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# The Effect of Biological Assets and Profitability on Company Value in Agricultural Companies on the Indonesia Stock Exchange in 2020-2024

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**ABSTRACT**

This study aims to analyze the influence of biological assets and profitability on firm value in agricultural companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. This study used a quantitative approach with multiple linear regression. The research sample was obtained through purposive sampling based on certain criteria, resulting in 15 agricultural companies with a total of 75 initial observations. After conducting a casewise diagnostic test, 15 outliers were removed, resulting in 60 observations for analysis. The data used were secondary data obtained from the companies' annual financial reports. The results of the classical assumption test indicated that the data met all assumptions, making it suitable for further analysis. The results of the study indicate that biological assets have a positive and significant effect on firm value, indicating that sound management and disclosure of biological assets can improve investor perceptions. Furthermore, profitability was also shown to have a positive and significant effect on firm value, indicating that a company's ability to generate profits is a crucial factor in increasing market confidence. Therefore, biological assets and profitability are determinants in increasing the value of agricultural companies in Indonesia.

**Keywords** *Biological Assets, Profitability, Firm Value.*

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## INTRODUCTION

The agricultural sector is a strategic sector in the Indonesian economy because it plays a vital role in providing food, absorbing labor, and contributing to national exports. Agricultural companies also have distinct characteristics from other sectors because they rely on biological processes such as plant growth, land productivity, and harvest cycles, which are heavily influenced by weather and climate conditions, as well as fluctuations in global commodity prices (Ramandani et al., 2025). These characteristics make agricultural companies' financial information more sensitive to changes in asset value and potential operational risks. In this context, company value is a key concern for

investors because it reflects market perceptions of a company's long-term prospects and health (Domo, 2022).

Enterprise value is a measure of how the market assesses a company's overall performance, prospects, and health. This value reflects how much investors value a company, based not only on its current financial condition but also on its growth potential and future profitability (Kemal Ramadhitya & Juliana Dillak, 2018). Enterprise value is typically measured through indicators such as Tobin's Q, Price to Book Value (PBV), or stock market value, which reflect investors' perceptions of management effectiveness, operational stability, and long-term profit potential. The higher the enterprise value, the greater the market's confidence in the company, which ultimately impacts the ease of obtaining funding, enhancing its reputation, and increasing its competitiveness in the industry (Feronika et al., 2023).

The phenomenon of corporate value in Indonesia's agricultural sector has become increasingly attractive with surging financial performance and the expansion of biological assets. However, this dynamic is also overshadowed by various governance issues that can threaten companies' reputations and market valuations. The 2021–2022 corruption case involving large corporations such as the Wilmar Group, Permata Hijau Group, and Musim Mas Group demonstrates the disparity between the high economic potential of agricultural companies and their governance practices. These companies possess valuable palm oil biological assets capable of generating significant profitability, but the misuse of export policies for corporate gain has resulted in state losses of up to IDR 17.7 trillion. The seizure and subsequent restitution of substantial funds by the Attorney General's Office indicates that seemingly high financial performance and profitability do not always reflect a company's true value if they are not supported by integrity, regulatory compliance, and responsible biological asset management. Consequently, legal and reputational risks can significantly devalue agricultural companies in the eyes of investors and the public (Idxchannel, 2025).

In addition to various governance issues that can affect market perception, such as the Wilmar Group case in the corruption case of crude palm oil (CPO) exports, the agricultural sector in Indonesia also has special characteristics that affect company value, namely the existence of biological assets. Agricultural companies are required to implement PSAK 69 Agriculture, which stipulates that biological assets in the form of living plants and animals undergoing biological transformation, such as growth, production, and reproduction, must be measured at fair value less costs to sell (Berliana Nur Maulida & Tumirin Tumirin, 2025). PSAK 69 has been effectively implemented in Indonesia since

January 1, 2018, as a form of convergence of national accounting standards with International Accounting Standard (IAS) 41 Agriculture, making its implementation mandatory for all entities operating in the agricultural sector. The implementation of this standard aims to increase the transparency, relevance, and comparability of agricultural companies' financial reports, considering that biological assets have unique characteristics in the form of biological transformation that cause asset values and financial performance to fluctuate significantly between periods. Thus, PSAK 69 is an important instrument in assessing the financial performance and value of agricultural companies more objectively and reliably in Indonesia.

