The Effect of Financial Performance, Tax Avoidance, and Investment Opportunity Set on Firm Value in The Agricultural Sector

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ABSTRACT
This study aims to investigate verifiable data regarding the effect of profitability, liquidity, leverage, tax avoidance, and investment opportunity set on the firm value of the agricultural sector companies listed on the Indonesia Stock Exchange from 2017 until 2020 period. This study is descriptive research using quantitative data and purposive sampling is used to limit the research object to specific criteria. The research sample included 24 companies with 96 observational data. The panel data regression model will be used for the data analysis, which will be processed with the E-views 9.0 software. The results show that the variables of profitability and tax avoidance have a positive and insignificant effect on firm value, while liquidity, leverage, and investment opportunity set have a positive and significant effect on firm value.

Keywords: Firm Value, Financial Performance, Tax Avoidance, Investment Opportunity Set

1. INTRODUCTION

One of the reasons a company can continue to survive in the market is the availability of capital or company funds. Due to the development of business, the capital market's existence has become increasingly in demand by the general public as a low-cost source of funding for business through the sale of various financial instruments such as stocks, bonds, warrants, and other financial instruments. According to Tan & Ma [1], since computerized financial services and asset management operations have risen in popularity, the capital market has become a powerful factor in raising funds. The ability of a corporation to manage its assets is crucial information for anyone interested in the company, including potential investors.

The agricultural sector is extremely important to the Indonesian people because, as an agricultural country, agriculture is the people's livelihood. The agricultural sector's responsibility in food, feed, and raw materials shows how agriculture might establish value chains from other industries referring to Pratiwi et al; [2]. The agriculture sector was chosen as the subject of this study because growth is particularly convincing to investors, especially in light of the Covid-19 epidemic. When many industries have seen a decrease in share prices while the agricultural sector has largely increased. The overall improvement in the agricultural sector was 1.75 percent, and the agricultural sector's contribution to GDP increased as well. In comparison, the growth is strong, with BPS statistics showing a gain of 14.3 percent in agricultural exports from 2019 to 2021 according to Herman [3].

Investors must analyze the company's value before entering the capital market, since the higher the company's value, the better the company's ability to generate a return on investment for its investors. In addition, the company's value gives information about the company's past performance, which future investors might use to make plans. Investors and creditors prioritize firm value, making investments and funding to businesses more selective. The value of a firm can be a signal for
investors when making investment decisions, as well as a standard for creditors when making business loans because it reflects how successfully the company manages its assets in paying off debt.

The value of the firm can guarantee the prosperity that will be obtained by investors if the stock price has a high value, therefore changes in stock prices are things that investors need to pay attention to before deciding to invest in the capital market because stock prices are volatile. Since the volatility of stock prices has an impact on the volatility of a business's value, it's critical to understand how profitability, liquidity, leverage, tax avoidance, and investment opportunities set affect firm value so that the company can improve its worth.

This study aims to investigate how profitability, liquidity, leverage, tax avoidance, and investment opportunity sets affect the firm value of the agricultural sector companies listed on the Indonesia Stock Exchange from 2017 until 2020 period.

2. THEORETICAL BACKGROUND

2.1. Grand Theory

2.1.1. Signaling Theory

According to the Signaling Theory, the information received from each party is unique. The information received differs because management has access to greater information about the company's prospects. Potential investors will use this signal to make investment decisions, therefore companies must be open in their disclosures so as not to harm investors, who will, in turn, harm the company [4]. According to that explanation, the relationship between signaling theory and firm value is that a good firm value in the eyes of investors can provide transparent information or provide a positive signal, and vice versa, because the main reason for investors to invest is to expect a maximum return. As a result, investors tend to avoid enterprises with a low firm value.

2.1.2. Pecking-Order Theory

Pecking-order theory, according to Febriana & Yulianto [5] is a paradigm for deciding funding decisions in which corporations must prioritize internal funding in the form of retained earnings first, then employ external funds via issuing debt if internal funds are insufficient. If cash flow is still insufficient, the final alternative is to issue stock, which is the most expensive and risky method of financing. According to that explanation, it can be concluded that the pecking order theory prioritizes the use of internal funds in investing and that only if there is a shortage of funds can the company make external loans using short-term or long-term financing in making investments, allowing the company's operational activities to continue. As a result, researchers seek to examine if there's a link between the pecking order theory and the funding sources used by agricultural sector enterprises in this study.

