THE INFLUENCE OF INTELLECTUAL CAPITAL AND FINANCIAL PERFORMANCE ON THE STOCK PRICES OF COMMERCIAL BANKS IN INDONESIA WITH COMPANY SIZE AS A MODERATION VARIABLE

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KEYWORDS
VAICTM, Financial Performance, Firm Size, Stock Price, KBMI III and IV

ABSTRACT
This study aims to test and analyse the effect of intellectual capital consisting of Value Added Intellectual Capital (VAICTM) and financial performance proxied by Non Performing Loan (NPL), Capital Adequacy Ratio (CAR), Return On Asset (ROA) on stock prices with company size as a moderating variable. The research data is secondary data with a 6-year observation period. The population in this research is banks classified as KBMI III and IV banks. The sampling method used is non-probability sampling, with the consideration that banks with KBMI III and IV categories are top-tier banks whose performance has a systemic impact. The data sample taken is 13 banks, in accordance with OJK-RI provisions. Data collection techniques through documentation using panel data regression analysis, namely Eviews13. The results of this study (VAICTM) and CAR have no effect on stock prices. ROA and NPL have a significant effect on stock prices. Company size moderates the (VAICTM) and ROA variables while NPL and CAR can’t be moderated by company size.

INTRODUCTION
Banks are business entities that gather funds from the public in the form of deposits and channel them back to the public in the form of loans and other forms in order to improve the standard of living and assist in the development of the country's economy (Law No. 10 of 1998). According to data from the Financial Services Authority (OJK) in December 2022, the total number of banks in Indonesia was 106, consisting of various types such as state-owned commercial banks, private national commercial banks, regional banks, and foreign banks as overseas branches. However, there has been a decrease in the number of conventional commercial banks in Indonesia from 107 banks in August 2022 to 106 banks in December 2022, because some of these banks could no longer operate and were thus closed or merged with other banks.

The Financial Services Authority (OJK) made changes to regulations regarding the classification of banking institutions in 2021, where Commercial Banks Based on Business Activities (BUKU) were transformed into Groups of Banks Based on Core Capital (KBMI) in accordance with POJK No. 12/POJK.03/2021 dated July 30, 2021. This aims to facilitate the OJK's function as a partner and supervisor of banks, as well as for prudential regulation and statistics purposes. Banking institutions offer various services to individuals, companies, and other entities, ranging from deposits to products and services such as loans, credit cards, investments, and payments. Banking stocks are a sought-after investment choice because the banking sector is considered important for the progress of a country. Stock prices serve as
important indicators in measuring a company's performance, and investors can sell their stocks if they are dissatisfied with management performance, which can impact the stock prices of the company.

This research examines stock prices in KBMI Category III and KBMI Category IV banks over the last 6 years, from 2017 to 2022, recorded on the Indonesia Stock Exchange, where stock prices experienced fluctuations. This data can be presented through Research Variables as shown in Figure 1.

![Bank Share Price Category KBMI III and KBMI IV](image)

**Figure 1. Bank Share Price Category KBMI III and KBMI IV**

Source: Banking Channel OJK Data and Statistics (Data Processed)

Reviewed from the above graph, the stock prices of banks have fluctuated from year to year. From 2017 to 2020, banks were still classified under Commercial Banks Based on Business Activities (BUKU). A drastic decrease in stock prices occurred in 2020, especially for BUKU IV banks. This situation may be attributed to the impact of the Covid-19 pandemic, which exerted heavy pressure on the country's economy and affected the performance of the Indonesian Capital Market. After the bank groups were changed to KBMI, there was a decrease in stock prices, especially for KBMI III from 2021 to 2022. One of the reasons for the decrease in stock prices for KBMI III is bank performance, which contrasts with KBMI IV, which consistently experienced increases every year.

Research related to company resource management by Pulic (2004) emphasizes the importance of creating added value as the main goal in knowledge-based economics. Value Added of Capital Employed (VACA), Human Capital (VAHU), and Structural Capital (STVA) are the main components that depict this. Intellectual capital, which includes these, can affect stock prices, according to the signaling theory that disclosure of intellectual capital can be a signal to investors about a company's financial performance, which in turn affects added value and stock prices.

The financial performance of banks, reflected through Return on Assets (ROA), serves as a measure of a bank's health. ROA reflects the bank's ability to generate profit, and some regulations view ROA below 0.5% as a sign of bank unhealthiness. Non-Performing Loan (NPL) is also an indicator of credit risk that can affect a bank's health, with high NPL reflecting higher credit risk. Capital Adequacy Ratio (CAR) is used to assess a bank's ability to meet the ATMR rating and capital adequacy ratio, regulated by the OJK.

Company Size according to Brigham and Houston (2010:4) is the measure of the largeness or smallness of a company, indicated or evaluated by total assets, total sales, profit,
tax expenses, and others. Company size is assessed through the total assets owned by the company. Parvin et al (2019) and Nguyen and Nguyen (2020) prove that Size positively influences performance. High bank size values indicate higher performance. Conversely, Cahyana and Suhendah (2020) stated that the size proxy was found to have no effect on performance.

The above explanation leads to the trend of Intellectual Capital, Financial Performance, and Company Size of Conventional Banks III and IV from 2017-2022. In BUKU/KBMI III banking, Intellectual Capital experienced an increase from 2017 to 2018 by 0.11. From 2018 to 2019, it experienced a decrease of 0.08. Whereas, from 2019 to 2022, it experienced a significant increase every year. In BUKU/KBMI IV, from 2017 to 2019, there was an increase of 0.11. In the following year, from 2019 to 2020, there was a decrease of 0.15. From 2020 to 2022, there was an increase. Research conducted by (Agustin, 2023) stated that Intellectual Capital has a negative influence on stock prices. (Sunardi et al., 2019) proved that Intellectual Capital has a positive influence on stock prices. However, (Farhanah & Mutasowifin, 2022) and (Safitri et al., 2020) proved that Intellectual Capital has no effect on stock prices.

