



Analysis Of Economic Value Added (EVA), Financial Value Added (FVA), And Market Value Added (MVA) With Time Series Approach As A Tool Of Financial Performance Measuring In The Automotive Industry Listed On The Indonesia Stock Exchange Period 2017-2021

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Abstract: This study aims to determine the financial performance of automotive industry companies listed on the Indonesia Stock Exchange (IDX) for the period 2017-2021 with an Economic Value Added (EVA), Financial Value Added (FVA) and Market Value Added (MVA) approach with a Time Series Approach. (TSA). The results of this study indicate that PT. Astra International Tbk, PT. Astra Otoparts Tbk, PT. Indomobil Sukses International Tbk, with a positive EVA value means that it is performing well. While PT. Gajah Tunggal Tbk has a negative value, meaning that it is not performing well. FVA value of PT. Indomobil Sukses International Tbk has a negative value, meaning that it is not performing well, while PT. Astra International Tbk, PT. Astra Otoparts Tbk, PT. Gajah Tunggal Tbk has a positive FVA value which means it is performing well. MVA value of PT. Astra International Tbk, PT. Astra Otoparts Tbk, PT. Gajah Tunggal Tbk, PT. Indomobil Sukses International Tbk has a positive value meaning that it performs well, Tbk has a positive FVA value which means that it performs well. The Financial Performance of Automotive Industry Companies simultaneously shows a value of 477,540 which means it is positive and means good performance.

Keyword : *Economic Value Added (EVA), Financial Value Added (FVA), Market Value Added (MVA)*

INTRODUCTION

Financial performance is a company's work performance that has been achieved in a certain period and can be seen in the financial statements of the company concerned. The use of financial ratio analysis has a major weakness, namely the risk faced by the company by ignoring the unnoticed cost of capital. The automotive industry is currently growing very rapidly and making a positive contribution to the Indonesian economy. The main drivers for increasing automotive sales came from PPNBM incentives as well as the post-pandemic national economic revival and the level of community mobility.

The automotive industry in Indonesia is trying to create recovery momentum in 2022.

After 2020-2021 slumped due to the pandemic, data from the combined motor vehicle industry (GAIKINDO) showed that car sales, whole sales or distribution from factories to dealers grew 66% year on year (yoy) to 887,202 units, while motorcycles refer to data from



Asosiasi Industri Sepeda Motor Indonesia (AISI) so far reached 5.05 million units, which grew by 30% compared to the previous year. The future of the automotive industry in Indonesia is now almost at a bright spot and continues to grow moving forward with the presence of various automotive technology innovations, including electric motor vehicle technology. Considering its contribution to state revenues from the tax paid sector and the potential for employment, the Indonesian automotive industry is very interesting to be used as research study material, to overcome the weaknesses of financial ratio analysis, a financial performance measurement based on value added, namely Economic Value has been developed. Added (EVA), Market Value Added (MVA) and Financial Value Added (FVA) (Sunardi, 2018). The purpose of this study is to measure financial performance with Economic Value Added (EVA), Market Value Added (MVA) and Financial Value Added (FVA).

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Performance is a process of results that are referred to and measured over a certain period of time based on a predetermined agreement or provision (Edison, 2016). Financial performance is a performance that must be measured to determine the financial condition of a company which is used as a basis for decision making for investors and management.

Economic Value Added (EVA)

Economic Value Added (EVA) is the excess of net operating profit after tax (NOPAT) over the cost of capital, Economic Value Added (EVA) is based on the concept of measuring company profits that considers the expectations of each provider of funds (creditors and shareholders) according to Eugene F. Brigham and Joel F. Houston (2018:98). The EVA formula is:

$$EVA = NOPAT - (WACC \times IC)$$

EVA calculation steps:

COMPONENT EVA	FORMULA
NOPAT	Net operating income (1-Tax Rate)
WACC	$[(D \times r_d) (1-tax) + (E \times r_e)]$
IC	(Total debt + equity) – Short term debt
EVA	$NOPAT - (WACC \times IC)$

- If $EVA > 0$, this indicates that there is economic added value for the company.
- If $EVA < 0$, this indicates that there is no economic added value for the company.
- If $EVA = 0$, this indicates a "break even" position because profits have been used to pay obligations to funders, both creditors and shareholders.

