

Performance of Indonesian manufacturing companies: Economic value-added approach

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Abstract

This study aims to measure the company's performance based on Economic Value Added (EVA). The independent variables are Investment Capital, Return on Assets, Fixed Assets, Rate of Return on Fixed Assets, and Level Debt. This study uses data from 25 manufacturing companies listed on the Indonesia Stock Exchange over the 2016-2019 period. This study shows a significant negative effect of Investment Capital and Debt Level on EVA. The variable rate of return on fixed assets has a substantial impact on EVA, and there is no significant effect of the return on assets and fixed assets on EVA. Thus, it is expected that financial managers can increase profits and reduce debt to increase EVA.

Keywords: Economic value-added; investment capital; debt level; performance measurement

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Introduction

Interest in measuring performance has been increasing since 1980. In the early stages, efforts were made to measure business performance in general. Subsequent research places performance measurement among managers' priorities at all levels to broaden its scope, covering decision-making processes, organizational roles, job maturity, business environment, increased competition, and advanced technology (Taouab & Issor, 2019). Performance management aims to align individual and team performance with the organization's strategic goals (Aguinis, 2013) and (Armstrong, 2015).

Modern methods suggest that firms do not need to sacrifice long-term growth to maximize current earnings (O'Byrne, 2016). In addition, the use of performance appraisal methods depends on the management structure (Suriyankietkaew & Avery, 2016), shareholder board structure (Geng et al., 2021), and business size (Lee, 2009). Researchers have also shown that specific methods allow higher performance (Rajnoha et al., 2016), and positive perceptions of companies towards their business environment can stimulate financial performance and accelerate positive influence on society (Belás et al., 2015).

G. Bennet Stewart and Joel M. Stren proposed the Economic Value Added (EVA). According to the methodological framework, performance as a measure of economic profit is the difference between Net operating profit after tax (NOPAT) and capital investment cost. If Economic Value Added is positive, the organization creates value and vice versa (Tudose et al., 2021). EVA differs from other traditional performance values, such as gain per share, gross operating surplus, and return on sales. It measures all of a company's administrative costs conquer operating and financing costs. (Jankalová & Kurotová, 2020).

We consider measuring performance through EVA because of four main advantages provided by Kijewska (2016): a) net profit margin growth; b) sales growth by identifying market trends; c) a decrease in invested capital when it is not fully utilized (either by selling assets or reducing administrative costs); d) optimization of capital structure, namely the calculation of own combination of capital that minimizes the cost of purchasing resources without affecting the autonomy and financial flexibility; and e) reduction of burden-related interventions. In addition, measuring performance through EVA can increase interest in the company's sustainability. Research shows that the relationship between sustainable value and EVA provides excellent potential for synergies (Jankalová & Kurotová, 2020). EVA translates financial performance indicators into the company's current condition (Bhusan & Kumar, 2016).

This study constructs an alternative model of company valuation based on the concept of economic value added in the Indonesian manufacturing

sector. This study can be an alternative assessment of the company's performance from management, investors, and authorities. In short, we offer a simple model to determine the EVA level of a company based on commonly used financial statements such as investment capital, return on assets, fixed assets, and level of indebtedness.

Method

Data collection in this study is a secondary data collection method by extracting reports from manufacturing companies on the Indonesia Stock Exchange (IDX) in the 2016-20209 period. Of the 25 manufacturing companies used, they consist of 8 basic industrial and chemicals, 11 consumer goods industries, and six miscellaneous industries. We use sampling criteria such as Table 1, and to get a robust model, we construct two models following equations (1) and (2).

Table 1. Sampling Criteria

Criteria	Amount
Companies included in the Manufacturing Industry in the research period 2016-2019 (www.idx.co.id)	171
Companies that do not routinely distribute dividends during the study period	138
Companies that do not use Rupiah (IDR) in their financial statements	4
Companies with growth measurement results do not meet the requirements	4
Number of companies eligible to be sampled	25

$$EVA_{it} = \alpha + \beta_1 IC_{it} + \beta_2 ROA_{it} + \beta_3 LI_{it} + \mu_{it} \quad (1)$$

$$EVA_{it} = \alpha + \beta_1 FA_{it} + \beta_2 RFA_{it} + \beta_3 LI_{it} + \mu_{it} \quad (2)$$

where: i represents the companies included in the analysis, t is the time (2016 – 2019); EVA is the dependent variable Economic Value Added; IC is the independent variable Invested capital; ROA is the independent variable Return On Assets; RFA is the independent variable return on fixed assets; LI is the independent variable level of indebtedness (debt level); α is a constant; β_1 is the Invested capital coefficient; β_2 is the coefficient of Return On Assets; β_3 is the coefficient of the level of indebtedness (debt level); μ is error (error)

Empirical Result

Descriptive statistical analysis shows a higher deviation in the EVA variable. Meanwhile, Variables Invested Capital (IC), Fixed Assets (FA), Return on Fixed Assets (RFA), Return on Assets (ROA), and Level of Indebtedness (LI) have a lower deviation value; this indicates that the distribution is evenly distributed for the exogenous variable (See Table 2).

