The Influence of Profitability and Liquidity on Firm Value (Case Study on a Non-financial Company Indexed ESG Quality 45 IDX-Kehati on the Indonesia Stock Exchange 2017-2020)

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Authors’ contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Aims: This study aims to determine the influence of Profitability and Liquidity on Firm Value, as previous research results were inconclusive, inconsistent, and sometimes contradictory.

Study Design: This research is quantitative correlational research using multiple linear regression.

Methodology: This study uses 35 non-financial companies indexed ESG Quality 45 IDX-Kehati listed on the Indonesia Stock Exchange for 2017-2020. The cross-sectional data are analyzed by SPSS version 25.

Results: This study provides empirical evidence that profitability (ROA) positively and significantly impacts firm value (PBV). As the coefficient value of ROA is +0.115, it means that every a hundred percent increase in Profitability (ROA) will increase the stock price or Firm Value (PBV) by 11.5%. Unexpectedly, the Liquidity (CR) does not affect firm value.

Conclusions: Return on assets as a proxy for profitability ratios has a positive and significant effect on increasing stock market prices to the book value ratio as a proxy for firm value. In contrast, the liquidity ratio does not affect the increase in stock prices. These findings indicate that investors and capital market analysts are more concerned with profitability than liquidity. Therefore, managers and directors must generate maximum net profit by increasing the productivity of all company assets.
The limitation of this study is that the sample is small and only uses two predictor variables, so the coefficient of determination (R2) is 28%. For further research, adding other predictor variables and control variables is recommended.

Keywords: Firm value; profitability; liquidity; ESG implementation.

1. INTRODUCTION

Research on firm value attracts the attention of executives and corporate researchers. Many studies have investigated the impact of various information on financial statements on a firm’s value. However, there were still inconclusive factors increasing the firm value. Some have agreements and disagreements because of employing different techniques and measurements [1].

Kennon [2] stated that according to the theory of the Efficient Market Hypothesis (EMH), the actual value of a company is reflected by the stock price. The stock price summarizes all the information regarding the company's future expectations and is often used as an indicator of the success or failure of a public company. The higher the increase in stock market prices, the higher the firm value, and vice versa [3,4]. Analysts consider a company's earnings prospects as the main factor in assessing a firm value [5]. Therefore, scholars, financial analysts, and investors used stock price performance as a proxy for firm value. They generally use the stock’s market price ratio to its book value (PBV) to inform the capital gain or loss from their investment in a company's stock as a proxy of firm value.

For short-term investors, it is widely believed that stock market prices are influenced by market sentiment and technical factors. However, in the long term, the stock price is eventually determined by fundamental factors [6]. For example, during the COVID-19 pandemic, many Indonesian companies experienced a decline in stock prices in 2020, ranging from -4% to -84% [7]. Likewise, during the financial crisis of 2008, the S&P 500 dropped by about 37%. There were very few winners in the stock market that year. When there is some market event, good or bad, this can impact the price of the stock, if only temporarily [5].

Firm value, proxied by stock price, is the prospect of future profitability and risk of the firm [8]. However, factors affecting the firm's value are inconsistent, inconclusive, and contradictory. Dang et al. [1] revealed different findings from studies by Liow (2010), Mule (2015), Sucuahi and Cambarihan (2016), and Nam (2019). Likewise, in Indonesia, differences in research findings such as by Clara [9], Shofi and Irvan [10], Fransisca [11], and Ida Ayu and Ida Bagus [12].

In recent years, the stock price index of companies implementing Environmental, Social, and Governance (ESG) showed an average increase of 5.53%, much higher than the price index of non-ESG companies [13]. The Head of Service and Development Division of Listed Companies on the Indonesia Stock Exchange (IDX) stated that the stocks' performance of ESG-indexed companies was increasingly attractive to investors and, at the same time, developing sustainability in the capital market [14].

Based on the above phenomenon, the authors are interested in researching the topic of the Influence of Profitability and Liquidity on Firm Value (Case Study on Non-Financial Companies Indexed ESG Quality 45 IDX-Kehati period 2017-2020).