Financial Value Added (FVA)

Financial Value Added (FVA) is a new method of measuring financial performance and value added. FVA is the difference between operating profit after tax (NOPAT) and equivalent depreciation which has been reduced by depreciation. A positive FVA calculation result indicates that net gains and depreciation can cover equivalent depreciation. If this happens, the company will be able to increase the return on capital that has been invested in the company so that it will be able to increase the wealth of its shareholders.

FVA formula:

$$FVA = NOPAT - (ED-D)$$

FVA Calculation Steps :

COMPONENT FVA	FORMULA
NOPAT	Net Operating Income (1-Tax rate)
ED	$k \times TR$
FVA	$NOPAT - (ED-D)$

Information :

NOPAT : Net profit after tax

ED : Cost of Capital Debt

FVA : Financial Value Added

Calculating Equivalent Depreciations

ED = k x TR

Where :

ED = Equivalent Depreciations

K = Weighted average cost of capital (WACC)

TR (Total Resource) = Long-term debt - Total Equity

How to find k :

Calculating WACC (Weighted Average Cost Of Capital)

WACC formula = $[D \times r_d] (1 - \text{tax}) + (E \times r_e)$

Where :

Capital level (D) = $(\text{Total debt} / \text{total debt and equity}) \times 100\%$

The value of **FVA value > 0** or positive FVA indicates there is added financial value for the company.

The value of **FVA = 0** indicates the break-even position.

The Value of **FVA value < 0** or negative FVA indicates that there is no added financial value for the company.

Market Value Added (MVA)

Market Value Added (MVA) according to (Brigham and Houston 2014:111) is the difference between the market value of a company's equity and the book value as presented in the balance sheet, the market value is calculated by transferring the share price to the number of shares outstanding.

MVA formula:

MVA = Firm value – Invested capital

Steps to calculate MVA :

COMPONENT MVA	FORMULA
NOPAT	Net operating income (1-Tax Rate)
WACC	$[(D \times r_d) (1 - \text{tax}) + (E \times r_e)]$
IC	(Total debt + equity) – Short term debt
EVA	$\text{NOPAT} - (\text{WACC} \times \text{IC})$

Information :

NOPAT : Net profit after tax

WACC : Weighted average cost of capital

D : Cost of debt capital

Rd : Percentage of debt in capital structure Tax/Tax

E : Cost of equity capital

Re : Percentage of cost of capital on capital structure

IC : Invested Capital

EVA : Economic Value Added

METHOD

This research is included in descriptive research with quantitative approach. Then a framework can be developed that describes the analysis of the company's financial performance assessment using the Economic Value Added (EVA), Financial Value Added (FVA), and Market Value Added (MVA) methods and then draw conclusions using the Cross sectional approach and Time Series Analysis methods. The source of this research data using external secondary data obtained through the website www.idx.co.id which is arranged in the form of financial statements.

The population and sample in this study are the automotive industry listed on the Indonesia Stock Exchange for the period 2017-2021 with sample data as follows:

Table 1. Population And Sample

NO	CODE	COMPANY NAME
1	ASII	Astra International Tbk
2	AUTO	Astra OtopartsTbk
3	GJTL	Gajah Tunggal Tbk
4	IMAS	IndomobilSukses International

Source: Research data, 2022

Data analysis stages: Obtaining the data needed in the 2017-2021 research period.

