

ANALYSIS OF FINANCIAL PERFORMANCE WITH ECONOMIC VALUE ADDED (EVA) METHOD, MARKET VALUE ADDED (MVA), AND FINANCIAL VALUE ADDED (FVA)

Rahmah Arafati Masyiyan*¹, Deannes Isyuardhana²

Universitas Telkom, Indonesia*¹²

rahmah.masyiyan@gmail.com*¹, deannes@telkomuniversity.ac.id²

Abstract: EVA, MVA, and FVA analysis techniques are used to see a better and more efficient financial performance of the company. This study aims to determine financial performance based on EVA (Economic Value Added), MVA (Market Value Added), and FVA (Financial Value Added) methods in coal subsector mining companies listed on the Indonesia Stock Exchange in the 2014-2018 period. This study uses a quantitative descriptive method, with a purposive sampling technique in the coal subsector mining companies listed on the IDX and posted operating profit for the 2014-2018 period. The EVA results in this study are 6 companies with share codes of BYAN, DOID, ITMG, PTBA, SMMT, and TOBA which have positive EVA values over the past 5 years. Then from this study there are MVA results that tend to be negative. There are 3 companies with DOID, ITMG, and PTRO stock codes that have negative MVA values every year for a period of 5 years. Then for the FVA value generated in this study, there are 3 companies that have a negative FVA value each year during the study period, those companies are companies with DOID, KKGI, and PTRO stock codes.

Keywords: Financial performance, EVA, MVA, FVA

INTRODUCTION

Indonesia does not only need cheap electricity, but also reliable electricity. Affordable and reliable electricity will drive the country's economy. The use of coal for the country, especially for the main and efficient energy sources in building Steam Power Plants (PLTU) is the backbone in the development and economic growth of the nation. Not only in Indonesia and Asian countries, coal also still has an important role in the energy mix of developed countries (Editor, 2018). Based on the description above, the coal mining sub-sector companies have an important role in the Indonesian economy. However, it was discovered during 2014 to 2018 that several coal mining companies suffered losses. When companies need information about the level of profitability (profit) and the level of risk or health level of a company, an analysis of the company's financial statements can be done. With the analysis of these

financial statements the company can include financial ratio analysis, analysis of strengths and weaknesses in the financial sector, which can be used to assess the performance of management performance in the past and as management decision making in the future. The company's financial statements in a certain period that are prepared accurately and well are able to provide a real situation regarding the performance achievements that have been achieved. The situation is used to assess financial performance. The company's accounting report does not provide a description of market value so the report is inadequate for the purpose of evaluating manager's performance. To help this, financial analysis has been developed into two additional performance measures: the first is Economic Value Added (EVA) and the second is Market Value Added (MVA) (Brigham & Houston, Fundamentals of Financial Management, 2010). According to Rudianto, EVA measures

the actual value that is being created, which makes it a better performance measure than sales growth, return on investment, earnings per share, or other traditional measures (Rudianto, Management Accounting, 2013). The biggest advantage of EVA is that it focuses management to firmly and quickly recognize the cost of equity and to take into account all costs in all decisions (Sahoo & Pramanik, 2016). MVA is the difference in the market value of equity with the book value of a company, as presented in the balance sheet, the market value is calculated by multiplying the stock price by the number of shares outstanding (Brigham & Houston, Fundamentals of Financial Management, 2010).

There is one method of measuring financial performance based on value that has been relatively recently disclosed by Sandias, Lopez, and Gonzalez, FVA is a measurement of corporate financial performance that measures the financial value added of a company by considering the contribution of fixed assets in generating a company's net income (Sandiás, López, & González, 2002). FVA has the

advantage that is, it clearly accommodates the contribution of the concept of value growth duration (value creation process duration) as an element of value addition. This element is the result of a reduction in the value of Equivalent Depreciation due to the longer life of the assets where assets can continue to contribute to the company's performance. In the concept of EVA, this process is not clearly spelled out (Iramani & Febrian, 2005). Based on the phenomenon underlying this research, in 2015 until 2018 mining sub-sector companies listed on the Indonesia Stock Exchange (IDX) experienced a decline in profits caused by various factors. And based on the company's objectives of being able to create and increase the value of the company and its shareholders, the assessment of the company's financial performance in this study was carried out using Economic Value Added (EVA), Market Value Added (MVA), and Financial Value Added (FVA) methods. Framework for thinking is presented in Figure 1 below:

