

Relationship Analysis between EVA, EPS, ROA, ROE on MVA for Measuring Financial Performance

Case Study on Telecommunication Operator Companies Listed In IDX Period 2011-2016

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Abstract

The main objective of this study was to examine the relationship between EVA, EPS, ROA, ROE on shareholder value as represented by MVA on telecommunication operator companies which listed on the Indonesia Stock Exchange with the observation period 2011-2016.

Results of analysis, independent variables EVA, EPS, ROA and ROE have significant relationship on MVA as dependent variable. On partial correlation analysis result, EVA and ROE have significant relationship to MVA, EPS and ROA have no significant relationship to MVA.

Keywords: *Economic Value Added (EVA), Earning Per Share (EPS), Return on Assets (ROA), Return on Equity (ROE), Market Value Added (MVA)*

I. INTRODUCTION

In the midst of the slowing down of the domestic economy, the telecommunications sector has recorded considerable growth. Telecommunications industry revenues still show strong growth. As of Q2 / 2016, telecommunications sector revenue growth grew 14.1 percent compared to the same quarter a year earlier. In fact, until the first half of 2016, the growth of the Indonesian telecommunications industry grew 15.9 percent and became the fastest in the Asia Pacific region. UBS Global Research report released October 12, 2016 shows that since the second quarter of 2015 telecommunications industry revenues showed a strengthening trend above 10 percent. Also by the review of the Center of Reform on Economics (CORE) in Economic Outlook 2017, predicted the telecommunications sector grew at 8% - 10%.

In relation to the financial performance assessment of telecommunication companies, the company's health level for shareholders also has an interest in knowing the actual conditions within a company, in order to bring enough capital to be safe and obtain favorable returns from invested investments. Performance and management achievement as measured by financial ratios are less accountable because the financial ratios generated depend on the method or accounting treatment used. With this accounting distortion of the

traditional accounting based performance measures such as earnings per share, earnings growth and the rate of return is not effective anymore. Since measurements based on these ratios are not reliable in measuring the added value created over a given period, criticism is asked about how valid performance measurement based on financial ratios can indicate the actual performance of the firm's management. (Utomo, 1999)

The traditional financial measurements such as Earning per Share (EPS), Return on Assets (ROA) and Return on Equity (ROE), and how its influence to shareholder value (market) has been much discussed since long. Since the 1990s, some opinions have been raised to lift the EVA (economic value added) as a measure of financial performance, mainly by Stern Stewart & Co. (Stern, Shiely, and Ross 2001: 15). The Economic Value Added (EVA) to be relevant to measure performance based on the value (value) for EVA is a measure of economic value generated by the company as a result of activity or management strategies. In terms of financial performance measurement, traditional measurements such as EPS, ROE and ROA with EVA and MVA measurements, EVA and MVA may be a better long-term performance measurement than traditional accounting. (Laing and Dunbar, 2015). According to, the results of tests measuring information EVA and traditional financial performance (ROA, ROCE, ROE and EPS) is correlated with variations in the market value of the company (MVA). The results show significant support for EVA and provide evidence of excellence over conventional / traditional performance measures (Kurmi and Rakshit, 2017)

Instead of research De Wet (2005), although the literature says EVA is superior to traditional measures (such as earnings per share (EPS), dividend per share (DPS), return on assets (ROA) and return on equity (ROE)), but The results of the study did not find the benefits of EVA, a strong relationship between MVA and cash flow management. The study also showed no significant correlation between MVA and EPS or MVA and DPS, had little ROE relationship with MVA.

This has led the authors to analyze relationship of financial performance measurement based on the value of EVA, EPS, ROA, ROE to the company's value in the market which is

represented in the MVA for case study on telecommunication operator companies (Telkom, Indosat, XL and Smartfren) registered in IDX period 2011-2016.