1. Calculating the Economic Value Added (EVA) Component :
 - a. Calculating NOPAT based on the company's financial statements.
 - b. Calculating Invested Capital
 - c. Calculating WACC
 - d. Calculating Capital Charges
 - e. Calculating Economic Value Added (EVA)
 - f. Analyzed based on the Economic Value Added (EVA) benchmark
2. Calculating the Economic Value Added (EVA) Component
 - a. Calculating NOPAT based on the company's financial statements
 - b. Calculating Equivalent Depreciation
 - c. Calculating Depreciation
 - d. Calculating Financial Value Added (FVA)
 - e. Analyzed based on Financial Value Added (FVA) benchmarks
3. Calculating the Market Value Added (MVA) component
 - a. Counting the number of shares outstanding
 - b. Calculating the price per share
 - c. Calculating the economic book value per share
 - d. Calculating Market Value Added (MVA)
 - e. Analyze based on Market Value Added (MVA) benchmarks
4. Draw conclusions based on the results of calculations.

RESULTS AND DISCUSSION

Table 2. Analysis and interpretation of Financial Performance using Economic Value Added (EVA), Financial Value Added (FVA), and Market Value Added (MVA) methods at PT. Astra International Tbk (In Million Rupiah)

Variable	Period					Average	Perform
	2017	2018	2019	2020	2021		
EVA	16,674	19,291	20,580	16,203	19,719	5,761	Not Good
FVA	34,405	39,796	39,700	29,924	39,806	36,726	Not Good
MVA	202,220	202,189	202,165	202,165	202,154	202,179	Not Good

Source: Processed data, 2022

Based on the table above, the recapitulation of the financial performance of the company PT. Astra International Tbk for the 2017-2021 period above shows that the EVA shows the company's condition is not performing well because the average EVA value is 5,761 below the industry average of 323,415, meaning that the company's performance is seen from the EVA with poor performance. FVA shows that the company's condition is not performing well because the average value of FVA is 36,726 with poor performance. MVA shows that the company's performance is not good because the average value of MVA is

202,179 below the industry average of 767,636, meaning that the company's performance is seen from the MVA with poor performance.

Table 3. Analysis and interpretation of Financial Performance using Economic Value Added (EVA), Financial Value Added (FVA), and Market Value Added (MVA) methods at PT. Astra Otoparts Tbk (In Million Rupiah)

Variable	Period					Average	Perform
	2017	2018	2019	2020	2021		
EVA	438,819	509,673	670,716	-30,941	473,578	122,809	Not Good
FVA	930,086	1,137,015	1,429,314	-69,344	1,055,398	896,494	Good
MVA	470,252	470,150	469,396	469,568	469,346	469,743	Not Good

Source: Processed data, 2022

Based on the table above, the recapitulation of the financial performance of the company PT. Astra International Tbk for the 2017-2021 period above shows that the EVA shows the company's condition is not performing well because the average EVA value is 122,809 below the industry average of 323,415, meaning that the company's performance is seen from the EVA with poor performance. FVA shows the condition of the company performing well because the average FVA value is 896,494 above the industry average of 767,636, meaning that the company's performance is seen from the FVA with good performance. MVA shows the condition of the company performing well because the average value of MVA is 469,743 below the industry average of 767,636, meaning that the company's performance is seen from the MVA with poor performance.

Table 4. Analysis and interpretation of Financial Performance using Economic Value Added (EVA), Financial Value Added (FVA), and Market Value Added (MVA) methods at PT. Gajah Tunggal Tbk (In Million Rupiah)

Variable	Period					Average	Perform
	2017	2018	2019	2020	2021		
EVA	-599,124	1,267,925	602,794	840,974	991,243	-463,280	Not Good
FVA	-200,144	603,199	536,722	740,708	577,220	451,541	Not Good
MVA	1,728,606	1,728,485	1,728,964	1,729,368	1,728,671	1,728,819	Good

Source: Processed data, 2022

Based on the table above, the recapitulation of the financial performance of the company PT. Astra International Tbk for the 2017-2021 period above shows that EVA shows the company's condition is not performing well because the average EVA value is -463,280 below the industry average of 323,415, meaning that the company's performance is seen from the EVA with poor performance. FVA shows that the company's performance is not good because the FVA average value is 451,541 below the industry average of 767,636, meaning that the company's performance is seen from the FVA that is not performing well. MVA shows the condition of the company performing well because the average value of MVA is 1,728,671 above the industry average -767,636 meaning that the company's performance is seen from the MVA with good performance.

