Firm Size as a Moderating Variable of the Effect of Liquidity and Profitability on Firm Value

Noni Marliyana¹*, Hadi Pramono², Sri Wahyuni³, SEB Santoso⁴
Universitas Muhammadiyah Purwokerto
Corresponding Author: Noni Marliyana nonimarliana11@gmail.com

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ABSTRACT
The aim of this research is to determine company size as a moderating variable in the relationship between liquidity and profitability and the value of LQ45 companies from financial reports listed on the Indonesia Stock Exchange for 2020-2022. The sampling method uses purposive sampling to produce 61 companies. The data analysis model uses Moderated Regression Analysis. The results of this research show liquidity does not affect company value; profitability has a positive effect on company value; in company size is unable to moderate the relationship between liquidity and company value; in company size is unable to moderate the relationship between profitability and company value.

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INTRODUCTION
As the global economy grows, competition between companies becomes increasingly fierce. Companies are founded not only with the aim of making a profit, but also to increase company value, shareholder welfare and market confidence. The quality of the company can be seen from the existence of companies that are members of the LQ45 index (Ayu et al., 2023).

The LQ45 index consists of 45 issuers who went through a selection process based on several criteria (Ayu et al., 2023). Criteria include the company's fundamental condition and the company's growth prospects. According to Puspitaningrum & Septina (2022), the LQ45 index is a stock with high liquidity and large market capitalization. High market value is seen from LQ45 indexed companies. Investor decisions are influenced by market value. Increasing market value aims to ensure investor welfare (Iman 2021).

Throughout 2022 LQ45 shares in the first quarter Cumulatively, the total net profit reached IDR 188 trillion or an increase of 78.4% in the first semester of 2022. In 2023, LQ45 index issuers experienced a decrease in net profit of 8.27%, a decrease in assets of 1.29%, an increase in equity of 0.33%, and experienced revenue growth of 14.47%. Several issuers such as INTP and ICBP experienced quite high increases in profits in the first quarter, namely 103.43% and 91.78%. (CNBC Indonesia).

Company value is determined by share prices (Itra 2023). Company value is important for managers, because investors recognize the success of the company's performance. When the company's share price increases, the market value tends to increase (Ardiansyah, 2020). Tobin's Q used to measure a company's ability to generate profits from the assets it owns (Dzahabiyya, 2020).

Based on Santoso & Junaeni (2022) company value can be influenced by liquidity. Liquidity is the issuer's performance in meeting its financial debts in a short time (Dewi & Abundanti, 2019). Liquidity high proves the company has assets that can be converted into cash to pay off debt. This can increase creditors' and investors' confidence in the company's ability to fulfill its obligations. According to Rahmasari (2019), Ardiansyah (2020), Iman (2021), and Supriandi & Masela (2023) liquidity has a positive effect on company value. On the other hand, according to Chynthiawati & Jonnard (2022), Sri (2023), Tarigan (2023), and Supriandi & Masela (2023) liquidity has a negative effect on company value.

According to Santoso & Junaeni (2022) company value is influenced by profitability. Profitability reflects the issuer's strength in generating profits in the form of dividends (Rivandi & Petra, 2022). The higher the dividends distributed, the greater the company value. According to Quispe (2023), Komalasari (2023), and Qushoyyi dan Khabib (2022) that profitability has a positive effect on company value. Meanwhile, Febiyanti & Anwar (2022), Ali & Faroji (2021), and Fitriana & Purwohandoko (2022) stated that profitability has a negative effect on company value.

The size of the total assets of an agency is called company size. Companies are divided into two types, namely companies big and small (Wahyuni 2022). According to Hamdani (2020) and Khaldoon (2020) company size has the potential to strengthen the relationship between liquidity and company value. However, according to Nashar (2022), Sri (2023), and Rosihana

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company size cannot strengthen the relationship between liquidity and company value. According to Astari (2019) and Nashar (2022) company size cannot moderate the relationship between profitability and company value. On the other hand, Nur (2019), Sari & Nofiyanti (2022), and Janah & Munandar (2022) state that company size can moderate the relationship between profitability and company value.

Based on the phenomena that occur and the results of several previous studies, there are still conflicting results, so further research is needed regarding the factors that influence company value. The aim of this research is to determine the effect of liquidity and profitability on company value with company size as a moderating variable.

LITERATURE REVIEW

Theory Signaling

Signal theory was first discovered by Spence (1973) explaining that the owner of information provides a signal in the form of the condition of a company which can be useful for investors. This theory contains the company's behavior in providing information and signals to investors about the company's performance which can be used in decision making. According to Ross (1977) companies will try to provide positive messages through published financial reports so that investors are interested and provide positive signals by investing their capital in the company.

