

**THE INFLUENCE OF BIOLOGICAL ASSET INTENSITY, PROFITABILITY,  
AND FIRM SIZE ON BIOLOGICAL ASSET DISCLOSURE IN AGRICULTURAL  
COMPANIES**

Felicia Trifosam, Julianti Sjarief<sup>1</sup>  
Atma Jaya Catholic University, Indonesia

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**Abstract:** *This study aims to analyze the effect of biological asset intensity, profitability, and company size on biological asset disclosure. The population used in this study were agricultural companies listed on the Indonesia Stock Exchange (IDX) in 2020-2022 amounting to 73 companies. The sample of this study was obtained by purposive sampling method with a total of 72 data. The data used is secondary data obtained from the company's audited annual report obtained from the Indonesia Stock Exchange (IDX) website, namely [www.idx.co.id](http://www.idx.co.id). The method for conducting the analysis used is descriptive statistics and multiple linear regression analysis. Data processing is done with IBM SPSS Statistics software version 25. The results of this study indicate that profitability negatively affects the disclosure of biological assets. Meanwhile, biological asset intensity and company size have no effect on biological asset disclosure.*

**Keywords:** *Biological Asset Intensity, Profitability, Company Size, Biological Asset Disclosure*

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<sup>1</sup> Email: [julianti.sjarief@atmajaya.ac.id](mailto:julianti.sjarief@atmajaya.ac.id)

## 1. INTRODUCTION

Indonesia is globally recognized as a country with abundant natural resources. This leads a significant portion of the Indonesian population to utilize these natural biological resources by working as farmers. This profession, which leverages natural resources, falls within the agricultural sector, not only producing rice or wheat, encompassing the food crops sector, but also including forestry, plantations, livestock, and fisheries. Seeing the opportunity to develop the agricultural sector in a more modern way utilizing existing technology, companies based on agriculture, or agribusiness, have emerged.

Companies operating in the agricultural sector have their own characteristics in disclosing their assets, such as biological assets. According to Financial Accounting Standard Statement (*Pernyataan Standar Akuntansi Keuangan - PSAK*) Number 69 on Agriculture, a biological asset is a living animal or plant, including products from productive plants used in the production process or supply of agricultural products. Biological assets differ from other assets due to biological transformation, whereby biological assets undergo processes of growth, degeneration, procreation, and production. These processes result in additions or reductions in quality or quantity, the creation of new products, and the generation of new plants or animals, leading to changes in the quality or quantity of biological assets.

Every company needs to present its annual report. The presented annual report includes disclosures containing descriptive information about the company's assets, including biological assets, liabilities, equity, and operational activities. Biological asset disclosure refers to the disclosure of company activities and information regarding the transformation or management related to biological assets during the financial reporting period (Hayati & Serly, 2020). Disclosure of biological assets is important for agricultural companies, as it helps distinguish biological assets into their types, whether consumable biological assets, bearer biological assets, or mature and immature biological assets (Indonesian Institute of Accountants (IAI), 2022).

Biological asset disclosure can be influenced by several factors, including biological asset intensity, profitability, and firm size. Biological Asset Intensity depicts the magnitude of a company's investment in its biological assets, indicated by the disclosure of the biological asset value in the financial statements (Putri & Siregar, 2019). The greater the company's investment in biological assets, the higher its biological asset intensity, as biological assets are crucial assets for the company to disclose (Halim, 2022). A high biological asset intensity increases the need for broader biological asset disclosure to meet stakeholder information needs. Previous research by Putri and Siregar (2019) stated that biological asset intensity influences biological asset disclosure. Conversely, research by Zufriya et al. (2020) found that biological asset intensity does not affect biological asset disclosure.

Profitability is a ratio to measure a company's ability to generate profit. A high profitability ratio obtained by a company is expected to align with the completeness of biological asset disclosure presented in the financial statements (Rokhimah & Nurhayati, 2021). Agricultural companies use their biological assets for operational activities; thus, disclosing biological assets in financial statements is the company's responsibility to its shareholders (Zufriya et al., 2020). According to research by Sakinatunnisak and Budiwinarto (2020), profitability influences biological asset

disclosure. Conversely, Santoso and Handayani (2021) found that profitability has no effect on biological asset disclosure.

Firm size is a scale to determine the size of a company based on total assets, total sales, and share value (Putri & Siregar, 2019). Larger firm size reflects more complex operational activities and financial transactions, prompting larger companies to provide more detailed information, including more comprehensive biological asset disclosure in their annual reports. Research results by Rokhimah and Nurhayati (2021) stated that firm size influences biological asset disclosure. Conversely, research by Alfiani and Rahmawati (2019) stated that firm size has no effect on biological asset disclosure.

## 2. LITERATURE REVIEW

### **Stakeholder Theory**

Stakeholder theory reveals that a company is not only oriented towards its own interests but also needs to provide information about its operational activities to stakeholders (Hayati & Serly, 2020). Stakeholders need information regarding company activities that can influence their decision-making.

### **The Effect of Biological Asset Intensity on Biological Asset Disclosure**

Biological asset disclosure tends to increase with a company's biological asset intensity. Higher biological asset intensity means a greater company investment in biological assets, obliging the company to disclose its biological assets in more detail and transparently to meet stakeholder information needs (Utami & Putri, 2023). Research by Putri and Siregar (2019) showed an effect of biological asset intensity on biological asset disclosure. The larger the biological assets a company owns, the greater its tendency to provide complete information to financial statement users. Research by Hayati and Serly (2020) also found that biological asset intensity has a positive effect on biological asset disclosure. Disclosing biological asset intensity information helps stakeholders understand the proportion of the company's investment in biological assets. Furthermore, according to research by Halim (2022), biological asset intensity also positively affects biological asset disclosure. Companies that have invested most of their funds in biological assets are obliged to disclose biological assets more completely to provide information to stakeholders.