II. LITERATURE REVIEW

A. Economic Value Added (EVA)

EVA is calculated as the difference between the Net Operating Profit After Tax (NOPAT) and the Opportunity Cost of Invested Capital. Value Opportunity Cost of Invested Capital is determined by multiplying the Weighted Average Cost of Debt and Equity Capital (WACC) and the amount of capital invested or Invested Capital (IC) (<http://sternvaluemanagement.com/intellectual-property-joel-stern/proprietary-tools-value-creation/>). Keown, et al. (2010) also defines EVA as the net operating profit after tax (NOPAT) with capital expense for the period (the product of the company's capital cost and capital invested at the beginning of the period).

$$EVA = NOPAT - (WACC \times Invested\ Capital) \quad (1)$$

NOPAT = Net Operating Profit After Tax
WACC = Weighted Averaged Cost of Capital

B. Earning Per Share (EPS)

According to Tandelilin (2007: 241) EPS information of a company shows the amount of net profit the company is ready to share for all shareholders of the company. The higher the profit earned, will attract investors to buy shares of the company, it will cause the company's stock price increase. EPS has a positive effect on stock price changes. If the EPS increases expected stock prices will rise, and changes in stock prices will be positive.

$$EPS = \frac{Net\ income - Preferred\ Divident}{Average\ Common\ Share} \quad (2)$$

C. Return on Asset (ROA)

According to Gaspersz (2013: 61) ROA is one of the ratios that become a measure of corporate profitability. ROA is used to measure a company's ability to create profits from assets controlled by management. The higher the ROA value indicates that the company's performance is getting better.

$$ROA = \frac{net\ profit\ after\ tax}{total\ Assets} \quad (3)$$

D. Return on Equity (ROE)

ROE is the ratio of net profit after tax to equity / net worth, which measures the rate of return on the shareholders' capital invested into the company. (Gaspersz, 2013: 69)

$$ROE = \frac{net\ profit\ after\ tax}{shareholder's\ equity} \quad (4)$$

E. Market Value Added (MVA)

Dierks, Paul A., and Patel (1997) define MVA as follows: "A cumulative measure of corporate performance that looks at how much a company's stock has added to (or taken out of)

investor's pocketbooks over its life and compares it with the capital those same investors put into the firm"

MVA is used to measure how much wealth a company has created for a given moment. MVA can be calculated as follows:

$$MVA = Company\ value - Invested\ Capital \quad (5)$$

Company value is the market value of the company's debt and equity (number of shares outstanding multiplied by share price). Invested capital is the sum of all funds invested in it.

III. HYPOTHESIS AND METHODOLOGY

This research tries to see relationship between EVA, EPS, ROA and ROE to company value in market (MVA) with object of telecommunication operator companies listed in IDX (Telkom, Indosat, XL and Smartfren). The company's financial statements for the period 2011 - 2016 are used as secondary data to analyze these variables.

A. Conceptual Model

Conceptual model of thinking framework used to analyze the between EVA and EPS, ROA, ROE to MVA can be seen in the following figure.

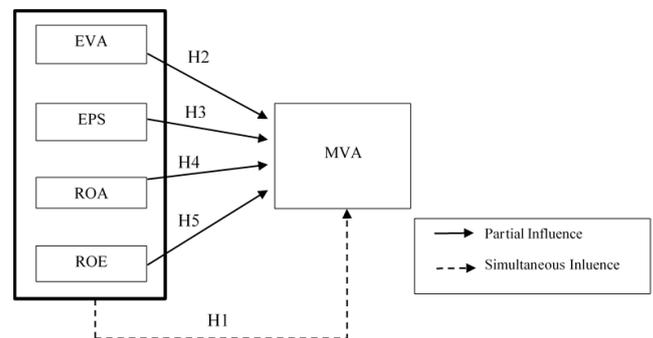


Fig 1. Conceptual Model

B. Hypothesis

Hypothesis in this study:

1. EVA, EPS, ROA, ROE have significant relationship to MVA.
2. EVA have significant relationship to MVA.
3. EPS have significant relationship to MVA.
4. ROA have significant relationship to MVA.
5. ROE have significant relationship to MVA.