Table 5. Analysis and interpretation of Financial Performance using Economic Value Added (EVA), Financial Value Added (FVA), and Market Value Added (MVA) methods at PT. IndomobilSukses International Tbk (In Millions of Rupiah)

Variable	Period					Average	Perform
	2017	2018	2019	2020	2021		
EVA	60,767	1,118,182	138,009	280,727	173,940	172,458	Not Good
FVA	-131,941	-432,430	115,324	586,123	229,511	-18,487	Not Good
MVA	675,700	671,697	667,928	666,870	666,824	669,804	Not Good

Source: Processed data, 2022

Based on the table above, the recapitulation of the financial performance of the company PT. Astra International Tbk for the 2017-2021 period above shows that the EVA shows the company's condition is not performing well because the average EVA value is 172,458 below the industry average of 323,415, meaning that the company's performance is seen from the EVA with poor performance. FVA shows that the company's performance is not good because the average value of FVA is -18,487 below the industry average of 767,636, meaning that the company's performance is seen from the FVA with poor performance. MVA shows that the company's performance is not good because the average value of MVA is 669,804 below the industry average of 767,636, which means that the company's performance is seen from the MVA with poor performance.

Table 6. Analysis and interpretation of the Economic Value Added (EVA) approach to the Time Series Approach (In Millions of Rupiah)

Code	<i>Economic Value Added (EVA)</i>					Average	Perform
	2017	2018	2019	2020	2021		
ASRII	16,674	19,291	20,580	16,203	19,719	5,761	Not Good
AUTO	438,819	509,673	670,716	-30,941	473,578	122,809	Not Good
GJTL	-599,124	1,267,925	602,794	840,974	991,243	-463,280	Not Good
IMAS	60,767	1,118,182	138,009	280,727	173,940	143,715	Not Good
Average Industry	-20,716	728,768	358,025	136,377	414,620	323,415	

Source: Processed data, 2022

Based on the results of the EVA calculation in table 5, the average EVA value of PT. Astra International Tbk, PT. Astra Ottoparts, PT. IndomobilSuksesInternasionalTbk in 2017-2021 is positive, this means the company is able to provide added value to its shareholders because the EVA value is positive ($EVA > 0$) so it is said to be performing well. While the average value of EVA at PT. Gajah Tunggal Tbk in 2017-2021 is negative, this means that the company is not able to provide added value to its shareholders because the EVA value is negative ($EVA < 0$) so it is said to be performing poorly.

The average Economic Value Added (EVA) of the Automotive industry listed on the Indonesia Stock Exchange for the 2017-2021 period fluctuated. The 2017-2021 period has increased from -20,716 in 2017 to 414,620 in 2021, this means that there is an increasing trend. This is due to a decrease in the cost of capital and shows that the company can provide benefits for investment so that it is in line with the expectations of its investors. From the table above, the industry average is 323,415, this indicates that the company is able to provide added value to its shareholders because the EVA value is Positive ($EVA > 0$) so it is said to be performing well.