In addition to biological assets, profitability also plays a significant role in shaping company value. Profitability reflects a company's ability to generate profits through the efficient utilization of managed assets (Kusuma & Priantinah, 2018). In the agricultural sector, profitability is heavily influenced by crop productivity, cost efficiency, weather risk management, and commodity price movements such as palm oil, rubber, and sugarcane. Companies with high profitability generally receive a positive market response because they are perceived as capable of operating stably despite facing high biological risks (Kusuma & Priantinah, 2018). However, many agricultural companies report fluctuating and unstable profitability due to their dependence on natural factors and the fluctuating fair value of biological assets.

Empirical findings from previous research on the influence of biological assets and profitability on firm value still show inconsistent results. Some studies find that substantial biological assets can increase firm value because they are considered to reflect production capacity and future earnings potential. However, other studies show that biological assets do not always contribute to increased firm value, especially when the fair value of biological assets is volatile and carries high biological risk, creating uncertainty for investors. Profitability also shows mixed results: some studies state that profitability has a positive effect on firm value, while others conclude there is no effect because the profitability of agricultural companies is heavily influenced by fluctuations in commodity prices, weather conditions, and other external factors (Egnes et al., 2023). This inconsistent result, as seen in studies by Aliefianto & Nugroho (2025), Rahman et al. (2023), Egnes et al. (2023), Sibuea & Setiawati (2021), and Domo (2022), highlights a research gap that is important to re-examine, particularly in the context of agricultural companies on the IDX in the recent period.

This study offers a novelty by focusing on the influence of biological assets and profitability on firm value in the Indonesian agricultural sector for the

2020–2024 period, which has not been widely explored in the post-pandemic context and the full implementation of PSAK 69. Unlike previous studies that have focused on the manufacturing and financial sectors, this study examines the agricultural sector, which has unique characteristics such as biological processes, asset value volatility, and high operational uncertainty. This study also expands the literature by re-examining the influence of biological assets and profitability on firm value, considering the inconsistencies in previous research results. Therefore, this study proposes the title: "The Influence of Biological Assets and Profitability on the Value of Agricultural Companies Listed on the Indonesia Stock Exchange for the 2020–2024 Period."

## RESEARCH METHODS

This study uses a quantitative approach with the aim of analyzing the influence of biological assets and profitability on firm value in agricultural sector companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. The study population includes all agricultural companies listed on the IDX during that period, with an initial total of 24 companies. The sampling technique used was purposive sampling with certain criteria, namely companies that are consistently listed during the study period, publish complete annual financial reports, disclose biological asset information in accordance with PSAK 69, and have complete data related to the research variables. Based on these criteria, 15 companies were obtained as samples with a total of 75 observations over five years. The data used is quantitative data sourced from secondary data in the form of annual financial reports obtained from the official website of the Indonesia Stock Exchange and other supporting sources, with the data collection method using documentation techniques.

The variables in this study consist of firm value as the dependent variable measured using Price to Book Value (PBV), and biological assets and profitability as independent variables measured using Biological Asset Intensity and Return on Assets (ROA), respectively. To ensure clarity and consistency of measurement, each variable is operationally defined in accordance with accounting standards and related literature. The data analysis technique used is multiple linear regression to examine the effect of biological assets and profitability on firm value. Prior to the regression test, the data were first analyzed using descriptive analysis and tested through classical assumption tests including normality, multicollinearity, heteroscedasticity, and autocorrelation tests. Next, the t-test was used to partially examine the influence of independent variables, while the coefficient of determination ($R^2$)

was used to assess the model's ability to explain variations in firm value. The entire data analysis process was carried out using SPSS version 27 software.

## RESULT AND DISCUSSION

### Multiple Linear Regression Analysis

Multiple linear regression analysis is used to simultaneously determine the effect of two or more independent variables on a single dependent variable. This method aims to determine the direction and magnitude of the influence of each independent variable on the dependent variable, assuming a linear relationship. In this study, multiple linear regression analysis was used to analyze the effect of biological assets and profitability on firm value in the agricultural sector companies that served as the research sample.