The ROA (Return on Assets) ratio to stock prices for BUKU/KBMI III and IV fluctuated. From 2017-2018, there was an increase, from 2018-2020, there was a decrease, and from 2020 to 2022, there was an increase. In a study by (Bayu & Sumantri, 2020), ROA positively influences Stock Prices. (Vilia & Colline, 2021) proved that ROA has a negative influence on Stock Prices. Meanwhile, research by (Ulil Albab Al Umar et al., 2020) and (Ziliwu & Wibowo, 2020) proved that ROA does not have an influence on stock prices.

The NPL (Non-Performing Loan) ratio to stock prices for BUKU/KBMI III and IV experienced fluctuations. From 2017-2018, there was a decrease, from 2018-2019, there was an increase, and from 2019-2022, there was a decrease. In the study by (Sari et al., 2018), NPL negatively influences stock prices, which means that the higher a bank's NPL, the lower its performance. Research by (Ziliwu & Wibowo, 2020) proved that NPL positively influences stock prices. However, (Salsabilla & Yunita, 2020) and (Bayu & Sumantri, 2020) proved that NPL has no influence on banking stock prices.

The CAR (Capital Adequacy Ratio) ratio to stock prices experienced fluctuations. For BUKU/KBMI III from 2017 to 2021, there was an increase, while the following year experienced a decrease. For BUKU/KBMI IV from 2017-2018, there was a decrease, from 2018-2019, there was an increase, from 2019-2020, there was a decrease, from 2020-2021, there was an increase, and from 2021-2022, there was a decrease. Research conducted by (Sari et al., 2018) stated that CAR has a negative influence on stock prices. (Ziliwu & Wibowo, 2020) proved that CAR has a positive influence on stock prices. Meanwhile, (Salsabilla & Yunita, 2020) and (Bayu & Sumantri, 2020) proved that CAR does not influence stock prices. Company size to stock prices in BUKU/KBMI III and IV from year to year has increased. Research by (Safitri et al., 2020) and (Tati et al., 2021) proved that size influences stock prices. Meanwhile, (Evania et al., 2022) and (Sigar & Kalangi, 2019) stated that the size proxy has been proven to have no effect on stock prices.

This study aims to identify problems related to the change of banking groups from BUKU to KBMI, and to propose problem formulations related to the influence of Value Added Intellectual Capital (VAIC), Return on Assets (ROA), Non Performing Loan (NPL), and Capital Adequacy Ratio (CAR) on stock prices in KBMI Banks III and IV on the Indonesia Stock Exchange for the period 2017-2022. The research objectives also include analyzing the influence of these factors on stock prices, considering the company size's ability to moderate the relationship between ROA and CAR with stock prices. The theoretical contribution of the research includes guidance for investment planning and additional knowledge related to
financial analysis, while practically providing insights for issuer companies and guidance for investors in making investment decisions.

Considering the results of several previous studies showing different results, the researcher wishes to re-examine the "Influence of Intellectual Capital and Financial Performance on Stock Prices of Commercial Banks in Indonesia with Company Size as a Moderation Variable."

Based on previous research results, theory, and in line with the author's thoughts, the development of hypotheses analyzing the influence of intellectual capital measured by VAIC consisting of Value Added Capital Employee (VACA), Value Added Human Capital (VAHU), Structural Capital (STVA), and financial performance consisting of Return On Asset (ROA), Non Performing Loan (NPL), Capital Adequacy Ratio (CAR) on stock prices with company size as a moderation variable in KBMI Category 3 and 4 Banks on the IDX from 2018-2022 are as follows:

H1: Value Added Intellectual Capital (VAICTM) has a positive influence on Stock Prices  
H2: Return On Asset (ROA) has a positive influence on Stock Prices  
H3: Non Performing Loan (NPL) has a negative influence on Stock Prices  
H4: Capital Adequacy Ratio (CAR) has a positive influence on Stock Prices  
H5: Value Added Intellectual Capital (VAICTM) moderated by company size has a positive influence on stock prices  
H6: Return On Asset (ROA) moderated by company size has a positive influence on stock prices  
H7: Non Performing Loan (NPL) moderated by company size has a negative influence on stock prices  
H8: Capital Adequacy Ratio (CAR) moderated by company size has a positive influence on stock prices

RESEARCH METHOD

This study is a causal study using a quantitative approach aimed at testing the influence of independent variables, namely intellectual capital and financial performance, on stock prices as the dependent variable, with company size as a moderating variable. Data were taken from the annual financial reports of KBMI III and KBMI IV banking companies listed on the Indonesia Stock Exchange (IDX) from 2017 to 2022. The independent variables were measured using Value-Added Intellectual Capital (VAICTM) and Return on Assets (ROA), while the dependent variable was stock prices. Additionally, there was a moderating variable, which is company size measured by the total assets of the company. The analysis method used was panel data regression, with testing stages including the Chow test, Hausman test, and Lagrange Multiplier Test to select the best panel model. The results of this study are expected to provide further understanding of the influence of intellectual capital and financial performance on stock prices, as well as enrich the literature on this relationship in the banking sector.

RESULTS AND DISCUSSION

Overview of Research Objects

The object of this research is banks in the Core Capital Bank Group (KBMI) III and IV from 2017 to 2022. The number of banks in this study is 13 banks consisting of 9 KBMI III Banks and 4 KBMI IV Banks.

Descriptive Statistics

This study aims to analyze the effect of value added Intellectual capital, return on assets, non-performing loans, capital adequacy ratio on stock prices moderated by the size of KBMI
III and IV category bank companies listed on the Indonesia Stock Exchange from 2017 to 2022, where in the study it was determined that 78 research samples using 13 banking companies for 6 last year (2017-2022).

**Variable Description**

The following is an explanation of each variable related to descriptive statistics at KBMI III and IV category banks listed on the Indonesia Stock Exchange from 2017 to 2022. Descriptive statistics of research variables can be seen in Table 1.