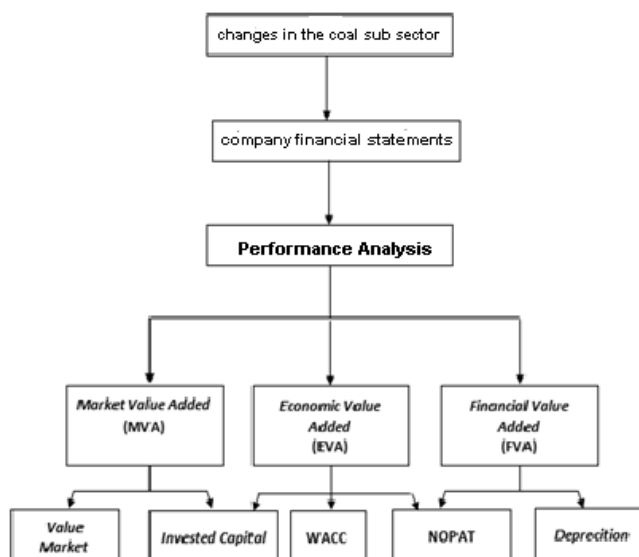


Figure 1. Framework for Thinking

Source: Author's processed product, 2019

Economic Value Added (EVA)

EVA is a measure of financial performance by measuring the difference between returns on corporate capital and the cost of capital. EVA is one type of measurement of financial performance based on value (value based) where the focus of performance appraisal is on the creation of corporate value. EVA measures the difference in financial terms, between the return on company capital and the cost of capital. That is similar to the measurement of profits in conventional accounting, but with one important difference, EVA measures the cost of all capital. The net value figure in the income statement only considers the type of capital costs that are easily seen-interest-while ignoring the cost of equity (Young & O'Bryne, 2001). The following formula for EVA calculation (Rudianto, Management Accounting, 2013).

$$\text{EVA} = \text{NOPAT} - \text{Capital Charge}$$

Information:

NOPAT = *Net Operating Profit After Tax*
Capital Charge = *Invested x Cost of Capital*

Market Value Added (MVA)

Market Value Added (MVA) is the difference between the market value of a company's equity with the book value as presented in the balance sheet, the market value is calculated by multiplying the stock price by the number of shares outstanding (Brigham & Houston, 2010). According to Stern Stewart and Company the inventor of the MVA method in the book *Financial Management Principles and Implementation*, Tenth Edition, volume 2, to measure how much wealth exists in a company that was created for a certain moment, can be calculated as follows:

$$\text{MVA} = \text{value of company} - \text{Capital invested}$$

Source: (Keown, Scott, John, & Petty, 2010)

Financial Value Added (FVA)

Financial Value Added or FVA is a new method of measuring financial performance and company value added. FVA is a measurement of a company's financial performance that measures the financial value added of a company by considering the contribution of fixed assets in generating a company's net profit (Sandiás, López, & González, 2002). According to Sandiás, López, & González (2002), the calculation of Financial Value Added (FVA) is as follows:

$$\text{FVA} = \text{NOPAT} - (\text{ED-D})$$

Where:

FVA = *Financial Value Added*
NOPAT = *Net Operating Profit After Taxes*
ED-D = *Equivalent Depreciation - Depreciation*

METHODS

This research is a quantitative descriptive study. The sampling method used was purposive sampling technique which obtained 12 samples that met the criteria within a period of 5 years to obtain 60 sample units of coal sub-sector companies listed on the Indonesia Stock Exchange period 2014-2018. In this research quantitative data analysis methods are needed obtained from secondary data that has been collected. Data analysis is done by collecting secondary data, then analyzing these data. The following are the data analysis stages: 1. Obtain the required data from the annual financial statements for the period 2014 to 2018.2. Then the EVA component

(Economic Value Added) is calculated, as follows:

Calculates NOPAT (Net Operating Profit After Tax) based on the company's annual financial statement data.

