H. A. I. L. E. S. C. U., & Codin, C. A. R. A. G. E. A. (2009). EVA—Advanced method for performance evaluation in banks. *Economia. Seria Management*, 12(1 Special), 168-173.
- Girotra, A., & Yadav, S. S. (2001). Economic Value Added (EVA): A new flexible tool for measuring corporate performance. *Global Journal of Flexible Systems Management*, 2(1), 7-18
- Grant, J. L. (1996). Foundations of EVA™ for investment managers. *The Journal of Portfolio Management*, 23(1), 41-48. <https://doi.org/10.3905/jpm.1996.409573>
- Grant, J. L. (2003). *Foundations of economic value added* (Vol. 99). John Wiley & Sons.
- Gunther, T., Landrock, B., & Mucbe, T. (2000). Profit versus Value Based Performance Measures. An Empirical Investigation Based on the Correlation with Capital Market for German DAX-100 Companies. *Controlling*, 1(2), 69-75
- Haddad, F.S. (2012). The relationship between Economic Value Added and stock Return: Evidence from Jordanian Banks. *International Research Journal of Finance and Economics*, 89, 6-14. <http://www.internationalresearchjournaloffinanceandeconomics>
- Irala, L.R. (2007). Corporate performance measures in India: an empirical analysis, Working Papers No. WP-2007/01/A, available at: [www.Papers.ssrn.com/sol3/papers.cfm?abstract\\_id=964375](http://www.Papers.ssrn.com/sol3/papers.cfm?abstract_id=964375)

- Ismail, I. (2008). Performance of public-listed companies in Malaysia: using EVA, paper presented at the 6th One-day Symposium on Accountability, Governance and Performance, 15 February, Brisbane, available at: [www.griffith.edu.au/school/gbs/afe/symposium/2008/Ismail.pdf](http://www.griffith.edu.au/school/gbs/afe/symposium/2008/Ismail.pdf)
- Kosalathevi, T. (2013). “Impact of Economic Value Added on Financial Performance”: Special Reference to Selected Private Banks in Sri Lanka
- Keef, S. P., & Roush, M. L. (2003). The relationship between economic value added and stock market performance: a theoretical analysis. *Agribusiness*, 19(2), 245-253. <https://doi.org/10.1002/agr.10049>
- Kim, W. G. (2006). EVA and traditional accounting measures: Which metric is a better predictor of market value of hospitality companies?. *Journal of Hospitality & Tourism Research*, 30(1), 34-49. <https://doi.org/10.1177/1096348005284268>
- Kramer, J. K., & Peters, J. R. (2001). An interindustry analysis of economic value added as a proxy for market value added. *Journal of Applied Finance*, 11(1), 41-49
- Kramer, J. K., & Pushner, G. (1997). An empirical analysis of economic value added as a proxy... *Financial practice & education*, 7(1), 41-49.
- Kumar, S., & Sharma, A.K. (2011). Association of EVA and accounting earnings with market value: evidence from India. *Asia-Pacific Journal of Business Administration*, 2(3), 83-96. <https://doi.org/10.1108/17574321111169795>
- Kumar, S., & Sharma, A. K. (2011). Further evidence on relative and incremental information content of EVA and Traditional performance measures from select Indian companies. *Journal of Financial Reporting and Accounting*, 9(2), 104-118. <https://doi.org/10.1108/19852511111173086>
- Kyriazis, D., & Anastassis, C. (2007). The validity of the economic value added approach: an empirical application. *European Financial Management*, 13(1), 71-100. <https://doi.org/10.1111/j.1468-036X.2006.00286.x>
- Lehn, K., & Makhija, A. K. (1996). EVA & MVA as performance measures and signals for strategic change. *Strategy & Leadership*, 24(3), 34-38. <https://doi.org/10.1108/eb054556>.
- Lehn, K., & Makhija, A. K. (1997). EVA, accounting profits, and CEO turnover: an empirical examination, 1985–1994. *Journal of applied corporate finance*, 10(2), 90-97.
- Maditinos, D.I., Sevic, Z., & Theriou, N.G. (2009). Modelling Traditional accounting and modern value based performance measures to explain stock market returns in the Athens stock Exchange (ASE), *Journal of Modeling in management*, 4(3), 182-201. <https://doi.org/10.1108/17465660911006431>
- Milunovich, S., & Tsuei, A. (1996). EVA® in the computer industry. *Journal of Applied Corporate Finance*, 9(1), 104-116.