### Table 1. Descriptive Statistics of Research Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Std Dev</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS</td>
<td>2663.898</td>
<td>2653.121</td>
<td>8342.645</td>
<td>128.8506</td>
<td>1935.878</td>
<td>78</td>
</tr>
<tr>
<td>VAIC</td>
<td>4.042648</td>
<td>4.198981</td>
<td>6.091606</td>
<td>1.925196</td>
<td>1.0299</td>
<td>78</td>
</tr>
<tr>
<td>ROA</td>
<td>2.077692</td>
<td>1.865</td>
<td>4.22</td>
<td>0.13</td>
<td>1.0299</td>
<td>78</td>
</tr>
<tr>
<td>NPL</td>
<td>1.082179</td>
<td>0.89</td>
<td>2.96</td>
<td>0.23</td>
<td>0.640135</td>
<td>78</td>
</tr>
<tr>
<td>CAR</td>
<td>22.85987</td>
<td>22.67</td>
<td>35.68</td>
<td>16.78</td>
<td>4.0</td>
<td>78</td>
</tr>
<tr>
<td>FS</td>
<td>518,575,408,064,102.00</td>
<td>226,223,066,500,000.00</td>
<td>1,992,544,687,000,000.00</td>
<td>82,297,010,000,000.00</td>
<td>14817</td>
<td>78</td>
</tr>
</tbody>
</table>

Source: Eviews Data Processing Version 13, 2024

The details of each variable per year in KBMI III and IV category banks listed on the Indonesia Stock Exchange from 2017 to 2022 are as follows:

**A. Intellectual Capital (X1)**

### Table 2. Descriptive Statistics of Intellectual Capital Variables (VAIC™)

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>3.89</td>
<td>4.00</td>
<td>3.96</td>
<td>3.93</td>
<td>4.18</td>
<td>4.29</td>
</tr>
<tr>
<td>Median</td>
<td>3.95</td>
<td>3.94</td>
<td>3.96</td>
<td>4.20</td>
<td>4.28</td>
<td>4.34</td>
</tr>
<tr>
<td>Maximum</td>
<td>4.82</td>
<td>4.93</td>
<td>5.25</td>
<td>5.43</td>
<td>5.80</td>
<td>6.09</td>
</tr>
<tr>
<td>Minimum</td>
<td>2.19</td>
<td>2.77</td>
<td>2.15</td>
<td>1.93</td>
<td>1.94</td>
<td>2.33</td>
</tr>
<tr>
<td>Std Dev</td>
<td>0.88</td>
<td>0.82</td>
<td>0.96</td>
<td>1.14</td>
<td>1.23</td>
<td>1.22</td>
</tr>
</tbody>
</table>

Source: Data processed by researchers, 2024

In Table 2, the lowest value of the variable (VAIC™) occurred in 2020 with a value of 1.93 in KBMI III, namely PT. Bank Danamon Indonesia Tbk (BDMNI) while the highest VAIC value in 2022 with a value of 6.09 in KBMI IV, namely PT. Bank Central Asia Tbk (BBCA). The average value of VAIC™ in the Bank category KBMI III and IV 2017-2022 is 4.042648 with a standard deviation of 1.0299 and a median value of 4.198981.

**B. Return On Asset (X2)**

### Table 3. Descriptive Statistics of Return on Asset (ROA) Variables

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>2.19</td>
<td>2.36</td>
<td>2.22</td>
<td>1.54</td>
<td>1.87</td>
<td>2.29</td>
</tr>
<tr>
<td>Median</td>
<td>1.96</td>
<td>2.25</td>
<td>2.22</td>
<td>1.01</td>
<td>1.55</td>
<td>2.06</td>
</tr>
<tr>
<td>Maximum</td>
<td>3.89</td>
<td>4.01</td>
<td>4.02</td>
<td>3.64</td>
<td>4.22</td>
<td>4.00</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.61</td>
<td>0.78</td>
<td>0.13</td>
<td>0.54</td>
<td>0.73</td>
<td>0.79</td>
</tr>
<tr>
<td>Std Dev</td>
<td>0.98</td>
<td>0.95</td>
<td>1.08</td>
<td>0.99</td>
<td>1.06</td>
<td>1.12</td>
</tr>
</tbody>
</table>

Source: Data processed by researchers, 2024

In Table 3, the lowest value of the ROA variable occurred in 2019 with a value of 0.13 in KBMI III, namely PT. Bank Tabungan Negara (Persero) Tbk (BBTN). The highest ROA value
in 2021 with a value of 4.22 in KBMI III, namely PT. Bank Mega Tbk (MEGA). It can be seen that the ROA value of 13 banks is still in the sufficient to very good category based on BI regulations. The average ROA value in KBMI III and IV category banks 2017-2022 is 2.07 with a standard deviation of 1.03 and a median value of 1.86. The standard deviation value to the Mean value looks smaller each year which indicates that there are no large fluctuations from the ROA variable.

C. Non Performing Loan (X3)

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1.18</td>
<td>1.15</td>
<td>1.38</td>
<td>1.06</td>
<td>0.91</td>
<td>0.80</td>
</tr>
<tr>
<td>Median</td>
<td>1.06</td>
<td>0.92</td>
<td>1.25</td>
<td>0.91</td>
<td>0.78</td>
<td>0.73</td>
</tr>
<tr>
<td>Maximum</td>
<td>2.17</td>
<td>2.05</td>
<td>2.96</td>
<td>2.52</td>
<td>2.82</td>
<td>2.59</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.45</td>
<td>0.45</td>
<td>0.45</td>
<td>0.43</td>
<td>0.37</td>
<td>0.23</td>
</tr>
<tr>
<td>Std Dev</td>
<td>0.61</td>
<td>0.54</td>
<td>0.77</td>
<td>0.61</td>
<td>0.63</td>
<td>0.62</td>
</tr>
</tbody>
</table>

Source: Data processed by researchers, 2024

In table 4, the lowest value of the NPL variable occurred in 2022 with a value of 0.23 in KBMI III, namely PT. Bank Danamon Indonesia Tbk (BDMN). The highest NPL value in 2019 with a value of 2.96 in KBMI III, namely Bank Tabungan Negara (Persero) Tbk (BBTN). Based on BI regulations, the NPL value of 13 banks is still in the very good category because the NPL<10%. The average NPL value in KBMI III and IV 2017-2022 category banks is 1.08 with a standard deviation of 0.64 and a median value of 0.89. The standard deviation value against the Mean value looks smaller, it can be concluded that there are no large fluctuations from the NPL variable.