$$\text{NOPAT} = \text{EBIT} (1 - \text{Tax Rate})$$

Calculate *invested capital*

Invested Capital = (total Amount of debt + Equity) – short-term loan

Calculate WACC (*Weighted Average Cost of Capital*)

$$\frac{\text{Capital level (D)}}{\text{Total amount of dept and Equity}} \times 100\% =$$

$$\frac{\text{Cost of Debt (rd)}}{\text{Total amount of dept and long term}} \times 100\% =$$

$$\frac{\text{Capital level /Equity (E)}}{\text{Total amount of dept dan Equity}} \times 100\% =$$

$$\frac{\text{Cost of Equity}}{\text{Total Laba Bersih Sebelum Pajak}} \times 100\% =$$

$$\frac{\text{Tax level}}{\text{net profit before tax}} \times 100\% =$$

Calculate *Capital Charge*

$$\text{Capital Charges} = \text{WACC} \times \text{Invested Capital}$$

Calculate *EVA (Economic Value Added)*

$$\text{EVA} = \text{NOPAT} - \text{Capital Charges}$$

Analysis based on benchmarks *EVA (Economic Value Added)*

$\text{EVA} > 0$ then it shows there has been a process of adding value to the company and successfully creating value for fund providers. The rate of return generated

is greater than the level of capital costs or the level of costs expected by investors for their investments.

$\text{EVA} = 0$ shows the breakeven position of the company because all profits are used to pay obligations to fund providers both creditors and shareholders.

$\text{EVA} < 0$ shows that there is no added value process because the available profits cannot meet the expectations of investors. The value of the company is reduced because the rate of return produced is lower than the rate of return expected by the fund provider (investor).

Next, we calculate the MVA (Market Value Added) component, as follows:
 Count the number of shares outstanding
 Calculate the price per share
 Calculate the value of the company
 Firm value = number of shares outstanding x stock price
 Calculates capital invested
 Invested capital = Long-term debt + Equity
 Calculates the value of MVA, $\text{MVA} = \text{Firm value} - \text{Invested capital}$

Analyzed based on MVA benchmarks
 $\text{MVA} > 0$, means positive, the company has succeeded in increasing the value of capital invested by the donor of funds, this means that management has been able to increase the wealth of the company and shareholders.

$\text{MVA} < 0$, means negative, the company has not been able to increase the capital invested by the donor of funds, this means that management has reduced the wealth of the company and shareholders.

Then the FVA (Financial Value Added) component is calculated as follows:

Calculates NOPAT (Net Operating Profit After Tax) based on the company's annual financial statement data.

$$\text{NOPAT} = \text{EBIT} (1 - \text{Tax Rate})$$

Calculate ED (*Equivalent Depreciation*)

$$ED = k \times TR$$

In the way multiplying k the weighted average capital cost (WACC) with Total Resources

Calculate Depreciation

For this study the authors used the straight-line method,

Straight line method

$$\text{Annual Depreciation} = \frac{(\text{Cost} - \text{Estimated Residual Value})}{\text{Estimated economic life}}$$

Calculate value FVA

$$FVA = \text{NOPAT} - (ED - D)$$

An MVA benchmark was analyzed

FVA value > 0 or FVA is positive, indicating that there is financial value added for the company.

Value FVA = 0 Indicates the breakeven position.

The value of FVA < 0 or FVA is negative, indicating there is no financial value added for the company.

Draw conclusions based on the results of EVA, MVA, and FVA calculations.

RESULTS AND DISCUSSION

Descriptive Analysis

Table 1: Descriptive Statistics Test Results

	EVA	MVA	FVA
Mean	4,30E+11	1,15E+12	2,58E+10
Median	1,05E+11	-1,69E+11	-8,62E+09
Maximum	3,29E+13	5,55E+13	3,29E+13
Minimum	-2,96+13	-3,24E+13	-2,97E+13
Std. Dev.	5,97+12	1,29E+13	6,00E+12

Source : Output Eviews 10 (data processed by the author)

Based on Table 1, the results of descriptive statistical tests show the mean, median, maximum, minimum, and standard deviation of each variable. These results indicate that the variables are explained individually.

The first independent variable is EVA which illustrates the company's ability to provide firm value in terms of returns on capital and the entire cost of capital. This variable has an average

value of 4.30. The median value of this variable is 1.05. Then, this variable has a maximum value of 3.29 which is owned by PT Bumi Resources Tbk. While the minimum value obtained from this variable is -2.96 which is owned by PT Atlas Resources Tbk. The standard deviation of this variable is 5.97, where this value is greater than the average value. This means that the data from this variable is varied.

The second independent variable is MVA which describes how much wealth there is in a company that was created for a certain period. This variable has an average value of 1.15. The median value of this variable is -1.69. Then, this variable has a maximum value of 5.55 which is owned by PT Bayan Resources Tbk. While the minimum value obtained from this variable is -3.24 owned by PT Bumi Resources Tbk. The standard deviation of this variable is 1.29, where this value is greater than the average value. This means that the data from this variable is varied.