Table 7. Analysis and interpretation of Financial Value Added (FVA) Time Series Approach (In Millions of Rupiah)

Code	<i>Financial Value Added (FVA)</i>					Average	Perform
	2017	2018	2019	2020	2021		
ASRII	34,405	39,796	39,700	29,924	39,806	36,726	Not Good
AUTO	930,086	1,137,015	1,429,314	-69,344	1,055,398	896,494	Good
GJTL	200,144	603,199	536,722	740,708	577,220	451,541	Good
IMAS	131,941	-432,430	115,324	586,123	-229,511	-18,487	Not Good
Average Industry	158,102	336,895	530,265	321,853	360,729	341,569	Good

Source: Processed data, 2022

Based on the results of the FVA calculation in table 6, the average value of the company's FVA, PT. IndomobilSuksesInternasionalTbk in 2017-2021 is negative, this means the company is not able to provide added value to its shareholders because the FVA value is negative ($FVA < 0$) so it is said to be performing poorly. While the average value of FVA at PT. Astra International Tbk, PT. Astra Ottoparts, PT. Gajah Tunggal Tbk, 2017-2021 is positive, this means the company is able to provide added value to its shareholders because the FVA value is positive ($FVA > 0$) so it is said to be performing well.

The average Financial Value Added (FVA) of the Automotive industry listed on the Indonesia Stock Exchange for the 2017-2021 period has increased. The 2017-2021 period has increased from 158,102 to 360,729 in 2021, this means that there is an increasing trend. This is due to a reduction in the cost of capital and shows that the company can provide a return on investment in accordance with the expectations of its investors. From the table above, it can be seen that the industry average is 341,569, this indicates that the company is able to provide added value to its shareholders because the FVA value is Positive ($FVA > 0$) so it is said to be performing well.

Table 8. Analysis and interpretation of Market Value Added (MVA) Time Series Approach (In Millions of Rupiah)

Code	<i>Market Value Added (MVA)</i>					Average	Perform
	2017	2018	2019	2020	2021		
ASRII	202,220	202,189	202,165	202,165	202,154	202,179	Not Good
AUTO	470,252	470,150	469,396	469,568	469,346	469,742	Good
GJTL	1,728,606	1,728,485	1,728,964	1,729,368	1,728,671	1,728,819	Good
IMAS	675,700	671,697	667,928	666,870	666,824	669,804	Good
Average Industry	769,195	768,130	767,113	766,993	766,749	767,636	Good

Source: Processed data, 2022

Based on the results of the MVA calculation in table 7, the average value of the company's MVA, at PT. Astra International Tbk, PT. Astra Ottoparts, PT. Gajah Tunggal Tbk, PT. IndomobilSuksesInternasionalTbk in 2017-2021 is positive, this means the

company is able to provide added value to its shareholders because the MVA value is positive ($MVA > 0$) so it is said to be performing well.

Based on the results of the MVA calculation in table 7, the average value of the company's MVA, at PT. Astra International Tbk, PT. Astra Ottoparts, PT. Gajah Tunggal Tbk, PT. Indomobil Sukses Internasional Tbk in 2017-2021 is positive, this means the company is able to provide added value to its shareholders because the MVA value is positive ($MVA > 0$) so it is said to be performing well.

The average Market Value Added (MVA) of the Automotive industry listed on the Indonesia Stock Exchange for the 2017-2021 period has decreased. The 2017-2021 period has decreased from 769,195 in 2017 to 766,749 in 2021. This means that there is a downward trend. This is due to an increase in the cost of capital and shows that the company can provide a return on investment in accordance with the expectations of its investors. From the table above, the industry average is 767.636, this indicates that the company is able to provide added value to its shareholders because the MVA value is Positive ($MVA > 0$) so it is said to be performing well.

Table 9. Assessment of Company Financial Performance in the automotive industry listed on the Indonesia Stock Exchange (IDX) for the 2018-2021 Period Based on Economic Value Added (EVA), Financial Value Added (FVA), and Market Value Added (MVA) (In Millions of Rupiah)

Variable	Code				Average Industry	Sat	Perform
	ASRII	AUTO	GJTL	IMAS			
EVA	5,761	122,809	-463,280	143,715	323,415	Rp	Baik
FVA	36,726	896,494	451,541	-18,487	341,569	Rp	Baik
MVA	202,179	469,742	1,728,819	669,804	767,636	Rp	Baik
Average	81,555	496,348	572,360	795,032	477,540	Rp	Baik