**Table 1.**
**Results of Multiple Linear Analysis**

| Model | Coefficient B | Direction of Influence | Information |
|---|---|---|---|
| (Constant) | 0.393 | Positive | The value of the Company Value variable |
| Biological Assets | 0.104 | Positive | Biological Assets Increase Company Value |
| Profitability | 0.015 | Positive | Profitability increases Company Value |

Source: data processing using SPSS27, 2026.

Based on the results of the multiple linear regression analysis presented in Table 1, the regression equation formed is as follows:

$$NP = 0.393 + 0.104\ AB + 0.015\ ROA + e$$

The interpretation of each regression coefficient is as follows:

1. The constant value of 0.393 indicates that if Biological Assets and Profitability are considered to be zero or constant, then the Firm Value is 0.393. This constant value reflects the baseline level of Firm Value without being influenced by the independent variables in the model.
2. The Biological Asset regression coefficient of 0.104 indicates that every one-unit increase in Biological Assets will increase Firm Value by 0.104, assuming other variables remain constant. This indicates that the greater the management and disclosure of biological assets, the greater the firm value tends to increase.
3. The profitability regression coefficient of 0.015 indicates that every one-unit increase in profitability will increase firm value by 0.015, assuming other variables remain constant. This finding indicates that a

company's ability to generate profits plays a role in increasing investors' perceptions of firm value.

Overall, the regression results show that Biological Assets and Profitability have a positive effect on Company Value, so that these two variables are important factors in increasing company value in the agricultural sector.

**Coefficient of Determination Test**

The coefficient of determination test is used to assess the extent to which an independent variable explains variation in the dependent variable in a regression model. This test is performed by examining the Adjusted R-Square value in the Model Summary table from SPSS data processing. The Adjusted R-Square value is considered more accurate than R-Square because it adjusts for the number of independent variables and sample size, thus providing a more accurate picture of the model's strength in explaining the phenomenon under study.

**Table 2.**
**Determination Coefficient Test**

| Model Summary | | | | |
|---|---|---|---|---|
| **Model** | **R** | **R Square** | **Adjusted R Square** | **Standard Error of the Estimate** |
| 1 | .660 [a] | .436 | .416 | .315581 |
| a. Predictors: (Constant), Profitability, Biological Assets | | | | |

Source: data processing using SPSS27, 2026.

Based on Table 2, the correlation coefficient (R) value of 0.660 indicates a strong relationship between the Biological Asset and Profitability variables on Firm Value. The R Square value of 0.436 indicates that 43.6% of the variation in Firm Value can be explained by the two independent variables. Meanwhile, the Adjusted R Square value of 0.416 indicates that after adjusting for the number of variables and research samples, 41.6% of the variation in Firm Value can be explained by the regression model, while the remaining 58.4% is influenced by other factors outside the research model, such as macroeconomic conditions, management policies, ownership structure, and other variables not studied. This indicates that the regression model has quite good explanatory power, but there are still other variables that have the potential to influence Firm Value.

**t-test**

The t-test is used to determine the partial effect of each independent variable on the dependent variable, assuming that the other independent variables are constant. This test is conducted by comparing the calculated t-value and the significance level (Sig.) with the test criteria. If the calculated t-value is <0.05 or the calculated t-value is greater than the t-table, then the independent variable is declared to have a significant effect on the dependent

variable. The results of the t-test provide a basis for decision-making to accept or reject the hypothesis formulated in the study.

**Table 3. t-test**

| Hypothesis | Independent Variables | t count | Sig. | Results |
|---|---|---|---|---|
| H1 | Biological Assets | 6,598 | 0.001 | Accepted |
| H2 | Profitability | 2.123 | 0.038 | Accepted |

Source: data processing using SPSS27, 2026.

Based on the t-test results in Table 3, the Biological Asset variable has a calculated t-value of 6.598 with a significance level of 0.001, which is smaller than 0.05. This result indicates that Biological Assets have a significant effect on the dependent variable, thus hypothesis H1 is accepted. This finding indicates that the management and disclosure of biological assets owned by agricultural companies play a significant role in influencing company value, because biological assets are the main source of operational activities and economic potential that can improve investor perceptions of the company's performance and prospects.