The third independent variable is FVA which describes the financial value added of a company by considering the contribution of fixed assets in generating corporate profits. This variable has an average value of 2.58. The median value of this variable is -8.62. Then, this variable has a maximum value of 3.29 which is owned by PT Bumi Resources Tbk. While the minimum value obtained from this variable is -2.97 owned by PT Atlas Resources Tbk. The standard deviation of this variable is 6.00, where this value is greater than the average value. This means that the data from this variable is varied.

Economic Value Added

The following results are calculated using the EVA method:

Table 2 Results Calculate EVA

Generated in millions)							
No	Code Company	Year					Average
		2014	2015	2016	2017	2018	
1	ARII	-Rp401.891	-Rp148.534	-Rp29.627.255	-Rp171.619	-Rp62.161	-Rp6.082.292
2	BUMI	Rp10.410.329	Rp607.199	Rp32.895.221	-Rp5.503.168	-Rp238	Rp7.681.869
3	BYAN	Rp767.157	Rp631.518	Rp857.394	Rp933.386	Rp2.398.444	Rp1.117.580
4	DOID	Rp357.126	Rp337.052	Rp480.868	Rp879.507	Rp451.035	Rp501.118
5	GEMS	-Rp832	-Rp73.026	-Rp14.370	Rp526.911	Rp406.174	Rp168.971
6	HRUM	-Rp77.916	Rp192.741	Rp57.642	Rp66.738	Rp102.029	Rp68.247
7	ITMG	Rp522.191	Rp899.967	Rp532.289	Rp1.132.849	Rp1.863.998	Rp990.259
8	KKGI	Rp16.132	Rp12.936	-Rp125.029	Rp12.562	-Rp1.311	-Rp16.942
9	PTBA	Rp56.695	Rp284.117	Rp278.332	Rp754.972	Rp764.368	Rp427.697
10	PTRO	Rp201.238	Rp87.536	Rp220.053	Rp100.098	Rp256.159	Rp173.017
11	SMMT	Rp2.277	Rp20.661	Rp6.629	Rp15.755	Rp34.470	Rp15.958
12	TOBA	Rp93.608	Rp96.176	Rp79.622	Rp108.868	Rp222.229	Rp120.101

Source: Data processed, 2019

On Table 2 which shows the average value measured using EVA from 12 coal subsector companies in 2014-2018. The average value generated from EVA, from 12 companies which tends to be positive, there are only 2 companies that have EVA values that are negative on

average. The highest average EVA is owned by PT Bumi Resources Tbk in the amount of Rp7,681,868,452,870, while the lowest average EVA value is owned by PT Atlas Resources Tbk which is -Rp6,082,292,401,372.

Market Value Added

The following results are calculated using the MVA method:

Tabel 3 Result Calculate MVA

Generated in millions)							
No	Code Company	Year					Average
		2014	2015	2016	2017	2018	
1	ARII	-Rp931.312	-Rp888.330	-Rp95.637	Rp990.561	Rp968.332	Rp8.723
2	BUMI	Rp6.471.610	Rp29.684.993	Rp20.929.381	Rp13.992.381	Rp32.402.002	-Rp6.233.432
3	BYAN	Rp14.530.537	Rp15.690.236	Rp10.196.387	Rp27.487.909	Rp55.513.311	Rp24.683.676
4	DOID	-Rp7.652.370	-Rp9.319.387	-Rp4.576.656	-Rp3.617.134	-Rp8.375.905	-Rp6.708.290
5	GEMS	Rp10.680.334	Rp7.297.209	Rp15.165.161	Rp12.876.556	Rp11.463.718	Rp11.496.596
6	HRUM	Rp145.795	-Rp2.858.072	Rp854.225	-Rp100.027	-Rp2.102.940	-Rp812.204
7	ITMG	Rp11.185.978	Rp11.966.206	Rp12.902.196	Rp13.774.002	Rp14.976.877	Rp12.961.052
8	KKGI	-Rp701.784	-Rp666.708	Rp316.304	Rp365.959	Rp380.455	-Rp61.155
9	PTBA	-Rp5.802.558	-Rp2.432.269	Rp12.816.912	Rp8.455.068	Rp26.086.378	Rp7.824.706
10	PTRO	-Rp3.345.817	-Rp4.186.140	-Rp3.598.476	-Rp2.869.052	-Rp4.008.294	-Rp3.601.556
11	SMMT	Rp5.030.932	-Rp6.544	-Rp85.815	-Rp186.035	-Rp152.135	Rp920.081
12	TOBA	-Rp642.674	-Rp1.499.601	-Rp4.449	Rp384.030	-Rp2.237.809	-Rp800.101