Table 2. Descriptive statistic

	EVA (millions)	IC	FA	RFA	ROA	LI
Mean	232,000	29.2309	28.2403	1.3318	0.3343	0.3468
Median	1.060	28.8989	28.2792	0.8205	0.2904	0.3200
Maximum	9,000,910.96	33.1604	31.7635	7.2211	3.6361	0.8073
Minimum	(2,016,658.34)	26.3743	23.0333	0.1189	0.0806	0.0768
Std. Dev.	1,890,000	1.7980	2.0360	1.3297	0.3651	0.1746

Table 3. Result of Model 1

Variable Independent	Dependent Variable Economic Value Added		
	Coefficient (millions)	Probability	Conclusion
constant	23,900,000	-	-
IC	-765,000	0.0307	Significant Negative
ROA	52,500	0.7632	Not significant
LI	-3,850,000	0.0064	Significant Negative

Table 4. Result of Model 2

Variable Independent	Dependent Variable Economic Value Added		
	Coefficient (millions)	Probability	Conclusion
constant	-2,920,000	-	-
FA	122,000	0.4200	Not significant
RFA	483,000	0.0198	Significant Positive
LI	-2,730,000	0.0165	Significant Negative

Based on the results of the F test (See Table 3 and 4), it can be seen that the F-Statistic probability in models 1 and 2 produces a value of $0.0000 < 0.05$. Thus the results of this study indicate that simultaneously the independent variables invested capital, return on assets level of indebtedness effect to Economic value-added; the regression model is feasible to use in this study. Based on the goodness of fit test results in model 1, the adjusted R-square value is 0.9322, and model 2 is 0.0831; the independent variable can explain the dependent variable in the two models.

There is an effect of Invested Capital (IC) on Economic Value Added (EVA)

The statistical tests in Table 3 show the significant value of Invested Capital, a significant adverse effect against the economic Value Added. Invested Capital is in line with the research results in Bhusan & Kumar (2016) and Susmonowati (2018), which states that the value of Invested Capital is very influential on EVA

because Invested Capital is a multiplier of WACC, which will result in capital charges. The greater the Value of Invested Capital, the greater the Value of capital charges, and reducing NOPAT (Amaluis, 2012). According to Bhusan & Kumar (2016), one of the steps to increase EVA value is limiting Capital, one of which is liquidating unproductive assets. According to Susmonowati (2018), there are two steps in improving the EVA related to Capital: limiting use of Capital and investing in projects with higher returns.

There is an effect of Return on Assets (ROA) on Economic Value Added (EVA)

Statistical test results show Return on Asset has a probability value of $0.7632 > 0.05$, which shows the effect is not significant; this means that there is no influence between Return on Assets on EVA. ROA has no impact on EVA because EVA emphasizes the efficiency of using short-term loans. Short-term loans are usually used to fund Current Assets. In this case, ROA seems to affect EVA if the company can more optimally use Current Assets to increase profits. These results contradict the research by Tudose, et al. (2021), showing that ROA has a positive and significant effect on EVA. Still, the results of this test are in line with the research by Bhusan & Kumar (2016), which shows that there is no significant effect between financial performance on EVA.

There is an effect of fixed assets (FA), return on fixed assets (RFA), level of indebtedness (LI) to Economic Value Added (EVA)

Statistical test results show the value of FA has a significance value of $0.4200 > 0.05$, which shows the effect is insignificant; this means that there is no influence between FA on EVA. The study results show that the assets that impact EVA are Current Assets. Our result is in line, which indicates that the IC in Model 1 has a significant negative effect on EVA. Current Liabilities should dominate the company's IC to increase EVA, where Current Liabilities are used to fund Current Assets. The results of this study are in line with research by Franky et al. (2017); FA does not have a significant effect on financial performance. Adding FA does not substantially impact EVA value because the acquisition of fixed assets will provide benefits after a few years. The addition of FA does not bring direct benefits. Costs arising from ownership of fixed assets such as depreciation costs and high maintenance costs will affect the financial performance company.

Statistical test results show the Return on Fixed Asset (RFA) is significant. So, it can be concluded that there is a positive and significant effect between RFA to EVA. RFA in model 2 reflects ROA in model 1 because both are profitability ratios. In model 1, ROA does not affect EVA. Still, RFA in model 2 has a positive and significant impact on EVA due to different divisors. The

value of fixed assets is part of total assets that RFA will produce a higher profitability ratio than ROA. Companies can pay attention to aggressiveness in acquiring fixed assets to increase EVA.

Statistical test results show the value of the level of Indebtedness (LI) in Model 1 has a significance value of $0.0064 < 0.05$ and in Model 2 has a significance value of $0.0165 < 0.05$, so it can be concluded that the LI has a negative and significant effect on EVA; this means that the more debt the company has, the lower the EVA. These results contradict Tudose et al. (2021) and Widasari (2014), which show that the LI and variable debt ratio does not affect EVA.

Conclusions

Based on the tests carried out, there are several conclusions: 1) The Return on Fixed Assets variable has a significant positive effect on the Economic Value Added. The higher the Return on Fixed Assets in a company, the higher the Economic Value Added variable; 2) Variables Invested Capital and Level of Indebtedness have a significant adverse effect on Economic Value Added. The higher the Invested Capital and the level of Indebtedness in a company, the lower the Economic Value Added variable; 3) Return on Assets and Fixed Assets variables have no significant effect on the Economic Value Added variable.

To increase EVA, financial managers should increase profitability and manage fixed assets efficiently, for example, by writing off or selling assets that are no longer productive. In addition, financial managers are also more focused on using short-term loans to finance the company's operations, namely by utilizing short-term bank loans or utilizing debt from suppliers. Investors can consider investing in companies with growing profitability but a fixed asset ratio that is not too large and has a larger short-term debt ratio.

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