The Impact of Financial Ratios on the Value of Companies That Conducted M&A Which Registered in IDX on 2016-2021

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ABSTRAK

Keywords: Mergers and acquisitions, financial performance, financial ratios, market value added, company value

ABSTRACT
This study aims to analyze the impact of the financial ratios such liquidity, solvability, turnover, profitability, and market value, economic value added and operating cash flow on the market value added of corporate mergers and acquisitions that listed in IDX from 2016 to 2021. The research informs influence of independent variables to MVA in companies that do M&A as their business strategy. The sampling technique in this study used non-probability sampling with purposive sampling method. Obtained samples of 19 public companies listed on the IDX and secondary data taken from the Indonesian Stock Exchange website. Financial performance measurement takes place five years before and after M&A. The analytical method uses panel data regression and from panel regression we found that EVA, CR, and ROE are significantly positive influenced with market value added of listed firms in Indonesia that conducted M&A. Our results indicate that earning per share significantly has negative influence to MVA; while DER and TATO are insignificantly negative influenced and OCF is insignificantly positive influenced with market value added.
INTRODUCTION

Measurement of company performance will be seen from the financial ratios, such as profitability, solvency, turnover, liquidity, and market; as well as from added value to the company, such as Economic Value Added (EVA) and Market Value Added (MVA). Previous research stated that ratios that can provide financial information on a company's ability after M&A are carried out are liquidity, solvency, activity, and profitability (Kusumawati & Kamal, 2022).

The concept of an economic framework is an innovative way to measure company value and can determine the value and performance of a company based on the economic situation instead of traditional accounting. EVA determines the criteria for business performance, the effectiveness of its financial structure, as well as a single reference level for various company activities both in financial and investment activities (Jakub, Viera, & Eva, 2015). The effective management also has an important role in increasing the value of the company because it helps to make stronger decisions, which leads to increased company performance (Kumar, Bhatia, & Chattopadhyay, 2022).

Sales growth, operating profitability, level of capital and cost of capital can be considered as drivers of core values. The operational efficiency, financial efficiency, and competency investment can be reflected in MVA (Kumar, Bhatia, & Chattopadhyay, 2022). The greater MVA value will make shareholders and investors happier because the wealth can increase (Sunarko & Martini, 2018).

Several studies have found that EVA is not a determinant of MVA, so many studies have used other variables to test it. This study aims to examine the effect of financial ratios peroxided by EVA, CR, DER, TATO, EPS, ROE, and OCF in relation to MVA, especially non-bank companies that carry out mergers and acquisitions listed on IDX during the period 2016—2021. This research analyzes the influence between financial ratios, cash flow, and EVA to company value. The results of this study are expected to assist company management in knowing the factors that influence MVA, especially in relation to the decision to carry out M&A, to help companies in taking strategies in allocating their investments.
This research intends to contribute especially to companies that carry out M&A in Indonesia. Previous research was conducted on companies with industries with certain specifications such as manufacturing companies and others, but no research has been found that looks for factors that influence MVA in companies that carried out M&A. Previous studies result still found various inconsistent results on variables that influence MVA, therefore this research is still feasible to do to see results that consistent with previous studies and provide the most significance values for Companies that did M&A for their business.

LITERATURE REVIEW

The growth of a company through an external process, namely through M&A, may involve absorption or consolidation also can be friendly or hostile. An act of forced acquisition can become a takeover (Rao & Kumar, 2013). The results of the merger can arise from several sources such as economic activities, activities from finance, taxation effects that may result in smaller tax payments, effectiveness and efficiency and increased market position (Moin, 2013). M&A considered as a profitable investment because it can provide an efficiency advantage in finance, can provide tax control economies of scale in combining several existing resources and eliminating inefficient things (Kusumawati & Kamal, 2022).