Source: Data processed, 2019

Based on Table 3 which shows the average value measured using MVA from 12 coal subsector companies in 2014-2018. The average value produced from MVA is from 12 companies, there are 5 companies that have a positive MVA value and 7 others

have a negative MVA value. The highest average MVA is owned by PT Bayan Resources Tbk amounting to Rp 24,683,676,594,970, while the lowest average MVA is owned by PT Indo Tambangraya Megah Tbk with a value of -Rp12,961,052,432,471.

Financial Value Added

The Following Results Are Calculation Results Table Fva

Table 4 Calculated By The FVA Method

(Disajikan dalam jutaan)							
No	Kode Perusahaan	Tahun					Rata-Rata
		2014	2015	2016	2017	2018	
1	ARII	-Rp481.178	-Rp249.295	-Rp29.711.517	Rp108.954	-Rp102.051	-Rp6.087.017
2	BUMI	Rp10.396.099	Rp594.301	Rp32.878.110	-Rp5.530.347	-Rp3.444.345	Rp6.978.764
3	BYAN	Rp244.266	Rp41.997	Rp267.873	Rp445.286	Rp1.845.626	Rp569.010
4	DOID	-Rp896.365	-Rp980.515	-Rp766.955	-Rp567.002	-Rp1.434.649	-Rp929.097
5	GEMS	-Rp52.289	-Rp131.040	-Rp74.366	Rp466.899	Rp314.007	Rp104.642
6	HRUM	-Rp196.045	Rp67.323	-Rp64.893	-Rp64.186	-Rp33.197	-Rp58.200
7	ITMG	-Rp183.486	Rp194.505	-Rp167.546	Rp480.118	Rp1.151.990	Rp295.116
8	KKGI	-Rp2.682	-Rp8.615	-Rp146.365	-Rp8.632	-Rp25.705	-Rp38.400
9	PTBA	-Rp99.522	Rp5.151	-Rp48.024	Rp69.234	Rp45.726	-Rp5.487
10	PTRO	-Rp593.785	-Rp590.538	-Rp407.097	-Rp531.204	-Rp653.290	-Rp555.183
11	SMMT	-Rp5.886	Rp11.934	-Rp1.918	Rp4.163	Rp14.071	Rp4.473
12	TOBA	Rp8.612	Rp15.419	-Rp3.354	Rp19.537	Rp117.436	Rp31.530

Source : Data yang diolah, 2019

Based on Table 4.4 which shows the average value measured using FVA from 12 coal subsector companies in 2014-2018. The average value generated from the FVA is from 12 companies, there are 6 companies that have a positive FVA value and the other 6 have a negative FVA average value. The highest average FVA is owned by PT Bumi

Resources Tbk amounting to Rp6,978,763,794,451, while the lowest average FVA is owned by PT Atlas Resources Tbk with a value of -Rp6,087,017,838,048.

Analysis and Discussion of Results **Analysis of Financial Performance in EVA**

Based on Table 2 for the analysis and calculation of EVA that has been conducted on the financial performance of 12 sample companies, during the 2014-2018 period showed fluctuating values and tended to be positive. The positive EVA average results over the past 5 years is influenced by the Net Operating Profit After Tax (NOPAT) each year is always higher than the cost of capital which often decreases as a result of reducing the amount of investment. This situation explains that the 6 coal subsector companies, namely BYAN, DOID, ITMG, PTBA, SMMT, and TOBA, can produce value that can cover obligations to shareholders, and it is known that the coal subsector companies on the Indonesia Stock Exchange (BEI) during the 2014 period -2018 able to add economic value added to the company or it can be said that these companies have good performance, both for the company and for shareholders. The company that has the best EVA value is PT Bayan Resources Tbk, because this company annually produces a positive EVA value. And PT Bayan Resources has the highest average EVA with a value of Rp1,117,580,323,150,

compared to 5 other companies namely PT Delta Dunia Makmur Tbk, PT Indo Tambangraya Megah Tbk, PT Bukit Asam Coal Mining (Persero) Tbk, PT Golden Eagle Energy Tbk, and PT Toba Bara Sejahtera Tbk, who both have positive EVA values every year. So that the company's management is indicated to be able to provide economic added value to the company. Furthermore, the company that has the worst EVA value is PT Atlas Resources Tbk, because this company has an EVA value that is negative every year. And PT Atlas Resources Tbk has the lowest average EVA, which is -Rp6,082,292,401,372, compared to PT Resources Alam Indonesia Tbk which both have negative average values. So that the company management of PT Atlas Resources Tbk can be said to have not been able to add to the company's wealth.