C. Scope of Reasearch

1. Research variables:
 - a. Independent Variable: EVA, EPS, ROA and ROE
 - b. Dependent Variable: MVA
2. Research Object: Secondary data on the financial statements of telecommunication operators listed on IDX (TELKOM, Indosat, XL and Smartfren)
3. The data used is secondary data in the form of Financial Report for the period of 2011-2016.

D. Methodology

Data Panel Regression used in this research is as follows:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \varepsilon \quad (6)$$

Y = Market Value Added (MVA) firm i year t

α = coefficient Constants

$\beta_1, \beta_2, \beta_3, \beta_4 \dots$ = Regression coefficients on each variable

X_{1it} = Economic Value Added (EVA) firm i year t

X_{2it} = Earning Per Share (EPS) firm i year t

X_{3it} = Return on Assets (ROA) firm i year t

X_{4it} = Return on Equity (ROE) firm i year t

ε = Error, variable interference

IV. RESULT AND ANALYSIS

A. Regresion Analysis

Based on methodology, variables values will proceed statistically with data panel regression, which descriptive statistic is shown on Table 1.

TABLE 1 DESCRIPTIVE STATISTIC

Descriptive	EVA	EPS	ROA	ROE	MVA
Mean	5.68E+11	61.49000	1.460639	-4.357296	2.76E+13
Median	5.66E+10	53.51500	0.783323	2.141795	-6.48E+12
Maximum	4.06E+12	669.1900	16.48753	27.41497	2.47E+14
Minimum	-1.18E+12	-511.9700	-19.51964	-83.09865	-2.52E+13
Std. Dev.	1.46E+12	268.5453	10.44948	30.33716	7.26E+13
Skewness	1.245289	0.082920	-0.101928	-1.115843	1.791821
Kurtosis	3.248201	3.332590	2.154666	3.706125	5.151183

Before doing data panel regression should checked by statistical testing to choose the correct panel data regression models whether it is better to use the Common Effect Model or Fixed Effect Model model using Chow Test.

TABLE 2 CHOW TEST

Effects Test	Statistic	d.f.	Prob.
Cross-section F	0.835739	(3,16)	0.4938
Cross-section Chi-square	3.493730	3	0.3216

The result shows Prob. Chi-square for the Chow test estimation is 0.3216. Because the value > 0.05 , then the model used is the model Common Effect Model.

The next test is to determine whether the model Common Effect Model or Random Model with Hausman test can not be implemented due to limited data, where the cross section data is less than the number of variables. So, we conclude for the data regression using Common Effect Model.

Furthermore, using data panel regression analysis shows result as follows:

TABLE 3 REGRESSION ANALYSIS

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.67E+12	3.83E+12	-0.435498	0.6681
EVA	43.22148	5.480052	7.887058	0.0000
EPS	-1.19E+10	2.07E+10	-0.574597	0.5723
ROA	1.88E+12	1.23E+12	1.525046	0.1437
ROE	-6.53E+11	2.72E+11	-2.396825	0.0270

Weighted Statistics			
R-squared	0.856518	Mean dependent var	1.06E+13
Adjusted R-squared	0.826312	S.D. dependent var	5.01E+13
S.E. of regression	2.13E+13	Sum squared resid	8.59E+27
F-statistic	28.35527	Durbin-Watson stat	1.439052
Prob(F-statistic)	0.000000		

It show on coefficient variables EVA and ROA have positive value indicating a direct relationship to MVA . Otherwise, variables EPS and ROE have negative value indicating non-directional relationship.

To check determination between independent variables (EVA, EPS, ROA, ROE) to MVA shown on value Adjusted R-Squared 0.826312. It means there is 82.4% relationship by independent variables, and the rest by other unknown variables.

B. Hypothesis Testing Analysis

1. Simultan Correlation Analysis (F-Test)

From the table 3 above, as shown Prob. F-statistic is 0.0000, which is < 0.05 . Thus H_0 is rejected.

It can be concluded that on simultan analysis there is significant relationship between independent variables EVA, EPS, ROA, and ROE to dependent variable MVA.