Financial sector companies were excluded from the study because they had specific regulations, such as measuring liquidity with the loan-to-deposit ratio (LDR) [15]. In contrast, the most commonly used liquidity measurement was the current ratio (CR) [16].

The profitability and liquidity are used as predictor variables because high profitability and adequate liquidity reflect the company's good prospects and low risks, so the investors will react positively, as indicated by the stock price increase. In turn, the firm value will increase.

The research problem formulation is how much influence profitability has on firm value and how much liquidity affects firm value.
2. LITERATURE REVIEW

2.1 Firm Value

Firm value is the current and potential benefits generated by the company during the company's operations [1]. The firm's value represents the public's trust in the company's future profitability and low risk [17,4]. However, Brigham and Houston [8] stated that to maximize the firm's value, managers have an ethical responsibility to comply with the restrictions of not polluting the environment, not engaging in unfair labor practices, and not violating antitrust laws. Based on the definitions above, it can be said that firm value is the company's ability to maximize profitability and cash flow ethically in the long term, thereby increasing investor confidence, as indicated by an increase in stock prices.

According to Wahlen et al. [4], investors and market traders usually determine the firm value using the stock market value ratio associated with accounting numbers, namely the Market to Book (M/B) ratio or Price to Book Value (PBV), formulated as follows [8]:

\[
\text{Price to Book Value (PBV)} = \frac{\text{Market Price per Share}}{\text{Book Value per Share}}
\]

(1)

The higher the stock market price than the book value of the share, the higher the PBV, so the firm value increase.

Previous studies that measure firm value using Price to Book Value (PBV) were such [18,9,11,19,12,20,10].

2.2 Profitability

Profitability is the company's ability to use all of its assets to generate revenue that exceeds its costs [21]. According to Wahlen et al. [4], profitability is a measure of management performance and future risk often used as the basis for investment decisions. Investment analysts use financial statements to analyze past and current profitability as an indicator or signal of future revenue growth and profitability.

According to Brigham and Houston [8], one of the financial ratios to analyze and measure profitability is the rate of return on assets (ROA) which informs the company's ability to generate net profits from all company assets, formulated as follows:

\[
\text{Return on Assets (ROA)} = \frac{\text{Net Income}}{\text{Total Assets}} \times 100\%
\]

(2)

According to Yesidora [22], ROA more comprehensively measures the company's efficiency and effectiveness in managing assets and debt than ROE because ROE is profit performance after deducting debt. Previous researchers who used ROA to measure profitability were [15,9,11,12,23,24,10].

2.3 Liquidity

Liquidity is the company's ability to meet its short-term obligations as they are due [25]. Liquidity directly relates to the effectiveness of working capital management in building money-generating capacity, the lifeblood of any business [16]. Thus, liquidity indicates the company's ability to continue operating and avoid bankruptcy [4]. Brigham and Houston [8] state that companies experiencing liquidity difficulties usually pay their debts more slowly and borrow more from banks, both of which will increase liquidity risk.

The current ratio (CR) is the most commonly used in assessing company liquidity [16]. The formulation of the current ratio is as follows [8]:

\[
\text{Current Ratio (CR)} = \frac{\text{Current Assets}}{\text{Current Liabilities}} \times 100\%
\]

(3)

According to Brigham and Houston [8], companies must have adequate current ratios. If liquidity is too high, the company has too much cash and unproductive inventories and receivables. Conversely, if it is too low, the company faces liquidity risk.

Previous researchers who assessed company liquidity using the current ratio (CR) included [18,9,11,23,24,10].

2.4 Conceptual Framework

2.4.1 Effect of profitability on firm value

High profitability allows the company to distribute its wealth in the form of dividends to shareholders and invest retained earnings in the company. High profitability indicates the company's prospects so that investors will react positively, which impacts increasing stock prices and firm value [22].
This relationship is supported by previous research by [9,11,12,10], which found that profitability (ROA) had a positive effect on firm value (PBV).

2.4.2 Effect of liquidity on firm value

According to Fridson and Alvarez [25], liquidity is essential for credit analysts and investors because companies’ cash flows from operations are more challenging to manipulate. Liquidity plays a role in the company’s success and can convince investors regarding the continuity of the company’s operations, including the availability of dividends [18]. Liquid companies use internal sources of funds rather than debt, reducing liquidity [26]. Thus, adequate liquidity can lead to a positive perception of the company for investors, thereby increasing the value of the company [19].