D. Capital Adequacy Ratio (X4)

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>20.85</td>
<td>20.80</td>
<td>21.73</td>
<td>24.38</td>
<td>24.96</td>
<td>24.43</td>
</tr>
<tr>
<td>Median</td>
<td>21.64</td>
<td>20.96</td>
<td>21.47</td>
<td>24.25</td>
<td>25.28</td>
<td>25.34</td>
</tr>
<tr>
<td>Maximum</td>
<td>24.91</td>
<td>23.69</td>
<td>24.59</td>
<td>35.68</td>
<td>34.94</td>
<td>34.19</td>
</tr>
<tr>
<td>Minimum</td>
<td>17.51</td>
<td>17.63</td>
<td>17.32</td>
<td>16.78</td>
<td>19.14</td>
<td>19.27</td>
</tr>
<tr>
<td>Std Dev</td>
<td>2.74</td>
<td>2.23</td>
<td>2.23</td>
<td>5.29</td>
<td>4.41</td>
<td>4.26</td>
</tr>
</tbody>
</table>

Source: Data processed by researchers, 2024

In table 5, the lowest value of the CAR variable occurred in 2020 with a value of 16.78% in KBMI IV, namely Bank Negara Indonesia (Persero) Tbk (BBNI). This low value is still quite solid in the company's condition that year. Statistically, it has exceeded the minimum standard set by Bank Indonesia, which is 8%. So it is said that this condition is able to provide a sense of security for customers because the bank is able to finance its operations so as to increase customer trust in the bank. Thus, bank capital can make a considerable contribution to profitability. The highest CAR value in 2020 with a value of 35.68% in KBMI III Bank Permata Tbk (BNLI). BNLI's condition in 2020 is a significant increase in CAR. It was explained in its annual report in the period, that BNLI's strong capital became the foundation for providing complete services for customers so as to accelerate business growth. The standard deviation value of 4.01% is lower than the mean value of 22.85% which means that during the study period in the 13 banks, the range of the mean with the maximum is greater than the range of the mean value with the minimum. This shows that the data deviation can be said to be good.
E. Stock Price (Y)

Table 6. Descriptive Statistics of Stock Price Variables

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>2,421.33</td>
<td>2,594.37</td>
<td>2,656.84</td>
<td>2,712.75</td>
<td>2,678.01</td>
<td>2,920.09</td>
</tr>
<tr>
<td>Median</td>
<td>2,383.21</td>
<td>2,986.02</td>
<td>3,152.06</td>
<td>2,777.22</td>
<td>2,201.80</td>
<td>2,570.14</td>
</tr>
<tr>
<td>Maximum</td>
<td>5,632.31</td>
<td>6,293.37</td>
<td>6,164.30</td>
<td>6,369.84</td>
<td>7,603.62</td>
<td>8,342.64</td>
</tr>
<tr>
<td>Minimum</td>
<td>228.54</td>
<td>182.85</td>
<td>187.68</td>
<td>324.62</td>
<td>314.16</td>
<td>220.48</td>
</tr>
<tr>
<td>Std Dev</td>
<td>1,587.72</td>
<td>1,859.10</td>
<td>1,839.70</td>
<td>1,933.54</td>
<td>2,307.80</td>
<td>2,340.56</td>
</tr>
</tbody>
</table>

Source: Data processed by researchers, 2024

In table 6, the lowest value of the variable Stock Price occurred in 2018 with a value of Rp 182.85 in KBMI III, namely Bank Maybank Indonesia Tbk (BNII). The highest Share Price value in 2022 with a value of IDR 8,342.64 in KBMI IV Bank Central Asia Tbk (BBCA). The average value of the Share Price at KBMI III and IV 2017–2022 category banks is IDR 2,663.89, greater than the standard deviation value of IDR 1,935.87, so it can be concluded that there are no major price fluctuations in 2017–2022.

F. Company Size (FS)

Table 7. Descriptive Statistics of Company Size Variables

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>406,493,105,384,615.00</td>
<td>445,292,802,153,846.00</td>
<td>490,564,545,307,692.00</td>
<td>542,512,546,307,692.00</td>
<td>586,038,563,000,000.00</td>
<td>640,550,886,200,000.00</td>
</tr>
<tr>
<td>Median</td>
<td>213,541,797,000,000.00</td>
<td>207,204,418,000,000.00</td>
<td>211,287,370,000,000.00</td>
<td>218,067,091,000,000.00</td>
<td>234,379,042,000,000.00</td>
<td>255,112,471,000,000.00</td>
</tr>
<tr>
<td>Maximum</td>
<td>1,127,447,489,000,000.00</td>
<td>1,296,898,292,000,000.00</td>
<td>1,416,758,840,000,000.00</td>
<td>1,610,065,344,000,000.00</td>
<td>1,725,611,128,000,000.00</td>
<td>1,992,544,687,000,000.00</td>
</tr>
<tr>
<td>Minimum</td>
<td>82,297,010,000,000.00</td>
<td>83,761,946,000,000.00</td>
<td>100,803,831,000,000.00</td>
<td>112,202,653,000,000.00</td>
<td>132,879,390,000,000.00</td>
<td>141,750,449,000,000.00</td>
</tr>
<tr>
<td>Std Dev</td>
<td>383,221,425,377,332.00</td>
<td>430,978,146,373,332.00</td>
<td>484,338,477,488,266.00</td>
<td>543,924,906,718,826.00</td>
<td>596,254,161,066,872.00</td>
<td>674,393,054,797,750.00</td>
</tr>
</tbody>
</table>