2.1.3. Agency Theory

The difference in interests between management and shareholders, according to Bangun & Natsir [6] is agency theory, where management tends to disclose information about good firm performance and high income that promotes the company's interests. Meanwhile, shareholders hope that management will provide accurate or transparent information so that investors may make informed decisions that will benefit them. When management attempts to make tax payments more effective by avoiding taxation without breaking the law, issues can arise. Tax avoidance, on the other hand, is carried out by management regardless of whether the procedure costs a high agent fee or is carried out by tax provisions, putting the company in danger of loss. As a result, the researcher wanted to see if this study had an agency problem.
2.2. Operational Theory

Firm value is the investor's perception of the firm's effectiveness in managing its resources in the current year, as reflected in the stock price [7]. Because the value of the firm is a tool for the market to determine the value of a company as a whole, it is an important component that investors must understand.

Profitability is a metric for evaluating a firm's opportunity to make more money as well as a measure of its success [8]. Profitability, as defined by the preceding explanation, is a company's ability to produce profits, and profitability is one of the most important criteria in evaluating firm value.

Liquidity is a measure of a company's capacity to support asset expansion while simultaneously servicing maturing obligations without suffering unacceptable losses [9]. By examining current assets and current liabilities, it is possible to determine if the business is in good or terrible financial position. If current assets surpass current liabilities, a company's financial situation is liquid or steady.

Leverage is a measure of how much debt is used to fund a company's assets or how much debt affects asset management [10]. If the company can use debt effectively and efficiently, it can help increase the value of the company.

Corporate tax avoidance, according to Lanis et al; [11] is an effective technique to improve corporate cash flow, but a lack of social responsibility deprives people of tax revenue. The company's reputation is projected to be harmed as a result of tax avoidance.

The investment opportunity set, according to Bella & Suaryana [12], is a collection of future investment prospects that depicts the expansion of a company's assets and equity and can indicate to investors whether it is viable to invest or not.

2.3. Research Hypothesis

2.3.1. The Effect of Profitability on Firm Value

According to Variaty & Natsir [13] Profitability has a significant and positive effect on a firm's value. This indicates that if a company's profitability increases, so do its firm value. As a result, the higher the profitability, the higher the firm's value, indicating that more investors want to put their money into the company. The following hypothesis can be developed based on the theory and some previous study findings

H1: Profitability has a positive and significant effect on Firm Value

2.3.2. The Effect of Liquidity on Firm Value

According to research conducted Oktaviarni et al; [14] s The hypothesis test of the regression coefficient of the liquidity on firm value revealed that the liquidity variable has a positive and significant effect on firm value. As liquidity increases, the company's value grows along with it. The higher the liquidity value, the stronger the company's ability to fulfil short-term obligations quickly and on time.

The following hypothesis can be developed based on the theory and some previous study findings:

H2: Liquidity has a positive and significant effect on Firm Value.

2.3.3. The Effect of Leverage on Firm Value

According to Annisa & Chabachib [15] discover that leverage has a significant and positive impact on the value of a firm. Leverage has a positive impact on firm value due to the effective and efficient utilization of debt-financed company assets. Increased profits will have a good impact on the firm's value, and efficient debt management will have a significant effect on the company's value.