This association is supported by previous research by Darmawan et al. [27], who found that liquidity (CR) affected firm value (PBV).

Fig. 1. Conceptual Framework

2.4.3 Hypotheses

Based on the description above, the hypotheses in this study are as follows:

(a) H0: Profitability does not affect Firm Value
    H1: Profitability affects Firm Value
(b) H0: Liquidity does not affect firm value.
    H1: Liquidity affects firm value.

3. METHODOLOGY

3.1 Methods, Samples, and Data Analysis

This quantitative research method uses a purposively selected sample of 35 non-financial companies listed on the Indonesia Stock Exchange indexed ESG-45 Quality IDX-Kehati in 2021. Financial sector companies were excluded from the data samples because they have their regulations and characteristics [15]. For example, liquidity is measured by the Loan to Deposit Ratio (LDR), while liquidity measurement generally uses the current ratio [16].

The research data is cross-sectional, and the average ratio of PBV, ROA, and CR is based on financial statements for 2017-2020. Data analysis using SPSS v.25 based on a multiple linear regression model. The multiple linear regression equation in this study is as follows:

\[ Y = a + b_1X_1 + b_2X_2 + e_i \]

Where Y is the dependent variable of PBV as a proxy for Firm Value, what is being predicted or explained by predictor variables X1 and X2; a (Alpha) is the constant or intercept; b1 is the slope (Beta coefficient) for X1; X1 is the first independent variable of ROA as a proxy of Profitability, that is explaining the variance in Y (PBV); b2 is the slope (Beta coefficient) for X2; X2 is the second independent variable of CR as a proxy for liquidity that explains the variance in Y (PBV); ei is the standard error of coefficients b1 and b2.

4. RESULTS

4.1 Descriptive Statistical

Based on sample data of 35 companies, the output of SPSS Descriptive Statistics.

The results of the descriptive test showed that the average profitability (ROA) was 7.10%, with the lowest ROA at -3.39% and the highest at 38.56%. Average Liquidity (CR) is 227%, with the lowest being 22.28% and the highest at 621.46%. Meanwhile, the average PBV ratio is the stock market price of 190.20 times the book value of shares, with the lowest PBV of 2.69 times and the highest of 4.501 times.

ROA, CR, and PBV decreased slightly from 2017 to 2020. The decreases are most likely due to the economic downturn due to the COVID-19 outbreak in 2020. However, this event is temporary. In 2022, all performances recover faster than non-ESG-indexed companies [13].
Table 1. Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>35</td>
<td>-3.390</td>
<td>38.56</td>
<td>7.100</td>
<td>7.635</td>
</tr>
<tr>
<td>CR</td>
<td>35</td>
<td>22.28</td>
<td>621.46</td>
<td>227.49</td>
<td>159.510</td>
</tr>
<tr>
<td>PBV</td>
<td>35</td>
<td>2.690</td>
<td>4501.25</td>
<td>190.20</td>
<td>757.530</td>
</tr>
</tbody>
</table>

Valid N (listwise) 35

4.2 Testing Hypotheses

4.2.1 Classical assumption test

The classical assumption test is a statistical requirement in regression analysis to provide the Best Linear Unbiased Estimate (BLUE) estimation results. The classical assumption test includes normality, multicollinearity, and heteroscedasticity tests. The autocorrelation test does not need to be carried out because this study's data are cross-sectional [28].

Initially, the normality test results showed that the residual value was not normally distributed. To remedy, the data is transformed into natural semi-logarithms (semi-logs) [28]. The data transformed is the dependent variable (PBV). After the transformation, the SPSS output shows that the residual data in the regression model are normally distributed (Fig 2). Likewise, the results of the Shapiro-Wilk test show a residual value of Sig 0.461 > 0.05, which means that the data is normally distributed and the assumption of normality is met.

Table 2 shows that each of the independent variables, Profitability (ROA) and Liquidity (CR), has a tolerance value of 0.978 > 0.10 and a VIF value of 1.023 < 10, so it is concluded that in the regression model, there is no multicollinearity problem.