Source: Data processed by researchers, 2024

The last independent variable is size can be seen in table 7 Size in this study is measured using total assets. The maximum size value of Rp. 1,992,544,687,000,000.00 in KBMI IV is owned by PT. Bank Mandiri (Persero), Tbk. (BMRI) in 2022. While the minimum value of Rp. 82,297,010,000,000.00 is owned by PT. Bank Mega Tbk (MEGA) in 2017. Size shows the extent of the bank's efforts. This can be seen from the large increase in assets, namely in the value of the investment. Bank size can be used to provide an overview of a bank's ability to face competition. The increasing value of assets shows that the investment made increases. The mean value of IDR 518,575,408,064,102.00 is higher than the standard deviation of IDR 517,031,016,113,463.00 which means that during the study period at the 13 banks, the range of mean with maximum is greater than the range of mean value with minimum. This shows that the data deviation can be said to be good.

Panel Data Regression Analysis Results

Panel Data Regression Model Selection

Panel data regression model is a model that must go through testing steps to determine the right estimation model to determine the effect of a dependent variable on the independent variable of an object of study in a certain period. There are three tests in determining the right model estimate, namely common effect, fixed effect, and random effect.
The Common Effect Model

The Common Effect Model assumes that intercepts and slopes always remain constant both over time and between individuals. Each individual (n) regressed to determine the relationship between the dependent variable and its independent variable will give both the same intercept and slope values. Similarly to time (t), the intercept and slope values in the regression equation describe the relationship between the dependent variable and the independent variable is the same for each time. The basis used in panel data regression is to ignore the influence of individuals and time on the model they form.

Fixed Effect Model

Fixed Effect Model is the value of regression coefficients or slopes experiencing differences due to aspects of differences in observation units and changes in time periods. Fixed effect is an object having a constant that remains large for various periods of time. Similarly, the regression coefficient will remain large over time (time invariant).

Random Effect Model

The Random Effect Model estimates panel data in which residual variables are thought to have relationships between time and between subjects. The panel data analysis method with the Random Effect Model must meet the requirements, namely the number of cross sections must be greater than the number of research variables.

Panel Data Regression Model Test

Test the panel's data model to determine the right model for each equation. In determining the selection of the right model, the Chow Test and Hausman Test are carried out.

Test Chow

The Chow test is used to compare or choose which model is best between the Common Effect Model and the Fixed Effect Model. The hypothesis in the Chow test is as follows:

H0: The right model is the Common Effect Model
H1: The right model is Fixed Effect Model

This study uses a significance level or alpha of 5%, so that the decision making hypothesis is if the probability value (Prob.) cross section chi-square < 0.05 then reject H0 or accept H1, meaning that the selected model is Fixed Effect Model. Conversely, if the probability value (Prob.) cross section chi-square > 0.05 then accept H0 or reject H1 which means the selected model is the Common Effect Model. Here are the results of the Chow Test in this study:

<table>
<thead>
<tr>
<th>Table 8. Chow Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equation: Untitled</td>
</tr>
<tr>
<td>Test cross-section fixed effects</td>
</tr>
<tr>
<td>Effects Test</td>
</tr>
<tr>
<td>Cross-section F</td>
</tr>
<tr>
<td>Cross-section Chi-square</td>
</tr>
</tbody>
</table>

Source: Results of data processing using Eviews Version 13, 2024.

Based on table 8 probability values (Prob.) cross section chi-square is 0.0000 (<0.05) then reject H0 or accept H1. Thus, based on the Chow test, the MRA model of panel data in this study that was selected was the Fixed Effect Model (FEM). Therefore, the best model testing is continued using the Hausman test, which is to compare or choose which model is the best between Fixed Effect Model or Random Effect Model.
**Uji Hausman**

The Hausman test is used to compare or choose which model is best between the Random Effect Model and the Fixed Effect Model. The hypothesis in the Hausman Test is as follows:

H0 : The right model is the Random Effect Model
H1 : The right model is Fixed Effect Model

This study uses a significance level or alpha of 5%, so that the decision making hypothesis is if the probability value (Prob.) cross section random < 0.05 then reject H0 or accept H1, meaning that the selected model is Fixed Effect Model. Conversely, if the probability value (Prob.) cross section random > 0.05 then accept H0 or reject H1 which means the selected model is a Random Effect Model. In the hausman test, it is found that the probability value (Prob.) cross section random is 0.4644 (>0.05) then accept H0 or reject H1 which means that the right model to use is the Random Effect Model.

**Lagrange Multiplier Test**

The Lagrange Multiplier test is used to compare or choose which model is best between the Common Effect Model and the Random Effect Model. The hypothesis in the Lagrange Multiplier test is as follows:

H0: The right model is the Common Effect Model
H1: The proper model is the Random Effect Model

This study uses a significance level or alpha of 5% so that hypothetical decision making is if the probability value (Prob.) cross section random < 0.05 then reject H0 or accept H1, which means that the selected model is a Random Effect Model. Conversely, if the probability value (Prob.) cross section random > 0.05 then accept H0 or reject H1 which means that the selected model is the Common Effect Model. Probability value (Prob.) cross section random both is 0.0000 (< 0.05) then reject H0 or accept H1, which means the selected model is Random Effect Model.

**Model Selection Test Conclusion**

From the results of the three model selection tests showed that:

1. Chow Test: Test between Common Effect Model and Fixed Model Effect, then Fixed Effect Model is more appropriate to use regression equation estimation model.
2. Hausman Test: Test between Fixed Model Effect and Random Model Effect, then Random Model Effect is more appropriate to use regression equation estimation model.
3. Lagrange Multiplier Test: Test between the Common Effect Model and the Random Effect Model, then the Random Effect Model is more appropriate to use in regression equations.

Based on the results of testing or model selection, it can be concluded that the best model approach used in this study is the Random Effect Model (REM).