The following hypothesis can be developed based on the theory and some previous study findings:

H3: Leverage has a positive and significant effect on Firm Value.
2.3.4. The Effect of Tax Avoidance on Firm Value

According to research conducted by Lestari & Ningrum [16], tax avoidance has a negative and considerable impact on firm value. This negative effect is generated by tax avoidance actions that minimize the content of financial performance information to enhance the company's worth, which is considered a source of investor apprehension to invest, thereby affecting the company's value drop. The following hypothesis can be developed based on the theory and some previous study findings:

**H4:** Tax Avoidance has a negative and significant effect on Firm Value

2.3.5. The Effect of Investment Opportunity Set on Firm Value

According to research conducted by Andaswari et al; [17], the outcomes of the investment opportunity set have a positive and significant effect on firm value. This positive consequence indicates that the company can effectively manage money and investment to maximize profit, which has the added benefit of raising the company's worth due to the huge number of investors interested in participating. The following hypothesis can be developed based on the theory and some previous study findings:

**H5:** Investment Opportunity Set has a positive and significant effect on Firm Value

### 3. RESEARCH METHOD

#### 3.1. Population and Sample

The population in this study was all agricultural sector companies listed on the IDX. The sample was chosen using a purposive sampling technique, and the sample that met the criteria consisted of 24 companies observed between 2017 and 2020, for a total of 96 observations.

#### 3.2. Operationalization of Variables

All data sources generated in this study are secondary data derived from searching for financial report data for agricultural sector companies on the IDX, Yahoo Finance, and other related sites. This study consists of 6 variables: five exogenous variables, profitability, liquidity, leverage, tax avoidance, investment opportunity set, and one endogenous variable, firm value. A ratio scale is used to measure variables.

##### 3.2.1. Firm Value

According to [8] Tobin's Q is a performance measuring ratio that compares two valuations of the same asset,

\[
\text{Tobin's Q} = \frac{EMV + Debt}{EBV + Debt}
\]

##### 3.2.2. Profitability

According to [18] Return on Assets (ROA) is a ratio or measure often used to analyze a company's ability to profit from investment operations.

\[
ROA = \frac{\text{net income}}{\text{total assets}}
\]

##### 3.2.3. Liquidity

According to Reschiwati et al; [7] Current ratio (CR) is utilized to illustrate the company's operating capabilities.
3.2.4. Leverage

According to [10], the Debt to Assets Ratio (DAR) is a ratio that describes the capital structure of a company’s total debt compared to its assets.

\[
DAR = \frac{\text{total debt}}{\text{Total Assets}}
\]

3.2.5. Tax Avoidance

According to Herawati & Ekawati [19], CETR is a suitable measuring instrument for assessing tax avoidance, because there is no effect of projected expenses.

\[
CETR = \frac{\text{Cash Tax Paid}}{\text{Total Earning Before Tax}}
\]

3.2.6. Investment Opportunity Set

According to [17], MBVA is a comparison between market ratio and total assets.

\[
MBVA = \frac{\text{Total Asset} - \text{Total Equity} + (\text{Price} \times \text{Outstanding Share})}{\text{Total Asset}}
\]

3.3. Data Analysis

Multiple linear regression is used to see if two or more independent variables affect dependent variable. The following is how to write the multiple regression equation:

\[
Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e
\]

In estimating the model using panel data regression, one of the best models from the Fixed Effect Model, Random Effect Model, or Common Effect Model must be chosen by performing a series of Chow, Hausman, and Lagrange Multiplier tests. The tests performed on multiple linear analysis are as follows:

1. T-test. The t test is used to see how much of an influence the independent variables have on the dependent variable, where \(\alpha = 0.05\).
2. Coefficient of Determination Test \(R^2\)

According to [20], the Coefficient of Determination Test determines how much variance in the dependent variable can be explained by the independent variable.
4. RESULT AND DISCUSSION

4.1. Research Model

Based on the previous explanations, the schematic description of the framework is as follows:

![Diagram of Research Model]

**Figure 1** Research Model

4.2. Statistical Test Results

4.2.1. Description of The Research Subject

This study uses descriptive research methods to ensure that no data is manipulated during the collection process. This research provided a use of panel data, which is a combination of cross-section and time-series data. As a result of the data collection, 24 agricultural companies that are publicly listed on the Indonesia Stock Exchange match the predefined purposive sample criteria.

4.2.2. Description of The Research Object

The value of the company will be used as the dependent variable in this study, which will be proxied by Tobin's Q. ROA is used to proxy profitability, CR is used to proxy liquidity, DAR is used to proxy leverage, CETR is used to proxy tax avoidance, and MBVA is used to proxy Investment Opportunity Set as an independent variable. The data collected will be processed using EViews 9.0.