- Misra, A., & Kanwal, A. (2007). Economic value added as the most significant measure of financial performance: a study of select Indian firms. *Journal of International Business and Economics*, VII(1), 76-85
- Nimal, P.D. (2006). Empirical analysis of capital asset pricing model, University of Shiga, Japan, Phd. Thesis
- O'Byrne, S. F. (1996). EVA® and market value. *Journal of applied corporate finance*, 9(1), 116-126. <https://doi.org/10.1111/j.1745-6622.1996.tb00109.x>
- Palliam, R. (2006). Further evidence on the information content of economic value added. *Review of Accounting and Finance*, 5(3), 204-215. <https://doi.org/10.1108/14757700610686417>
- Pandey, I.M. (2005). *Financial Management*, 9<sup>th</sup> edition,
- Paulo, S. (2003). Epistemology, research methodology and rule 702 of the federal rules of evidence Versus Eva®. *Journal of Business Ethics*, 44(4), 327-341. <https://doi.org/10.1023/A:1023692518377>
- Peterson, P. P., & Peterson, D. R. (1996). *Company performance and measures of value added*. The Research Foundation of the Institute of Chartered Financial Analysts, Charlottesville.
- Peixoto, S.(2002).Economic value added (R) – application to Portuguese public companies. <https://doi.org/10.2139/ssrn.302687>
- Sparling, D., & Turvey, C. G. (2003). Further thoughts on the relationship between economic value added and stock market performance. *Agribusiness*, 19(2), 255-267. <https://doi.org/10.1002/agr.10054>
- Stern, J. (1985). Acquisition, pricing, and incentive compensation. *Corporate Accounting*, 3(2), 26-31.
- Stern, J. M., Stewart, G. B., & Chew, D. H. (1995). The EVA® financial management system. *Journal of applied corporate finance*, 8(2), 32-46.
- Stewart, G. B.(1991). *The Quest for Value: A Guide for Senior Managers*. First Ed., New York: Harper Business
- Swaroop, D. S., & Chandra, S. N. (2009). Key discriminators of bank profitability. *Interdisciplinary Journal of Contemporary Research in Business*, 1(2), 97-110.
- Teitelbaum, R. (1997). America's greatest wealth creators. *Fortune*, 136(9), 265-270.
- Threemanna, T. H. M. S., & Gunaratne, Y. M. C. (2016). Performance measures and stock returns: Evidence from Beverage Food and Tobacco Sector of Sri Lanka. *Journal of Research in Management*, 1(6), 15-17
- Turvey, C. G., Lake, L., Van Duren, E., & Sparling, D. (2000). The relationship between economic value added and the stock market performance of agribusiness firms. *Agribusiness*,

16(4), 399-416.

[https://doi.org/10.1002/1520-6297\(200023\)16:4<399::AID-AGR2>3.0.CO;2-9](https://doi.org/10.1002/1520-6297(200023)16:4<399::AID-AGR2>3.0.CO;2-9)

Uyemura, D. G., Kantor, C. C., & Pettit, J. M. (1996). EVA® for banks: Value creation, risk management, and profitability measurement. *Journal of applied corporate finance*, 9(2), 94-109.

Worthington, A. C., & West, T. (2004). Australian evidence concerning the information content of economic value-added. *Australian Journal of Management*, 29(2), 201-223. <https://doi.org/10.1177/031289620402900204>