The financial reporting information submitted influences investors' decisions in investing (Jao, 2020). Financial reports are issued by companies to provide information to investors regarding company performance. The relationship between signal theory (signaling theory) and company value can be explained by the presence of a positive signal from a company that has good value, whereas conversely, a low value may be a negative signal. This is due to the motivation of investors who want to make a profit, so that companies with poor performance tend to be avoided by investors.

Relationship between signaling theory The current or liquidity ratio can be seen from the company's performance in paying short-term debt. High liquidity is a positive signal for investors. High profitability is a positive signal for investors. The larger the company size, the greater the possibility of obtaining funding sources. So it becomes a positive signal for investors and affects company value.

P The Effect of Liquidity on Company Value

Companies with large liquidity will be able to increase company value (Rosihana 2023). Stable liquidity conditions indicate the company is able to meet short-term obligations. Based on Signaling Theory, managers will give positive signals to investors by increasing cash dividends to a certain level, this will have an impact on increasing company value. An increase in company liquidity is followed by an increase in company value. Based on Rahmasari (2019), Ardiansyah (2020), Iman (2021), and Supriandi & Masela (2023) stated that liquidity has a positive effect on company value. Based on theory and previous research results, the first hypothesis to be tested is as follows:
H1: Liquidity has a positive effect on company value

**The influence of profitability on company value**

Profitability is a company's ability to achieve profits (Rahayu 2020). High profits indicate that the company can utilize its capital effectively. According to *theory signaling*, companies that can achieve high profits are a positive signal for investors. Profitability is used by investors to assess companies in managing their capital resources optimally (Dessriadi, 2022). Komalasari (2023), Sari (2022), and Rivandi & Petra (2022) stated that profitability has a positive influence on company value. Based on the theory above and the results of previous research, the second hypothesis in this research is as follows:

**H2: Profitability has a positive effect on company value.**

**The influence of company size as a moderator of the relationship between liquidity and company value**

Investors assume that large companies have large amounts of assets so they can meet their obligations. Based on *theory signaling* High liquidity is considered to provide a positive signal, because the company can pay off short-term debt with its current assets (Rosihana, 2023). Companies that can pay off debt will increase the company's value. According to Khaled (2020) and Hamdani (2020), company size strengthens the influence between liquidity and company value. Based on the theory used and the results of previous research, the third hypothesis that will be tested in the research is as follows:

**H3: Company size is able to moderate the effect of liquidity on company value.**

**The influence of company size as a moderator of the relationship between profitability and company value**

High profits have the potential to improve company performance. According to Janah dan Munandar (2022), large companies have the capacity to generate higher profits than small companies. Investors are attracted to large companies because they have significant profits. Based on *theory signaling*, High profits are a positive signal for investors because from high profits the company value becomes greater. According to Nur (2019), Sari & Noiyanti (2022) company size strengthens the influence of profitability and company value. Based on theory and supported by the results of previous research, the fourth hypothesis in this research is as follows:

**H4: Company size is able to moderate the effect of profitability on company value.**

In order to facilitate the direction of thinking in this research, a research model was created as shown in the image below:
RESEARCH METHODS

This research uses company data included in the LQ45 index. The data required are financial reports and annual reports which are available on the IDX website www.idx.co.id. The sampling method uses purposive sampling with the following sample criteria: LQ45 companies that attach complete annual reports and financial reports for the 2020-2022 period; companies that have complete data availability for the 2020-2022 period; and companies included in the LQ45 index during the 2020-2022 period. From these criteria, researchers obtained a sample of 61 companies (every year there are the same companies and there are additional new companies included in LQ45) for 3 periods so that 135 units of observation data were collected.

Definition and Measurement of Variables

Independent Variable

Liquidity

Current ratio is the result of comparing the amount of current assets with the amount of current liabilities of a company (Iman, 2021). The formula for measuring liquidity is:

\[ \text{Current Ratio} = \frac{\text{Liquid Assets}}{\text{Current Debt}} \times 100\% \]

Profitability

Profitability is the ability to provide significant profits for investors. Profitability is measured by return on equity (Iman, 2021). The formula for measuring profitability is:
\[ ROE = \frac{Net\ profit}{Total\ Equity} \times 100\% \]

**Dependent Variable**

**The value of the company**

The financial performance of a company is measured by the company value which is reflected in the share price. Company value is measured using Tobin's \( q \) (Iman, 2021). The formula for measuring company value is:

\[ Tobin'S\ Q = \frac{(Stock\ price \times Number\ of\ shares\ outstanding) + Total\ liabilities}{Total\ assets} \]

**Moderating Variables**

**Company Size**

Company size is various aspects such as \( log\ size \), total assets, income, and market value (Santoso and Junaeni, 2022). Company size is measured using the following formula:

\[ Firm\ size = \ln(\text{Total asset}) \]