**Structure of Moderated Regression Analysis (MRA) Equations**

Model selection has been carried out with the result that the Random Effect Model (REM) model was chosen to be the best approach model. According to Gujarati and Porter (2012: 471-472), the equation that satisfies the classical assumption is the equation with the Generalized Least Square (GLS) method. In eviews the estimation model that uses the GLS method is the Random Effect Model (REM) and it can be concluded that the REM regression equation does not require classical assumption tests.

The results of MRA regression with the Random Effect Model method above obtained the following equation:

\[ HS = -2658.60912942 + 63.6037173581*VAIC + 1100.76314437*ROA + 796.99205744*NPL + 41.0843458648*CAR - 1.89219440399e-12*FS + 9.72762470492e-10 + e \]

Based on the results of the panel data regression equation MRA, it can be determined that:

1. The variable HS has a negative constant value of -2658.60912942.
2. The variable VAIC has a positive regression coefficient value of 63.6037173581. The regression coefficient value indicates that for every one-unit increase in VAIC, HS will increase by 63.6037173581. Conversely, a decrease of one unit in VAIC will decrease HS by 63.6037173581.
3. The variable ROA has a positive regression coefficient value of 1100.76314437. The regression coefficient value indicates that for every one-unit increase in ROA, HS will increase by 1100.76314437. Conversely, a decrease of one unit in ROA will decrease HS by 1100.76314437.
4. The variable NPL has a positive regression coefficient value of 796.99205744. The regression coefficient value indicates that for every one-unit increase in NPL, HS will increase by 796.99205744. Conversely, a decrease of one unit in NPL will decrease HS by 796.99205744.
5. The variable CAR has a positive regression coefficient value of 41.0843458648. The regression coefficient value indicates that for every one-unit increase in CAR, HS will increase by 41.0843458648. Conversely, a decrease of one unit in CAR will decrease HS by 41.0843458648.
6. The variable Company Size (FS) has a negative regression coefficient value of 1.89219440399e-12. The regression coefficient value indicates that for every one-unit increase in Company Size, the value of HS will decrease by 1.89219440399e-12. Conversely, a decrease of one unit in Company Size will increase the value of HS by 1.89219440399e-12.
7. The positive interaction coefficient value between the VAIC variable and Company Size is 9.72762470492e-13. The interaction coefficient value indicates that an increase of one unit in the interaction between VAIC and Company Size will increase the value of HS by 9.72762470492e-13.
8. The negative interaction coefficient value between the ROA variable and Company Size is -7.37622881975e-13. The interaction coefficient value indicates that a decrease of one unit in the interaction between ROA and Company Size will increase the value of HS by -7.37622881975e-13.
9. The negative interaction coefficient value between the NPL variable and Company Size is -8.63901441432e-13. The interaction coefficient value indicates that a decrease of one unit in the interaction between NPL and Company Size will increase the value of HS by -8.63901441432e-13.
10. The positive interaction coefficient value between the CAR variable and Company Size is 9.42429388583e-14. The interaction coefficient value indicates that an increase of one unit in the interaction between CAR and Company Size will increase the value of HS by 9.42429388583e-14.

Moderation Regression Analysis was also used to determine the influence of the moderation variable, namely Company Size, the results are as follows:

1. Moderation of Company Size with VAIC on HS. Based on the moderation variable test, it is known that the interaction of VAIC with Company Size on HS is 0.8180, which means it is not significantly influential, while the interaction of VAIC with Company Size on HS is 0.0236, which means it is significantly influential. Thus, it can be
concluded that the Company Size variable acts as a pseudo-moderator or is suitable as a moderation variable. Company Size affects the relationship between VAIC and HS.

2. Moderation of Company Size with ROA on HS. Based on the moderation variable test, it is known that the interaction of ROA with Company Size on HS is 0.0000, which means it is significantly influential, while the interaction of ROA with Company Size on HS is 0.0138, which means it is significantly influential. Thus, it can be concluded that the Company Size variable acts as a pseudo-moderator or is suitable as a moderation variable. Company Size affects the relationship between ROA and HS.

3. Moderation of Company Size with NPL on HS. Based on the moderation variable test, it is known that the interaction of NPL with Company Size on HS is 0.0036, which means it is significantly influential, while the interaction of NPL with Company Size on HS is 0.2364, which means it is not significantly influential. Thus, it can be concluded that the Company Size variable is a type of Predictor Moderator or not suitable as a moderation variable. Company Size is unable to influence the relationship between NPL and HS.

4. Moderation of Company Size with CAR on HS. Based on the moderation variable test, it is known that the interaction of CAR with Company Size on HS is 0.2311, which means it is not significantly influential, while the interaction of CAR with Company Size on HS is 0.2897, which means it is not significantly influential. Thus, it can be concluded that the Company Size variable is a type of Homologizer Moderator or not suitable as a moderation variable. Company Size is unable to influence the relationship between CAR and HS.

**Hypothesis Testing**

**Simultaneous (f) test**

Test F or Simultaneous test is used to determine the effect of the relationship of independent and bound variables together. The calculated F value is 11.03720, while the F table value obtained using the $\alpha$ significance is 0.05 with a $\text{dF}_1$ value of 5 and a $\text{dF}_2$ value of 37 so that the $\text{Ftable}$ is 2.47. The test requirements in the F test by comparing $\text{Fcalculate}$ with $\text{Ftable}$ on the hypothesis as follows:

- If the probability value < 0.05 then $\text{H0}$ is rejected and $\text{H1}$ is accepted
- If the value of $\text{Fcalculate}$ > $\text{Ftable}$ then $\text{H0}$ is rejected and $\text{H1}$ is accepted

In table 4.15 above, the value of $\text{Fcalculate}$ > $\text{Ftable}$ is 11.03 > 1.99 and the significance value of 0.0000 < 0.05 so that $\text{H0}$ is rejected and $\text{H1}$ is accepted. This means that the variables Intellectual Capital, Return on Assets, Non-Performing Loan, Capital Adequacy Ratio together have a significant effect on Share Prices in the KBMI III and KBMI IV category banks for the 2017 – 2022 period.