Source: Processed data, 2022

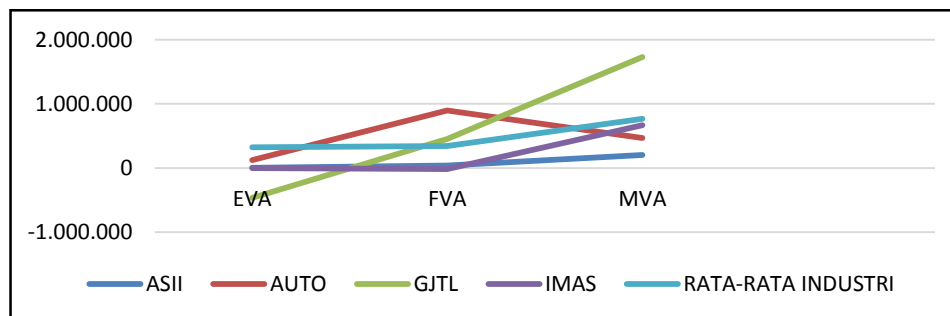


Figure 1. Summary

After calculating each company variable in five consecutive years so that it can be seen the average analysis of the Economic Value Added (EVA), Financial Value Added (FVA) and Market Value Added (MVA) methods in the Automotive industry listed on the Stock Exchange. Indonesian Securities in 2017-2021. amounted to 477,540 showing Positive results. This shows that the overall condition of the automotive industry listed on the Indonesia Stock Exchange is said to be performing well. After calculating each company variable in 5 consecutive years so that it can be seen the average analysis of the Economic Value Added (EVA), Financial Value Added (FVA) and Market Value Added (MVA) analysis methods in the automotive industry listed in The Indonesia Stock Exchange in 2017-2021 amounted to 2,091 showing positive results. This shows that the overall condition of the automotive industry in Indonesia is said to be performing well.



CONCLUSION

Analysis for the assessment of automotive financial performance listed on the Indonesia Stock Exchange for the 2017-2021 period, the average EVA value of PT. Astra International Tbk, PT. Astra Ottoparts, PT. IndomobilSuksesInternasionalTbk in 2017-2021 is positive, this means the company is able to provide added value to its shareholders because the EVA value is positive ($EVA > 0$) so it is said to be performing well. While the average value of EVA at PT. Gajah Tunggal Tbk in 2017-2021 is negative this means the company is not able to provide added value to its shareholders because the EVA value is negative ($EVA < 0$) so it is said to be performing poorly.

Analysis for the assessment of automotive financial performance listed on the Indonesia Stock Exchange for the period 2017-2021, the average value of the company's FVA, PT. IndomobilSuksesInternasionalTbk in 2017-2021 is negative, this means the company is not able to provide added value to its shareholders because the FVA value is negative ($FVA < 0$) so it is said to be performing poorly. While the average value of FVA at PT. Astra International Tbk, PT. Astra Ottoparts, PT. Gajah Tunggal Tbk, 2017-2021 is positive, this means the company is able to provide added value to its shareholders because the FVA value is positive ($FVA > 0$) so it is said to be performing well.

Analysis for the assessment of automotive financial performance listed on the Indonesia Stock Exchange for the period 2017-2021, the average value of the company's MVA, at PT. Astra International Tbk, PT. Astra Ottoparts, PT. Gajah Tunggal Tbk, PT. IndomobilSuksesInternasionalTbk in 2017-2021 is positive, this means the company is able to provide added value to its shareholders because the MVA value is positive ($MVA > 0$) so it is said to be performing well.

Analysis of the Economic Value Added (EVA), Financial Value Added (FVA) and Market Value Added (MVA) methods in the automotive industry listed on the Indonesia Stock Exchange for the period 2017-2021 of 477,540 indicates a positive result. This shows that the overall condition of the automotive industry listed on the Indonesia Stock Exchange is said to be performing well.

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