The sample selection was done by purposive sampling technique, where the sample that met the criteria were 24 companies. The criteria used in the selection of the research sample are presented in the following table:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies in the agricultural sector that provide complete financial reports and ratios based on the variables to be researched for the period 2017-2020.</td>
<td>41</td>
</tr>
<tr>
<td>Companies in the agricultural sector that have not been delisted from 2017-2020 have been chosen.</td>
<td>(17)</td>
</tr>
<tr>
<td>Companies have complete data related to the variables to be studied.</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL COMPANY</strong></td>
<td><strong>24</strong></td>
</tr>
<tr>
<td><strong>Total Observation Data</strong></td>
<td><strong>96</strong></td>
</tr>
</tbody>
</table>

(24 companies) × 4 years
4.2.3. Multicollinearity Test

According to the findings of the multicollinearity test, there is no strong correlation value greater than 0.90 between independent variables. As a result, there is no indication that the independent variables are multicollinear.

4.2.4. Panel Data Regression Model Selection

The Chow, Hausman, and Lagrange Multiplier Tests were used sequentially to select the best regression approach. The researcher’s level of reliability is $\alpha = 5\%$. The results of the Chow test recommend the fixed effect model as the best model, while the Hausman test recommend the random effect model as the best model so the LM test need to be done anymore. The result of the best model selection test is shown in Table 3.

| Table 2 The Result of Best Model Selection Test |
|-----------------|-----------------|-----------------|-----------------|
| Chow Test       | Hausman         | LM              | Best Model Selected |
| 0.00            | 1.00            | 0.00            | REM              |

4.2.5. Multiple Regression and T-Test Results

The effect of two or more independent variables on the dependent variable was shown using Random Effect regression analysis. The regression analysis of the independent variable on the dependent variable is shown in Table 3. The values in the t-statistic column and the Prob column show the results of the partial t-test where in this study a 5% level of significance (alpha) was used with a t-table of 1.96. If the value of Prob < 5% and t-Statistic> 1.96, the conclusion is that the independent variable has a significant effect on the dependent variable, whereas the coefficient column shows the direction and size of the independent variable's influence on the dependent variable.

| Table 3 Multiple Regression Results |
|-----------------|-----------------|-----------------|-----------------|
| Variable        | Coefficient     | t-Statistic     | Prob.           |
| C               | -0.700845       | -2.728926       | 0.0077          |
| ROA             | 0.292060        | 1.569575        | 0.1201          |
| CR              | 0.088381        | 2.076501        | 0.0408          |
| DAR             | 1.206338        | 3.890908        | 0.0002          |
| CETR            | 0.022430        | 1.008221        | 0.3161          |
| MBVA            | 0.840080        | 4.522787        | 0.0000          |

According to the results of the multiple linear analysis of firm value (Tobin’s Q), it is clear that CR, DAR, and MBVA all have a significant positive effect on Tobin’s Q, whereas ROA and CETR have no effect.

4.2.6. Coefficients of Determination ($R^2$) Test Results

The modified R-squared value is 0.8239, based on the results of the random effect regression model. This implies that the independent variables profit (ROA), liquidity (CR), leverage (DAR), tax avoidance (CETR), and investment opportunity set (MBVA) have explained 82.39 percent of the dependent variable, firm value (Tobin’s Q).
4.3. Discussion

The partial test statistic shows that liquidity, leverage, and investment opportunity set all have a positive and significant impact on firm value. Profitability and tax avoidance, on the other hand, have a favorable but small impact on firm value.