2. Partial Correlation Analysis (t-test)

From the table 3 above for t-statistic was shown Prob. < 0.05 only variables EVA and ROE, the others EPS and ROE > 0.05 .

It could be concluded for partial analysis, EVA and ROE have significant relationship on the dependent variable of MVA, and EPS and ROA have no significant relationship.

This indicates that in the telecommunication industry in Indonesia, the increase in financial performance especially for EVA will strengthen value companies in the market (MVA).

V. CONCLUSION AND SUGGESTION

This study research on the relationship relationship between Economic Value Added (EVA), Earning Per Share (EPS), Return on Asset (ROA), and Return on Equity (ROE) with market value added (MVA) in telecommunication operator companies which listed in IDX period 2011-2016.

The results indicate there are positive and significant relationship simultaneously between variables EVA, EPS, ROA, and ROE to MVA. Partial analysis result, variables EVA and ROE have significant relationship to MVA, variables EPS and ROA have no significant relationship.

Suggest the management companies needs to keep focused on improving the performance of the company, as good performance it will increase the company value in the market (MVA). Investors in responding to the company's market value (MVA) of telecommunication operators (Telkom, Indosat, XL and Smartfren) need to consider the financial performance analysis results especially on EVA besides accounting profit variables such as ROA, ROE and EPS.

Need further research to see component of performance variable besides EVA, EPS, ROA, ROE which relationship to MVA value of telecommunication industry company in Indonesia.

References

- [1] De Wet (2005). "EVA versus traditional accounting measures of performance as drivers of shareholder value – a comparative analysis". *Meditari Accountancy Research*, Vol 3, No.2 : 1-16.
- [2] Dierks Paul A and Ajay Patel.(1997) "What is EVA and how can it help your company", *Management Accounting*, No. 5, Nov. 1997, pp. 52-57
- [3] Gaspersz, Vincent. *All In One 150 Key Performance Indicators and Balanced Scorecard*, Malcolm Bridge, Lean Six, Sigma Supply Chain Management. Jakarta: Tri-Al-Baros Publishing. 2013
- [4] Keown, Arthur J., Martin, John D., Petty, William J., Scott Jr, David F. (2010). *Financial Management*. Jakarta: Indeks
- [5] Kurmi, Mahesh Kumar & Rakshit, Debdas. (2017). "Information content of EVA and traditional accounting based financial performance measures in explaining corporation's change of market value". *International Journal of Research in Finance and Marketing (IJRFM)*. Vol. 7 Issue 2, February - 2017. ISSN(o): 2231-5985. 1-14..
- [6] Laing, G. dan Dunbar, K. (2015). "EVA, EPS, ROA, and ROE as measures of performance in Australian banks : A longitudinal study". *Journal of Applied Management Accounting Research*, Vol. 13 No. 1. 41-48..
- [7] O'Byrne, Stephen F (1996).. "EVA® and market value." *Journal Of Applied Corporate Finance*. Volume 9 Number 1. 116-125.
- [8] Sakthivel, N.(2011) "Value creation in Indian pharmaceutical industry : a regression analysis." *Journal of Arts Science & Commerce*, ISSN 2229-4686. 209-222.
- [9] Stern, M. Joel, Shiely, John S., and Ross, Irwin (2001). *The EVA Challenge: Implementing Value-Added Change in an Organization*. New York:John Wiley & Sons.
- [10] Tandelilin, Eduardus. (2007). *Analysis Investation and Portfolio Management*. Analisis Investasi dan Manajemen Portofolio. 1st Edition. Yogyakarta: BP.
- [11] Utomo, Lisa Linawati (1999). "Economic Value Added as Measurement of Successful Perfomance Companies Management." "Economic Value Added sebagai Ukuran Keberhasilan Kinerja Manajemen Perusahaan." *Jurnal Akuntansi dan Keuangan Universitas Kristen Petra*, Surabaya.Vol. 1, No. 1, Mei 1999 : 28 – 42.