There are several conventional assessments to evaluate company performance, such as ROCE, ROS, ROA, and ROE. Meanwhile, the company's performance cannot be measured only with the help of accounting profit because it cannot predict the company's performance consistently (Fu, Lin, & Officer, 2013). Several studies conducted empirical analysis that EVA is the best measure in explaining company performance compared to traditional accounting measurements in relation to the company's market value or stock returns. On the other hand, there are some drawbacks of these restrictions and have influenced with more efficient and significant measurements (Sura, Panchal, & Lather, 2023). EVA is considered as a better criterion than traditional measurements such as ROA, ROE, and ROI to measure value creation and internal performance of companies (Kumar, Bhatia, & Chattopadhyay, 2022).
However, there is a debate in the empirical literature that measures between EVA and traditional indicators are better at explaining the creation of market value, many studies have been carried out on other variables on MVA, because a weak effect was found between EVA and MVA. MVA is considered to have the highest effect with EVA than other financial measurements. At first glance, a metric like EVA should lead to an increase in share value, but in fact there is no evidence that financial markets recognize and include EVA in their share prices (Shubita, 2013). If a company has a negative EVA history, then its MVA will probably be negative, and vice versa. This is also to be seen in relation to companies that carry out M&A where it is to be seen that EVA can affect MVA or traditional indicators that have more influence on companies that carry out M&A.

Profitability is one of the important determinants of MVA. If profitability shows positive, it means there is added value to the company's assets and vice versa (Khakwani, SadiqShahid, & Hamza, 2016). Meanwhile, leverage measures business risk as it causes financial risk. Other research about influence to MVA is influence between MVA and OCF (Sunarko & Martini, 2018). From a literature review and based on previous research, the influence between EVA and financial ratios to MVA varies. Several studies have found a positive effect between EVA and MVA (Faiteh & Aasri, 2023) (Kumar, Bhatia, & Chattopadhyay, 2022) (Supriani & Pernamasari, 2021) (Nakhaei & Hamid, 2013) which means it is expected that when the company conducts M&A and there is a positive value on EVA, this provides information that the company's value is increases too, but some find it has no influence (Rahmawati & Yunita, 2018). Lacking influence of EVA with market value will make investors cannot use the same internal value creation measures as traditional performance measures (Alipour & Pejman, 2015).

Other research to the influence of leverage ratio using a DER proxy has also been carried out by previous researchers, where a negative effect was found, the higher the DER, and increase the risk for paying off its obligations (Kurnia & Tandiontong, 2015) (Supriani & Pernamasari, 2021) (Khakwani, SadiqShahid, & Hamza, 2016). The opposite result shows that there is no influence between DER and MVA (Fauziah & Sukmaningrum, 2020) (Pambudi, 2023).

Effect between CR and TATO with MVA found no positive influence (Kurnia & Tandiontong, 2015) where it is hoped that when M&A is carried out, positive CR and
TATO values will also provide added value for the company. Likewise, it is hoped that the influence between OCF and MVA when carrying out M&A is expected, that the higher the value of OCF can have a positive influence or increase company performance but found a negative influence or no effect (Sunarko & Martini, 2018). However, in other studies CR was found to have more influential information on MVA and more dominating than other indicators (Mengi & Bhatia, 2015). By taking EPS as proxy, a positive influence was found (Chelsea & Salim, 2020) (Pambudi, 2023; Masleha, Abbas, Hidayat, & Kismanah, 2022) while other studies show no relation (Fauziah & Sukmaningrum, 2020). Likewise with ROE, a strong relation was found with MVA (Nakhaei & Hamid, 2013) and even had no effect on MVA (Masleha, Abbas, Hidayat, & Kismanah, 2022).

From those explanation, the hypotheses that can be formed:

- $H_1$: EVA in non-bank company that carry out M&A has positive effect on MVA.
- $H_2$: CR in non-bank company that carry out M&A has positive effect on MVA.
- $H_3$: DER in non-bank company that carry out M&A has negative effect on MVA.
- $H_4$: TATO in non-bank company that carry out M&A has positive effect on MVA.
- $H_5$: EPS in non-bank company that carry out M&A has positive effect on MVA.
- $H_6$: ROE in non-bank company that carry out M&A has positive effect on MVA.
- $H_7$: OCF in non-bank company that carry out M&A has positive effect on MVA.