4.3.1. The Effect of Profitability on Firm Value

The results of tests on profitability variable (ROA) on firm value of agricultural sector has a T statistic of 1.5696 < t table 1.96 and a significance value is 0.1201 > 0.05 (α = 5%). It's higher than 0.05. As a result, H1 is rejected, indicating that profitability (ROA) has no effect on firm value. In addition, the coefficient value is 0.2921, which means the direction of this study shows positive results. This conclusion indicates in the positive direction, showing that a rise or fall in profitability causes the stock price to rise and fall, influencing the firm's value. The profitability variable (ROA) has an insignificant effect on firm value in this study due to an increase in profit followed by an increase in assets, resulting in small results for the profitability variable (ROA) in the sample and the possibility of the company in this study using its income to pay obligations, causing a return. As a result of the low returns, investors lose interest, and stock prices fall. The findings of this study match with those of [21] who found that ROA had a positive but insignificant impact on firm value.

4.3.2. The Effect of Liquidity on Firm Value

The results of tests on liquidity variable (CR) on firm value of agricultural sector prove that H2 is accepted because the liquidity variable (CR) has a T statistic of 2.0765 > t table 1.96 and a significance value of 0.0408 < 0.05 (α= 5%). Furthermore, the coefficient value is 0.0884, which means the direction of this study shows positive results. So, through the data above, it can be concluded that liquidity has a positive and significant effect on the firm value of the agricultural sector. This is because investors prefer companies with high liquidity because they are thought to be capable of effectively managing their assets in order to reach their short-term obligations. This statement is in line with the previous research by [22].

4.3.3. The Effect of Leverage on Firm Value

The results of tests on leverage variable (DAR) on firm value of agricultural sector prove that H3 is accepted because the leverage variable (DAR) has a T statistic of 3.8909 > t table 1.96 and a significance value of 0.0002 < 0.05 (α= 5%). Furthermore, the coefficient value is 1.2063, which indicates leverage variable (DAR) has a positive results on firm value (Tobin's Q). That is, as the company's profits increase, shareholders will receive a higher rate of return, and the firm would be able to afford to pay off all of its debts. The high value of leverage in this study contradicts the pecking order theory, which states that agriculture sector companies lack sufficient finances to run their operations with internal funds, necessitating the issuance of debt. This statement is in line with the previous research by [23].

4.3.4. The Effect of Tax Avoidance on Firm Value

The results of tests on tax avoidance variable (CETR) on firm value of agricultural sector has a T statistic of 1.0082 < t table 1.96 and a significance value of 0.3161 > 0.05 (α = 5%). It's higher than 0.05. As a result, H4 is rejected, indicating that tax avoidance variable (CETR) has no effect on firm value. Furthermore, the coefficient value is 0.0224, which indicates tax avoidance (CETR) has a positive direction on firm value (Tobin's Q). This insignificant effect happens because increasingly rigorous tax regulations make it difficult for businesses to locate a loophole to lower the amount of tax that must be paid. Therefore, businesses prefer to invest in other ways to raise their company's worth. This statement is in line with the previous research by [21].
4.3.5. The Effect of Investment Opportunity Set on Firm Value

The Relationship of investment opportunity set (MBVA) towards the firm value of agricultural sector prove that H5 is accepted because the investment opportunity set (MBVA) has a t-statistics of 4.5228 > t-table 1.96 and a significance value of 0.0000 < 0.05 (α = 5%). Furthermore, the coefficient value is 0.8401, which indicates investment opportunity set (MBVA) has a positive result on firm value (Tobin's Q). If the company can take advantage of investment opportunities and manage its assets effectively, it will have an impact on improving company profits, resulting in a higher rate of return for shareholders and the ability to pay off all of the company's debts. This statement is consistent with the findings of past research by [24].

5. CONCLUSION

It is concluded, based on past analysis and discussion that the independent variables liquidity, leverage, and investment opportunity have a positive and significant effect on the dependent variable firm value of the agricultural sector companies listed on the Indonesia Stock Exchange for the period 2017-2020. While the independent variable profitability and tax avoidance have a positive and insignificant effect on the dependent variable firm value of the agricultural sector companies listed on the Indonesia Stock Exchange for the 2017-2020 period. The most helpful suggestion is that companies pay special attention to all financial factors, particularly the debt ratio, which might send a negative signal to investors. In terms of future research, it is intended that it will not only discuss the variables discussed in this study but will also improve by adding more variables or employing mediating variables, as well as increasing the population and sample size used to produce better results.

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