**Coefficient of Determination (R2)**

The value of R-square (R2) = 0.593629 in table 4.14 above shows that 59.36% of the variance in banking stock prices can be explained by changes in the variables VAICTM, ROA, NPL and CAR. The remaining 40.64% was explained by factors outside the model.

**Test t**

This t test aims to determine the magnitude of the influence of each independent variable individually (partially) on the dependent variable. Here are the results of the t test as follows:
Table 9. Test Output Results (t) on the Random Effect Model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-2658.609</td>
<td>1240.967</td>
<td>-2.142370</td>
<td>0.0357</td>
</tr>
<tr>
<td>VAIC</td>
<td>63.60372</td>
<td>275.2802</td>
<td>0.231051</td>
<td>0.8180</td>
</tr>
<tr>
<td>ROA</td>
<td>1100.763</td>
<td>250.5893</td>
<td>4.392697</td>
<td>0.0000</td>
</tr>
<tr>
<td>NPL</td>
<td>796.9921</td>
<td>264.4489</td>
<td>3.013785</td>
<td>0.0036</td>
</tr>
<tr>
<td>CAR</td>
<td>41.08435</td>
<td>34.00415</td>
<td>1.208215</td>
<td>0.2311</td>
</tr>
<tr>
<td>FS</td>
<td>-1.89E-12</td>
<td>2.34E-12</td>
<td>-0.808949</td>
<td>0.4214</td>
</tr>
<tr>
<td>VAICFS</td>
<td>9.73E-13</td>
<td>4.20E-13</td>
<td>2.316486</td>
<td>0.0236</td>
</tr>
<tr>
<td>ROAFS</td>
<td>-7.38E-13</td>
<td>2.92E-13</td>
<td>-2.528797</td>
<td>0.0138</td>
</tr>
<tr>
<td>NPLFS</td>
<td>-8.64E-13</td>
<td>7.23E-13</td>
<td>-1.194675</td>
<td>0.2364</td>
</tr>
<tr>
<td>CARFS</td>
<td>9.42E-14</td>
<td>8.83E-14</td>
<td>1.067042</td>
<td>0.2897</td>
</tr>
</tbody>
</table>

Source: Results of data processing using Eviews version 13, 2024

From the table above, the results of hypothesis testing (t-test) are obtained by comparing the calculated value with ttable. If the value of tcount is greater than that of ttable, then the hypothesis proposed is acceptable. The calculated value is obtained from the t-statistic value in the regression results table and the ttable value is obtained using the significance level of 0.05 and the df value, where the df value is 73 (df = n-k = 78-5), then the ttable value is 1.992997.

Test criteria in the hypothesis test (t test) by comparing the calculated value with ttable with the following hypothesis:
- If tcalculate < ttable or probability value > 0.05 then H0 is accepted, which indicates that the independent variable has no partial effect on the dependent variable.
- If tcalculate > ttable or probability value < 0.05 then H0 is rejected, which indicates that the independent variable has a partial effect on the dependent variable.

From these tests, the following results were obtained:
1. Value Added Intellectual Capital (X1) has a tcount of 0.231051 < 1.992997 while the probability value of Value Added Intellectual Capital of 0.8180 > 0.05 positive value indicates that H0 is accepted which means that Value Added Intellectual Capital has no effect on Stock Price so that the H1 hypothesis in this study is rejected.
2. Return on Assets (X2) has a calculation of 4.392697 > 1.992997 while the probability value of Return on Assets of 0.0000 < 0.05 positive values indicate that the free variable Return on Assets moves in the same direction so that H0 is rejected that Return on Assets has a significant positive influence on Stock Prices, so it can be concluded that the H2 hypothesis in this study is accepted.

3. Non-Performing Loan (X3) has a calculation of 3.013785 > 1.992997 while the probability value of Non-Performing Loan of 0.0036 < 0.05 positive value indicates that the free variable Non-Performing Loan moves in the same direction so that H0 is rejected that Non-Performing Loan has a significant positive influence on Stock Price, so it can be concluded that the H3 hypothesis in this study is accepted.

4. Capital Adequacy Ratio (X4) has a calculation of 1.208215 < 1.992997 while the probability value of Capital Adequacy Ratio of 0.2311 > 0.05 then H0 is accepted which means that Capital Adequacy Ratio has no effect on Stock Price so that the H4 hypothesis in this study is rejected.

**Discussion**

After processing the data above, the next step is to discuss the research results, which will be explained through theories and previous research that form the basis of this study. The following is the discussion regarding the research results.

**The Influence of Value Added Intellectual Capital (VAICTM) on Stock Prices**

Value Added Intellectual Capital (VAICTM) has a probability value of 0.8180 > 0.05, therefore H1 is rejected, meaning that Value Added Intellectual Capital does not affect stock prices in the KBMI III and KBMI IV category banks for the period 2017 – 2022. This research result is consistent with (Safitri et al., 2020), (Farhanah & Mutasowifin, 2022), (Fatimah & Bagasworo, 2021), (Dani Yudhitya & Agustina Prihastiwi, 2023), and (Probohudono et al., 2022). However, this research differs from studies by (Handayani & Karnawati, 2021), (Safira et al., 2023), (Sunardi et al., 2019), and (Agustin, 2023) which state that Value Added Intellectual Capital affects Stock Prices.