**METHODS**

*Sample Selection*

In this study, researchers want to see the effect between EVA, CR, DER, TATO, EPS, ROE, and OCF to MVA. The point of view taken by the researcher is the point of view of the party taking over and using nonprobability sampling with the method used is purposive sampling. The data taken is secondary from Indonesia Competition Commission (KPPU) M&A notification list from 2016 to 202 and accessing the IDX database to retrieve open financial data on non-bank companies (Tbk.). Researchers take the five-year time period before and after the M&A by the acquiring company as a long-term period for the effects that can occur on M&A, so the research will be...
unbalanced panel. Samples were formed consisted of 19 public companies with a total of 152 observed data.

Dependent and Independent Variable

There are seven independent variables in this study that expected to have influence with MVA, namely EVA, CR, DER, TATO, EPS, ROE, and OCF (Table 1.1). Meanwhile, the dependent variable is MVA, that shows how much the market value of a company; what is the net present value of all the company's projects (past and present).

<table>
<thead>
<tr>
<th>No.</th>
<th>Variable</th>
<th>Definition</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Economic Value Added (EVA)</td>
<td>EVA represents the residual income that remains after the cost of all capital, including equity capital, has been deducted, while accounting profit is determined without charging the cost of equity investment.</td>
<td>(=\ \text{NOPAT} - \text{After-tax cost of capital used to support operations}) (=\ \text{EBIT} \times (1-\text{Tax rate}) - (\text{Total net operating capital}) \times (\text{weighted average cost of capital (WACC)})) (=\ (\text{Operating Capital}) \times (\text{ROIC} - WACC))</td>
</tr>
<tr>
<td>2</td>
<td>Current Ratio (CR)</td>
<td>To determine the company's ability to meet its short-term obligations in a timely manner</td>
<td>(\frac{\text{Current Assets}}{\text{Current Liabilities}})</td>
</tr>
<tr>
<td>3</td>
<td>Debt to Equity Ratio (DER)</td>
<td>Liability ratio capable of assessing equity and debt</td>
<td>(\frac{\text{Total Debt}}{\text{Total Equity}})</td>
</tr>
<tr>
<td>4</td>
<td>Total Assets Turnover (TATO)</td>
<td>Assess the company's efficiency in allocating its assets so that business results will increase</td>
<td>(\frac{\text{Sales}}{\text{Total Assets}})</td>
</tr>
<tr>
<td>5</td>
<td>Earnings per Share (EPS)</td>
<td>Shows the amount of the company's net profit that is ready to be distributed to all company shareholders</td>
<td>(\frac{\text{Price per share}}{\text{Earnings per share}})</td>
</tr>
<tr>
<td>6</td>
<td>Return on Equity (ROE)</td>
<td>To measure net profit after tax with equity and is intended to measure the company's ability to return its equity</td>
<td>(\frac{\text{Net Income}}{\text{Total Equity}})</td>
</tr>
<tr>
<td>7</td>
<td>Operating Cash Flow (OCF)</td>
<td>Represents cash flow available to carry out business operations and sufficient to cover day-to-day needs of cash outflows</td>
<td>(\text{Earnings before interest and taxes (EBIT)} - \text{Depreciation} - \text{Taxes})</td>
</tr>
<tr>
<td>8</td>
<td>Market Value Added (MVA)</td>
<td>Represent net present value of all the company's projects (past and present)</td>
<td>(=\ \text{Market value of stock} - \text{Equity capital supplied by shareholders}) (=\ (\text{Shares outstanding}) \times (\text{Stock price}) - \text{Total common equity})</td>
</tr>
</tbody>
</table>

Empirical Research Methods

The data analysis model used is the panel data regression model by:

\[
\text{MVA}_i = \alpha + \beta_1 \text{EVA}_i + \beta_2 \text{CR}_i + \beta_3 \text{DER}_i + \beta_4 \text{TATO}_i + \beta_5 \text{EPS}_i + \beta_6 \text{ROE}_i + \beta_7 \text{OCF}_i + \epsilon
\]
Description:

MVA = As the dependent variable of the study
EVA = EVA in the research year
CR = Current Ratio in the research year
DER = Debt-Equity Ratio in the research year
TATO = Total Assets Turnover Ratio in the research year
EPS = Earnings per Share in the research year
ROE = Return on Equity in the research year
OCF = Operating Cash Flow in the research year

\[ \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7 = \text{Independent Variable Coefficient} \]
\[ \alpha = \text{Constant Coefficient} \]
\[ e_{it} = \text{Disturbing Variable in the research year} \]

This study used classic assumption tests consisting of autocorrelation, heteroscedasticity, multicollinearity, and normality tests (Ghozali & Ratmono, 2017). Normality test is a test of the distribution of research data by using the usual standard, looking at the Jarque-Bera (JB) value with assumption is rejected at 5% significance if JB > 5.99. The multicollinearity test is to pay attention to the Variance Inflation Factor value. If the value of 10 < VIF means that there are multicollinearity events that must be given special attention in the regression model data (Ghozali & Ratmono, 2017). To determine the existence of heteroscedasticity, if the probability value of the F test is greater than 0.05, it can be concluded that the regression model is free from symptoms of heteroscedasticity. Autocorrelation testing in this study uses the Breusch Godfrey LM Test serial correlation test by assuming the probability values of all independent variables and the probability value F is greater than 0.05. In carrying out the classic assumption test, this study transforms the data by conducting ln data so that each variable has a similar value and does not have a large value gap. Then data elimination is carried out according to its outliers.

To estimate model parameters using panel data, there are several methods that can be used, Common Effect Model (CEM)/Ordinary Least Square (OLS) method
which assumes that there are no individual or temporal differences in effects, or the
Fixed Effect (FEM) model with the LSDV Approach which assumes that there is a
different effect on the model between individual units or between time units on the
model or the Random Effect model with Generalized Least Square (GLS) which
calculates that every error that occurs maybe it has something to do in cross section
and time series. So that the random effect model can resolve an uncertainty from the
model of the fixed effect. To determine the appropriate model for the study, three
model suitability tests were carried out: Chow test to determine whether the FEM
model was better than the CEM model, Hausman test to determine the best model
comparison between the REM and FEM models, and Lagrange Multiplier test to
determine choose the better model between CEM and REM.

Hypothesis testing in this research includes simultaneous and individual testing,
where the F-Statistics test is carried out as a Simultaneous Significant Test to show
whether all independent variables or predictors included in the model have a
combined effect with the F-Statistics testing criteria with alpha level (α) = 0.05; with
hypothesis:

H₀: EVA, CR, DER, TATO, EPS, ROE and OCF do not have a major effect on MVA
H₁: EVA, CR, DER, TATO, EPS, ROE and OCF have a major effect on MVA

While the statistical t test is carried out for the Partial/Individual Significance test,
with the criteria for testing the t statistic with an alpha level (α) = 0.05.

RESULTS

a. Data Analysis Results

From the results of descriptive statistics (Table 1.2), overall research data is
normally distributed because it has a standard deviation value that is lower than
the average value. So, from this test it is continued with testing the classical
assumptions and testing the model. In the normality test (Table 1.3) it was found
that the probability value of JB > 0.05 is 0.222686, so it can be concluded that the
residuals are normally distributed.
Based on the Chow test (Table 1.4), the prob value was found. chi-square for the estimation results of the Chow test is 0.0000; due to prob value. chi-square < 0.05, that the model used is a fixed effect model. Then the analysis is continued with the Hausman test. The Hausman test (Table 1.5) results show that the chi-square value is 0.0033; for test scores. Chi-square < 0.05, it can be concluded that the fixed effect is used in this approach. So, it can be concluded that the approach uses a fixed effect model. In the autocorrelation test (Table 1.6) no violations were found because the Durbin-Watson (DW) value was obtained in the range $d_U(1.832) < DW(1.966447) < (2.168)$ for all models.
b. Multiple Linear Regression Analysis

By using the fixed effect model (Table 1.4), the following are the results of the linear regression analysis:

\[ \text{MVA} = 20.54642 + 0.172332 \text{EVA} + 0.771977 \text{CR} - 0.225012 \text{DER} - 0.035678 \text{TATO} + 0.364733 \text{ROE} - 0.423967 \text{EPS} + 0.122708 \text{OCF} \]