Financial Performance Analysis In terms of MVA

Based on Table 4.3, the average achievement of the MVA values of 12 coal subsector companies over a period of 5 years tends to be negative. There are only 5 companies that have a positive value and 7 other companies have a negative MVA value. The company that has the best MVA value is PT Bayan Resources Tbk, because this company annually produces a positive MVA value. And PT Bayan Resources has the highest average MVA with a value of Rp24,683,676,594,970, compared to PT Golden Energy Mines Tbk, which both has a positive MVA value every year. So that this company succeeded in providing additional value to the capital entrusted by investors in the company. Furthermore, the company that has the worst MVA value is PT Indo Tambangraya Megah Tbk, because this company has a negative MVA value every year. And this company has the lowest average MVA

value, which is -Rp12,961,052,432,471, compared to PT Delta Dunia Makmur Tbk and PT Petrosea Tbk which both have negative MVA values each year. Therefore, PT Indo Tambangraya Megah Tbk is indicated to have the worst performance and is less able to provide added value to the capital entrusted by investors in the company.

Analysis of Financial Performance in terms of FVA

Based on Table 4.3 the average achievement of FVA value of 12 coal subsector companies over a period of 5 years has fluctuating values. There are 6 companies that have a positive FVA value and 6 companies have a negative FVA value. The company that has the best FVA value is PT Bayan Resources Tbk, because this company annually produces a positive FVA value. When compared to PT Bumi Resources Tbk which both have positive FVA average values, however the last 2 years, namely 2017 and 2018, PT Bumi Resources Tbk has a negative FVA value. So PT Bayan Resources Tbk is indicated to have been able to increase the value of the company with added financial value. Furthermore, the company that has the worst FVA value is PT Delta Dunia Makmur Tbk, because this company has a negative FVA value every year. And this company has the lowest average FVA value, which is -Rp929,097,461,914, compared to PT Resources Alam Indonesia Tbk and PT Petrosea Tbk which both have negative FVA values each year. So PT Delta Dunia Makmur is indicated to have not been able to increase the value of the company with added financial value. This is because the value of NOPAT companies has not been able to cover the value of Equivalent Depreciation and Depreciation.

CONCLUSION

Judging from the Economic Value Added (EVA) analysis, it is known that the average value of EVA produced by 12 sample companies within a period of 5 years, results in EVA values that tend to be positive. 6 coal subsector companies that produce positive EVA values within 5 years, namely BYAN, DOID, ITMG, PTBA, SMMT, and TOBA, can produce value that can cover obligations to shareholders. So that the six companies are indicated to be able to add economic value-added companies or it can be said that these companies have good performance, both for the company and for shareholders. Meanwhile PT Atlas Resources Tbk has a poor performance or can be said to have not been able to provide economic added value to the company, this is because this company has a negative EVA value each year.

Based on the analysis of Market Value Added (MVA), it is known that the value of MVA produced by 12 sample companies within a period of 5 years, resulting in a negative value of MVA. Only 2 companies that have positive values each year, namely PT Byan Resources Tbk and PT Golden Energy Mines Tbk. And there are 3 companies that have negative MVA values every year for 5 years, namely PT Delta Dunia Makmur and PT Petrosea Tbk, indicated to have poor performance and are less able to increase the company's wealth and have not been able to increase the value of capital invested by investors.

Judging from the FVA analysis, it is known that the average value of FVA produced by 12 sample companies within a period of 5 years, results in the value of FVA which some companies have positive results and some companies have negative results. From the results of this FVA, only PT Bayan Resources Tbk has a positive FVA value every year, so it can be said that the company has been able to increase the financial value added to the company. While 3 other companies, namely PT

Delta Dunia Makmur, PT Resources Alam Indonesia Tbk, and PT Petrosea Tbk are known to have been unable to increase financial value added for the company. This is because these 3 companies have negative FVA values each year from 2014 to 2018.

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