**Regression Models**

The data analysis model uses Moderated Regression Analysis. This analysis model is used because there are moderating variables. The form of the regression equation for this research is:

\[ Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_1^*Z + \beta_4X_2^*Z + \varepsilon \]

\[ NP = \alpha + \beta_1 LK + \beta_3 PR + \beta_3 LK^*UP + \beta_4 PR^*UP \]

**Information**

- \( Y \) = Company Value (NP)
- \( \alpha \) = Constant
- \( \beta_1 - \beta_5 \) = Regression coefficient
- \( X_1 \) = Liquidity (LK)
- \( X_2 \) = Profitability (PR)
- \( Z \) = Company Size (UP)
- \( \varepsilon \) = Residual Value

**Research result**

**Descriptive Test**

**Table 1. Descriptive Test Results**

<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>Liquidity</td>
<td>58</td>
<td>00,00</td>
<td>314,64</td>
<td>162,0595</td>
<td>73,81681</td>
</tr>
<tr>
<td>Profitability</td>
<td>58</td>
<td>00,00</td>
<td>25,69</td>
<td>9,8166</td>
<td>5,98733</td>
</tr>
<tr>
<td>The value of the</td>
<td>58</td>
<td>00,57</td>
<td>1,66</td>
<td>1,0572</td>
<td>0,25045</td>
</tr>
<tr>
<td>company</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company Size</td>
<td>58</td>
<td>30,05</td>
<td>33,66</td>
<td>31,8552</td>
<td>0,92202</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>58</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of the descriptive analysis are in table 1, with a total of 135 samples of initial data. However, because the data did not pass the normality test, outliers were carried out resulting in 58 samples that had a normal
distribution. With a mean value for the liquidity variable of 162.0595 with a minimum value of 00.00 and a maximum value of 314.64. The mean for the profitability variable is 9.8166 with a minimum value of 00.00 and a maximum value of 25.69. The mean for the company size variable is 31.8552 with a minimum value of 30.05 and a maximum value of 33.66. The mean for the company value variable is 1.0572 with a minimum value of 00.57 and a maximum value of 1.66.

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Results</th>
<th>Standard</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normality</td>
<td>Asymp. Sig. (2-tailed)= 0.200</td>
<td>&gt;0.05</td>
<td>Normally Distributed Data</td>
</tr>
<tr>
<td>Multicollinearity</td>
<td>- Liquidity Tolerance = 0.937</td>
<td>Tolerance &gt;0.10 VIF &lt;10.00</td>
<td>No Symptoms of Multicollinearity Occur</td>
</tr>
<tr>
<td></td>
<td>VIF= 1,067</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Profitability Tolerance = 0.950</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>VIF= 1,052</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Company Size Tolerance = 0.985</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>VIF= 1,015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heteroscedasticity</td>
<td>- Liquidity =0.147</td>
<td>&gt;0.05</td>
<td>No Heteroscedasticity Symptoms Occur</td>
</tr>
<tr>
<td>Glejser</td>
<td>- Profitability =0.224</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Company Size = 0.101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autocorrelation-</td>
<td>Asymp. Sig. (2-tailed)= 0.427</td>
<td>&gt;0.05</td>
<td>No Autocorrelation Symptoms Occur</td>
</tr>
<tr>
<td>Runs Test</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the results of classical assumption testing in table 2, it is concluded that all assumptions are met. This shows that the regression model uses normally distributed data, and there are no symptoms of multicollinearity, heteroscedasticity or autocorrelation. Thus, the regression analysis carried out on the data can be considered to have met the necessary assumptions and can be continued with the next test.
Moderated Regression Analysis (MRA)

Table 3. MRA Test Results

<table>
<thead>
<tr>
<th>Unstandardized Coefficients</th>
<th>B</th>
<th>t</th>
<th>Sig.</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-0.833</td>
<td>-0.177</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>LIQUIDITY</td>
<td>-3.323</td>
<td>-0.073</td>
<td>0.942</td>
<td></td>
</tr>
<tr>
<td>PROFITABILITY</td>
<td>0.012</td>
<td>2.145</td>
<td>0.036</td>
<td>0.18</td>
</tr>
<tr>
<td>COMPANY SIZE</td>
<td>-0.032</td>
<td>-0.910</td>
<td>0.367</td>
<td>(18%)</td>
</tr>
<tr>
<td>LK*UP</td>
<td>-5.542</td>
<td>-0.089</td>
<td>0.929</td>
<td></td>
</tr>
<tr>
<td>PR*UP</td>
<td>-0.006</td>
<td>-0.797</td>
<td>0.429</td>
<td></td>
</tr>
</tbody>
</table>

\[ Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 Z + \beta_4 X_4 Z + \varepsilon \]
\[ Y = -0.833 - 3.323 \text{Liquidity} + 0.012 \text{Profitability} - 5.542 \text{Liquidity*Company Size} - 0.006 \text{Profitability*Company Size} \]