MVA is influenced by the 7 independent variables EVA, CR, DER, TATO, EPS, ROE and OCF, with an average MVA having a value of 20.54642 units.

c. Hypothesis test

1. Partial Testing (T Test)

Based on the regression table (Table 1.5) EVA, CR, and ROE have positive probability value with each 0.0428; 0.0021; and 0.0258 <0.05. DER is irrelevant negative at -0.1236 > 0.05. TATO is irrelevant negative of -0.8519 > 0.05, means there is no effect on MVA and the value is not in line with MVA. EPS is relevant with negative probability of -0.0178 <0.05, so that there is an influence of EPS on MVA and it is not unidirectional. OCF is irrelevant with positive probability of 0.2174 > 0.05, so there is no effect on MVA but the value is in the same direction as MVA.

A significant positive EVA value is in accordance with previous research (Faiteh & Aasri, 2023; Kumar, Bhatia, & Chattopadhyay, 2022; Supriani & Pernamasari, 2021), however, these results are inconsistent with other studies.
which found a weak effect between EVA and MVA (Rahmawati & Yunita, 2018; Sunarko & Martini, 2018). This shows that EVA also has an influence on MVA, if the company's economic value increases or decreases, so does the company's market value. The significant positive CR value is not in align with other studies which state the opposite (Kurnia & Tandiontong, 2015). ROE which has a significant positive effect is also found in previous studies, and an increase or decrease in ROE also influences the company's market value (Rahmawati & Yunita, 2018). EPS variable shows a significant negative effect, which means that if EPS increases it is not align with an increase in MVA but decreases. These results are not in accordance with previous studies (Chelsea & Salim, 2020) (Masleha, Abbas, Hidayat, & Kismanah, 2022) (Pambudi, 2023).

DER and TATO values show no significant negative effect, and OCF shows no significant positive effect. A negative DER is in accordance with the hypothesis where a negative DER means that it shows the company's ability to pay off its obligations, and the results of the study show that a decrease in DER has no effect on the MVA value, this result is in accordance with previous research (Fauziah & Sukmaningrum, 2020) (Pambudi, 2023). Whereas TATO does not influence MVA is also in accordance with previous studies (Kurnia & Tandiontong, 2015). In OCF the results show that there is no effect on MVA even though it moves in the same direction, these results are in accordance with previous research (Sunarko & Martini, 2018).

2. Simultaneous testing (F Test)

Prob Value F count gets a value of 0.000; because the value of Prob. F count 0.05 > (0.000), so there is a large influence from the variables EVA, CR, DER, TATO, EPS, ROE and OCF on MVA.

d. Coefficient of Determination ($R^2$)

R-squared value with a value of 0.992499; means that EVA, CR, TATO, DER, EPS, ROE and OCF contribute to MVA with a value of 99.25%, the rest are variables other than the independent variables studied and contributed to this research.

| Table 1. 7 Regression Analysis Table (Fixed Effect) |
CONCLUSION AND SUGGESTION

This study aims to contribute especially for companies that carry out M&A in Indonesia, to see results that are consistent with previous research and which variables provide the most significance value to MVA. It took 19 samples of companies and 152 data observations that carried out M&A and were open and registered at KPPU and IDX during the 2016-2021 period. Simultaneously all variables have a significant influence on MVA and the model has a value of 99% contributing to MVA.

Partially, EVA, CR, and ROE have positive influence while EPS has a significant negative effect. DER and TATO are negative insignificant effect, and OCF has a positive insignificant effect. Overall, the research results are in accordance with previous research which states that there are still variable inconsistencies that influence the company's market value (MVA).

In this study, EVA measurements were carried out in the year of study. It is suggested that in subsequent studies a comparative test on EVA can be carried out before and after M&A occurs to determine a more benchmark for using EVA. Inconsistencies still occur in measuring the effect of variables on MVA, so it is suggested that the next research can conduct research with the dependent variable is EVA and the independent variable is MVA.

BIBLIOGRAPHY