![Normal P-P Plot of Regression Standardized Residual](image)

**Fig. 2. Normality Test Result after Semi-Log Data Transformation (Ln_PBV)**

Table 2. Multicollinearity Test Results

<table>
<thead>
<tr>
<th>Coefficients^</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Tolerance</td>
</tr>
<tr>
<td>1</td>
<td>ROA</td>
</tr>
<tr>
<td></td>
<td>CR</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Ln_PBV
Fig. 3. Heteroscedasticity Test after Semi-Log Data Transformation

Table 3. Heteroscedasticity Test Results after Data Transformation (Ln_PBV)

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>.8296</td>
<td>.849</td>
<td>.288</td>
<td>3.191</td>
<td>.003</td>
</tr>
<tr>
<td>ROA</td>
<td>.0300</td>
<td>.018</td>
<td>.288</td>
<td>1.702</td>
<td>.098</td>
</tr>
<tr>
<td>CR</td>
<td>.0540</td>
<td>.084</td>
<td>.109</td>
<td>.647</td>
<td>.522</td>
</tr>
</tbody>
</table>

Overall, the classical assumption test requirements are met so that the test results of the regression model used in this study are unbiased, accurate, and consistent [28].

4.2.2 Goodness of fit (F-test)

The F test was performed to test the joint effect of the independent variables on the dependent variable. In this study, the F test is to examine the combined effect of the predictor variables Profitability (ROA) and Liquidity (CR) on a dependent variable, Firm Value (PBV).

Table 4. F-Test Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>2</td>
<td>12.874</td>
<td>6.219</td>
<td>.005</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>32</td>
<td>2.070</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>34</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Ln_PBV
b. Predictors: (Constant), CR, ROA
Table 5. t-Test Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>2.623</td>
<td>.464</td>
<td>5.657</td>
</tr>
<tr>
<td></td>
<td>ROA</td>
<td>.115</td>
<td>.033</td>
<td>3.515</td>
</tr>
<tr>
<td></td>
<td>CR</td>
<td>-.038</td>
<td>.156</td>
<td>-.243</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Ln_PBV

Table 4 above shows the regression value of Sig. 0.005 < 0.05, which means that, with a 95% confidence level or significance (α) < 0.05, the independent variables significantly affect the dependent variable. Thus the regression model meets the requirements of the goodness of fit to test the research hypotheses (t-test) [28].

4.2.3 Hypotheses test results (t-test)

The t-test is to determine the effect of each independent variable, Profitability (ROA) and Liquidity (CR), on Firm Value (PBV). The results of the t-test.

Table 5 shows that the ROA value is Sig 0.001 <0.05, and using t-Table, the t-count is 3.515 > t-table 2.037, which those two tests conclude that first hypothesis (a) H0 is rejected and H1 is accepted. Thus, it provides empirical evidence that Profitability (ROA) significantly impacts Firm Value (PBV), and the coefficient value (B) of ROA is positive +0.115.

While The CR value shows Sig 0.809 > 0.05, using the T-table shows t-count -0.243 < t-table - 2.037, which means those two tests indicate that second hypothesis (b) H0 is accepted and H2 is rejected. Thus, unexpectedly, the results of the hypothesis testing of H1 (b) provide empirical evidence that Liquidity (CR) does not affect Firm Value (PBV), and the coefficient value (B) of CR is negative -0.038.

Based on these results, the multiple linear regression equation model is as follows:

\[
\text{Firm Value (PBV)} = 2.623 + 0.115 \text{ROA} - 0.038 \text{CR} + e
\]

The regression model of this study shows that the firm value (PBV), without the influence of ROA and CR factors, is constant at 2.623 or 2.6%. However, if the company's profitability ratio (ROA) increases by one hundred percent, then the company's value (PBV) will increase by 11.5%. However, although the coefficient value is negative -0.0038, changes in the Liquidity ratio (CR) do not affect Firm Value (PBV).