**The Influence of Return on Assets (ROA) on Stock Prices**

Return on Assets has a probability value of 0.0000 < 0.05, therefore H2 is accepted, meaning that Return on Assets affects stock prices in the KBMI III and KBMI IV category banks for the period 2017 – 2022. Based on the positive beta coefficient values, it indicates that companies with high Return on Assets tend to increase stock prices. This means that an increase in Return on Assets indicates that the company is able to use assets productively, resulting in significant profits. The larger the Return on Assets, the better the performance within the company because of the higher return rate, which attracts investors to buy shares, thereby influencing stock prices. This research result is consistent with (Bayu & Sumantri, 2020), (Sukesti et al., 2021), (Noviyanti et al., 2021), (Winata et al., 2021), (Vilia & Colline, 2021), and (Ekobis et al., 2021). However, this research differs from studies by (Karamoy & Tulung, 2020), (Ulil Albab Al Umar et al., 2020), (Ziliwu & Wibowo, 2020), (Salsabilla & Yunita, 2020), (Sari et al., 2018), and (Aryanti et al., 2022) which state that Return on Assets does not affect Stock Prices.

**The Influence of Non-Performing Loan (NPL) on Stock Prices**

Non-Performing Loan has a probability value of 0.0036 < 0.05, therefore H3 is accepted, meaning that Non-Performing Loan affects stock prices in the KBMI III and KBMI IV category banks for the period 2017 – 2022. The research results indicate a significant influence on Stock Prices. This means that fluctuations or increases in the level of non-performing loans (NPL) significantly affect the return rate of bank stock prices. In this study, it was conducted on banks with large capital, thus being able to cover all risks. NPL in the banking sector in this study is
categorized as healthy because it is less than 5%, indicating low-risk loans and falling within safe limits. The results indicating a significant effect between NPL and Stock Prices may indicate that non-performing loans do not impact bank stock prices. This research result is consistent with (Farras Brastama & Yadnya, 2020), (Ziliwu & Wibowo, 2020), (Sari et al., 2018), and (Aryanti et al., 2022). However, this research differs from studies by (Bayu & Sumantri, 2020), (Noviyanti et al., 2021), (Salsabilla & Yunita, 2020), (Vilia & Colline, 2021), and (Ekobis et al., 2021) which state that Non-Performing Loan does not affect Stock Prices.

**The Influence of Capital Adequacy Ratio (CAR) on Stock Prices**
Capital Adequacy Ratio has a probability value of 0.2311 > 0.05, therefore H4 is rejected, meaning that Capital Adequacy Ratio does not affect stock prices in the KBMI III and KBMI IV category banks for the period 2017 – 2022. This indicates an increase in the level of credit risk in the bank's loan disbursement process. This leads to a large amount of bank funds being allocated to mitigate the decrease in assets caused by this credit risk. The focus on allocating funds to cover credit risk losses prevents banks from expanding credit. Consequently, banks cannot maximize profits from interest on loans given. Therefore, it can affect investor interest, and the CAR ratio is considered unable to depict the level of profit based on the occurring risks. This research result is consistent with (Bayu & Sumantri, 2020), (Noviyanti et al., 2021), (Salsabilla & Yunita, 2020), (Vilia & Colline, 2021), and (Aryanti et al., 2022). However, this research differs from studies by (Farras Brastama & Yadnya, 2020), (Ziliwu & Wibowo, 2020), and (Sari et al., 2018) which state that Capital Adequacy Ratio affects Stock Prices.

**Company Size Moderates the Effect of Value Added Intellectual Capital (VAICTM) on Stock Prices**
Based on the research results, it is shown that company size is able to moderate the effect of Value Added Intellectual Capital on Stock Prices, and the Company Size variable is a Pure Moderator, therefore suitable as a moderation variable. Therefore, hypothesis H5 in this study is accepted. This research result is consistent with (Safitri et al., 2020) and (Sari et al., 2018) which state that Company Size can moderate Stock Prices.

**Company Size Moderates the Effect of Return on Assets (ROA) on Stock Prices**
Based on the research results, it is shown that company size is able to moderate the effect of Return on Assets on Stock Prices, and the Company Size variable is a Quasi Moderator, therefore suitable as a moderation variable. Therefore, hypothesis H6 in this study is accepted. This research result is consistent with (Ozyesil, 2019) and (Tati et al., 2021) which state that Company Size can moderate Stock Prices.

**Company Size Moderates the Effect of Non-Performing Loan (NPL) on Stock Prices**
Based on the research results, it is shown that company size is unable to moderate the effect of Non-Performing Loan on Stock Prices, and the Company Size variable is a Predictor Moderator, therefore not suitable as a moderation variable. Therefore, hypothesis H7 in this study is rejected. This research result is consistent with (Nugraha & Riyadhi, 2019), (Shakil, 2022), and (Sukesti et al., 2021) which state that Company Size cannot moderate Stock Prices.

**Company Size Moderates the Effect of Capital Adequacy Ratio (CAR) on Stock Prices**
Based on the research results, it is shown that company size is unable to moderate the effect of Capital Adequacy Ratio on Stock Prices, and the Company Size variable is a Homologizer Moderator, therefore not suitable as a moderation variable. Therefore, hypothesis H8 in this study is rejected. This research result is consistent with (Evania et al., 2022) and (Winata et al., 2021) which state that Company Size cannot moderate Stock Prices.

**CONCLUSION**
Based on the results of the research previously described, it can be concluded that in the range of 2017 to 2022, Value Added Intellectual Capital (VAIC) did not have a positive influence on the share price of KBMI III and IV category banks listed on the Indonesia Stock Exchange. However, Return on Assets (ROA) and Non Performing Loan (NPL) have a significant positive effect on stock prices, while Capital Adequacy Ratio (CAR) does not have a significant effect. In addition, the size of the company can moderate the effect of VAIC and ROA on the share price of that category bank.

As a suggestion, for the management of banking companies in the KBMI III and IV categories, it is advisable to increase attention to ROA by looking for new strategies to increase company profits, as well as maintaining the credit to NPL ratio to maximize profits which will then have an impact on increasing stock prices. For academics, this study provides an overview of the factors that affect banking stock prices, and can be the basis for future research. As for investors, you should pay attention to ROA and CAR as important financial performance indicators in considering investments in these category banking stocks.

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The Influence of Intellectual Capital and Financial Performance on the Stock Prices of Commercial Banks in Indonesia with Company Size as a Moderation Variable


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