Table 4. Hypothesis Test Results

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Results</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uji R²</td>
<td>R² = 0.18 (18%)</td>
<td>As much as 18% of the independent variables can explain the dependent variable.</td>
</tr>
<tr>
<td>Uji F</td>
<td>F = 1.868, Sig = 0.046</td>
<td>Regression Model Fit.</td>
</tr>
<tr>
<td>Uji t</td>
<td>Liquidity = -0.073 (0.942)</td>
<td>- Liquidity has no effect on Company Value.</td>
</tr>
<tr>
<td></td>
<td>Profitability = 2.145 (0.036)</td>
<td>- Profitability has a positive effect on company value.</td>
</tr>
<tr>
<td></td>
<td>Company Size = -0.910 (0.367)</td>
<td></td>
</tr>
<tr>
<td>Uji MRA</td>
<td>Liquidity*Company size = -0.089 (0.929)</td>
<td>Company size is unable to moderate the influence of liquidity or profitability on company value</td>
</tr>
<tr>
<td></td>
<td>Profitability*Company size = -0.797 (0.429)</td>
<td></td>
</tr>
</tbody>
</table>

DISCUSSION

The Effect of Liquidity on Company Value

The statistical test results in Table 3 obtained a t value of -0.073 and a significance of 0.942>0.05. The researcher concluded that liquidity has no effect on firm value and the first hypothesis rejected. An increase in the volume of current assets indicates that capital is not being used efficiently. The company is not able to use its current assets optimally so it is unable to provide high profits to shareholders. High liquidity means the company is less productive so it cannot distribute cash dividends, so the company value decreases. This is contrary to the signaling theory which states that the higher the liquidity, the higher the value of the company. The research results are in line with, Ndruru (2020), Chynthiawati & Jonnard (2022), and Tarigan (2023) that liquidity has no effect the value of the company.

The Effect of Profitability on Company Value

From the statistical test results in Table 3, the t value is 2.145 and the significance is 0.036<0.05. Researchers conclude that profitability has a positive
effect on company value, the second hypothesis accepted. Profitability does not fully reflect the actual profit for investors. Investors consider a company's profitability as a signal of company performance. Based on signaling theory, this is proven to be in accordance with research findings, where this theory states that higher dividend payments send a positive signal which causes share prices to rise, thereby increasing company value. The research results are in line with Rivandi & Petra (2022), Dessriadi (2022), and Komalasari1 (2023) who stated that profitability has a positive effect on company value.  

**Company size strengthens the influence of liquidity on company value**

Based on the statistical test results in Table 3, the t value is -0.089 and the significance is 0.929>0.05. Researchers conclude that company size is unable to moderate company liquidity and value, resulting in the third hypothesis rejected. Generally, large companies have a large total amount of current assets, including cash, accounts receivable, and inventory. However, these assets are not utilized optimally because they are only used for the company's short-term needs. The company loses the opportunity to gain profits by maximizing asset utilization. The research results are in line with Nashar (2022), Sri (2023), and Rosihana (2023) that company size is unable to moderate the relationship between liquidity and company value.  

**Company size strengthens the influence of profitability on company value**

From the statistical test results in Table 3, it can be concluded that the t value is -0.797 and the significance is 0.429>0.05. Researchers conclude that company size is unable to moderate profitability and company value, the fourth hypothesis rejected. So in the relationship between profitability and company value, company size does not play an important role. The larger a company, the greater its core business costs, such as administrative costs, labor costs and overhead costs, as well as maintenance costs for buildings, machinery, vehicles and equipment, thereby reducing the company's profitability, which affects decrease in company value. The research results are in line with Astari (2019) and Nashar (2022) stating that company size is unable to moderate profitability on company value.  

**CONCLUSIONS AND RECOMMENDATIONS**

Based on the analysis and discussion, the researcher concludes that liquidity has no effect on company value, while profitability has a positive effect on company value. Furthermore, company size does not moderate the effect of liquidity or profitability on company value. The limitation of this research is the small coefficient of determination, namely 0.18. Only around 18% of company value is influenced by liquidity and profitability, while the remaining 82% is influenced by other factors not researched.  

**ADVANCED RESEARCH**

Future researchers are expected to consider research on indices other than LQ45, and consider other variables to add to the research model, such as leverage, company growth, investment opportunities, capital structure, corporate governance and other variables.
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Spence, Michael. (1973). I shall argue that the paradigm case of the market with this type of informational structure is the job market and will therefore focus upon it. By the end I hope it will be clear (although space limitations will not permit an extended argument) that a. *The Quarterly Journal of Economics*, 87(3), 355–374.


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