The test results show that the Profitability variable has a t-value of 2.123 with a significance level of 0.038, which is smaller than 0.05. This indicates that Profitability has a significant effect on the dependent variable, so that the H2 hypothesis is accepted. This finding indicates that a company's ability to generate profits is an important factor influencing company value, because a higher level of profitability reflects good financial performance and increases investor confidence in the company's sustainability and business prospects.

**Discussion**

**Biological Assets Influence Company Value**

Based on the results of the hypothesis testing, the Biological Asset variable was proven to have a positive and significant effect on Company Value. This is indicated by the calculated t-value of 6.598 with a significance level of 0.001, which is less than 0.05. This finding indicates that the greater the value of biological assets owned by an agricultural company, the company's value tends to increase. Biological assets, as the primary asset in agricultural companies, play a crucial role in creating future economic value, thus becoming a primary concern for investors in assessing a company's prospects.

Biological assets represent an agricultural company's primary productive resources, such as live plants and animals, which directly contribute to revenue and business sustainability. Proper biological asset management demonstrates a company's ability to optimize production potential and operational efficiency. This enhances market confidence in the company's performance and stability,

positively impacting its value, reflected in its share price and investor perception.

From a signaling theory perspective, information about the size and management of biological assets serves as a positive signal to investors. Companies with high-value biological assets signal good growth prospects and the ability to generate future cash flows. This positive signal reduces information asymmetry between management and investors, thereby increasing investment interest and ultimately driving increased company value.

The results of this study align with those of Domo (2022), who stated that the fair value of biological assets has a significant positive effect on firm value. Furthermore, research by Egnes et al. (2023) also found that biological asset disclosure positively impacts firm valuation. However, these results differ from those of Jumaidi Rahman et al. (2023), who stated that biological asset intensity had no effect on firm value. This discrepancy is likely due to differences in the study period, control variables, and the biological asset measurement approach used.

**Profitability Affects Company Value**

The results of the hypothesis testing indicate that profitability has a positive and significant effect on firm value, with a t-value of 2.123 and a significance level of 0.038. This finding indicates that agricultural companies that generate higher profits tend to have higher firm value.

Profitability reflects a company's ability to generate profits from its operational activities. A high level of profitability demonstrates management efficiency in managing assets, including biological assets, and the company's ability to maintain business sustainability. This condition increases investor confidence because stable and high profits are considered an indicator of good performance, thus increasing the company's value.

According to signaling theory, high profitability is a positive signal sent by management to the market. High profits indicate a company's good prospects and ability to generate returns for investors. This signal encourages a positive reaction from the capital market, increasing demand for the company's shares, and ultimately increasing the company's value.

The results of this study are consistent with the findings of Purba & Fuadi (2023) and Tambun et al. (2025), which stated that profitability has a positive effect on firm value. Furthermore, Dewanti & Karmudiandri's (2023) study also found that profitability plays a significant role in improving market perception of a company. However, these results differ from those of Egnes et al. (2023), which stated that profitability has no effect on firm value. This difference is likely due to differences in sectors, research periods, and sample characteristics.

## CONCLUSION

Based on the analysis and discussion of the research, it can be concluded that biological assets and profitability have a positive and significant influence on company value in agricultural sector companies listed on the Indonesia Stock Exchange for the 2020–2024 period. This finding indicates that good biological asset management in accordance with PSAK 69 can improve investor perception and trust in the company, while a high level of profitability reflects the company's ability to generate profits, which is a positive signal for the market. Therefore, optimizing biological asset management and improving profitability performance are important factors in efforts to increase company value sustainably.

Based on these conclusions, agricultural sector companies are advised to continuously improve the quality of management, measurement, and disclosure of biological assets in accordance with PSAK 69 and to maintain and increase profitability so that company value can consistently increase. For investors, the results of this study can be used as a consideration in making investment decisions by paying more attention to biological asset information and company profitability performance. Meanwhile, for future researchers, it is recommended to expand the research by adding other variables such as company size, corporate governance, audit quality, or the level of biological asset disclosure, as well as expanding the period and research objects to obtain more comprehensive and generalizable results.

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