This research finding that Profitability (ROA) positively impacts Firm Value (PBV) is in line with the theory that high profitability indicates the company's prospects so that investors will react positively, which has implications for increasing firm value [22]. This result also supports previous research by Clara [9], Fransisca [11], Ida Ayu and Ida Bagus [12], Rizka and Mochammad [29], and Shofi and Irvan [10].

While the finding that Liquidity (CR) does not affect Firm Value (PBV) is in contrast to the theory that adequate liquidity can lead to a positive perception of the company for investors, thereby increasing the value of the company [19]. However, according to Maverick [30], high liquidity can be a sign that the company is too focused on liquidity, which can be detrimental to the effective use of its capital. Also, high liquidity can be unfavorable for analysts and investors considering other profitability performances [31].

This finding supports previous research by Fransisca [11], Ida Ayu and Ida Bagus [12], Rizka and Mochammad [29], and Shofi and Irvan [10].

4.2.4 Coefficient of determination (R^2)

Table 6 shows that the coefficient of determination (R2) is 28%, which means that the Profitability (ROA) and Liquidity (CR) variables can explain variations in the Firm Value (PBV) by 28% and 72% is explained by other variables not examined.
Table 6. Coefficient of Determination ($R^2$)

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>Model</th>
<th>$r$</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>.529*</td>
<td>.280</td>
<td>.235</td>
<td>1,43885</td>
</tr>
<tr>
<td>a. Predictors: (Constant), CR, ROA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Dependent Variable: Ln_PBV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This study uses two predictor variables, namely ROA and CR. It shows a coefficient of determination ($R^2$) of 28%, which is higher than the results of a previous study by Shofi and Irwan [10], where $R^2$ showed 14.4%, but lower than an earlier study by Fransisca [11] which $R^2$ was 37.2% who used four predictors to explain PBV.

5. DISCUSSION

The results of this study provide empirical evidence that Firm Value (PBV) is influenced significantly by Profitability (ROA), but unexpectedly, Liquidity (CR) does not significantly affect firm value.

These findings indicate that the return on assets as a proxy of profitability is the fundamental business factor in increasing firm value. Thus, it suggests that managers and directors must generate net profit as optimally as possible by maximizing the productivity of all assets. The higher the ROA, the greater the company's ability to distribute dividends and self-financing its assets. It is in line with the theory that high profitability reflects the company's prospects, sustainability, and resilience. In turn, it increases the stock price as a proxy of firm value.

While a high liquidity ratio may be impressive, the result of this study provides empirical evidence that liquidity (CR) does not affect Firm Value. It is probably because the liquidity ratio represents the company's ability to manage day-to-day business operations and short-term liabilities rather than the company's prospects for generating profits in the long term. As stated by Maverick [30], a high liquidity ratio can be unfavorable for analysts and investors who are more concerned with profitability ratios. Too focused on liquidity can be detrimental to the company's use of capital.

Using a sample of 35 non-financial companies indexed by ESG Quality 45 IDX-Kehati, the findings of this study strengthen previous research results by Shofi and Irwan [10], Fransisca [11], and Ida Ayu and Ida Bagus [12]. They also found that profitability (ROA) positively affected firm value (PBV), while liquidity (CR) did not affect firm value (PBV).

However, this study’s coefficient of determination ($R^2$) is 28%, meaning that 72% of the variation in firm value is explained by other variables not examined. This coefficient of determination is higher than the study by Shofi and Irwan [10], in which $R^2$ was 14.4% but lower than Fransisca [11], whose $R^2$ is 37.2%.

According to Hair et al. [32], adding predictor and control variables will increase $R^2$, whether the predictor variable affects the dependent variable significantly or insignificantly.

6. CONCLUSION

The results of this study provide empirical evidence that profitability positively affects firm value, while liquidity does not affect firm value. It suggests companies' managers are generating net profit as optimally as possible by maximizing the productivity of all company's assets. The higher the profitability, the greater the shareholders' wealth, as the increasing stock price and the firm value increase.

The limitations of this study are using small samples and predictor variables. To enhance the explanation power, adding the predictor, control variables, and more data samples are recommended for further research.

COMPETING INTERESTS

The authors have declared that they have no known competing financial interests or non-financial interests or personal relationships that could have appeared to influence the work reported in this paper.

REFERENCES