### **H<sub>1</sub>: Biological asset intensity affects biological asset disclosure**

### **The Effect of Profitability on Biological Asset Disclosure**

The profitability ratio obtained by a company is expected to align with the completeness of biological asset disclosure presented in the financial statements. Higher profitability ratios obtained by a company should correspond to more complete biological asset disclosure in the financial statements (Rokhimah & Nurhayati, 2021). Research by Sakinatunnisak and Budiwinarto (2020) stated that profitability positively affects biological asset disclosure. The higher a company's profitability, the more complete the biological asset disclosure in its financial statements. This aligns with stakeholder theory, which states the company's responsibility to meet the information needs of its stakeholders to maintain their support. Similarly, research by Setiadi et al. (2022) also argues that profitability positively affects biological asset disclosure. Linked to stakeholder theory, profitability serves as a benchmark for assessing company performance and a

consideration for investors investing in a company. Higher profitability means the company has greater financial resources, enabling it to disclose information to investors more broadly. Thus, high profitability encourages companies to disclose biological asset information more completely.

**H<sub>2</sub>: Profitability affects biological asset disclosure**

**The Effect of Firm Size on Biological Asset Disclosure**

The larger the total assets owned, the larger the firm size, and thus the greater the responsibility to stakeholders, one form of which is through complete biological asset disclosure. This aligns with stakeholder theory, stating that stakeholders can know all information related to company activities, visible from disclosures in the annual report. Research results by Halim (2022) and Rokhimah and Nurhayati (2021) revealed that firm size positively affects biological asset disclosure. Large companies tend to provide more complete disclosures in financial statements, including company biological asset information. These results are also consistent with research by Santoso and Handayani (2021), which explains that firm size positively affects biological asset disclosure. The larger the firm size, the greater the stakeholder responsibility in decision-making, especially concerning the company. Therefore, large companies are required to provide broader biological asset disclosure to minimize stakeholder decision risks.

**H<sub>3</sub>: Firm size affects biological asset disclosure**

**3. RESEARCH METHOD**

**Population and Sample**

This study uses public agricultural companies listed on the Indonesia Stock Exchange (IDX) from 2020 to 2022, totaling 73 companies, as the population. The sample was selected using purposive sampling, resulting in a sample size of 72 data points.

**Data Analysis Technique**

The data analysis methods are descriptive statistical analysis and multiple linear regression analysis. Testing was conducted using IBM Statistical Package for Social Sciences (SPSS) version 25.0.

**Operational Variable Definitions**

**Dependent Variable**

**Biological Asset Disclosure**

Biological asset disclosure is the presentation of information regarding the transformation or management of the company's biological assets, measured in this study using the Wallace Index. Each item disclosed in the company's annual report is given a score of 1, while undisclosed items are given a score of 0; then all disclosed items are summed. Disclosed items are identified from the notes to the financial statements.

**Independent Variables**

**Biological Asset Intensity**

Biological asset intensity describes the magnitude of the company's investment in biological assets, measured in this study by the formula: Biological Assets divided by Total Assets.

### **Profitability**

In this study, profitability is measured by Return on Equity (ROE) using the formula: Earnings After Interest and Tax divided by Total Equity. ROE is used to assess the company's capacity to generate profit after tax and to evaluate the efficiency level of using and managing its own capital (Joulanda & Wahidawati, 2021).

### **Firm Size**

The firm size variable in this study is measured by the natural logarithm (Ln) of the company's total assets, as the natural logarithm can simplify the nominal total asset value without changing its actual value.

## **4. RESULTS AND DISCUSSION**

### **Descriptive Statistical Analysis**

The biological asset disclosure variable obtained a minimum value of 14 items from PT Estika Tata Tiara Tbk. in 2022 and PT BISI International Tbk. in 2020 and 2021. The maximum value was obtained from PT Pradiksi Gunatama Tbk. in 2020 and 2021, with 24 items. The average value was 19.49 items, with a standard deviation of 2.123 items. The biological asset intensity variable obtained a minimum value of 0% from PT Prasadha Aneka Niaga Tbk. in 2022 and a maximum value of 5.25% from PT Cisadane Sawit Raya Tbk. in 2022. This variable has an average value of 1.84%. The profitability variable obtained a minimum value of -148.02% from PT Prasadha Aneka Niaga Tbk. in 2021 and a maximum value of 76.88% from PT Central Proteina Prima Tbk. in 2021. Furthermore, the average value obtained was 8.51%, and the standard deviation value was 27.38%. The firm size variable ( $X_3$ ) obtained a minimum value from PT Estika Tata Tiara Tbk. in 2022 with an Ln value of 27.1449 (equivalent to Rp615,017,828,200), while the maximum value was obtained from PT Smart Tbk. in 2022 with an Ln value of 31.3829 (equivalent to Rp42,600,814,000,000).

### **Multiple Linear Regression Analysis**

#### **Classical Assumption Test Results**

The Normality test using the One-Sample Kolmogorov-Smirnov test resulted in an Asymp. Sig. (2-tailed) value of 0.099. This indicates that the data in the regression model is normally distributed because the significance value is greater than 0.05. The Multicollinearity test, by examining the tolerance and VIF (Variance Inflation Factor) values, showed tolerance values for all independent variables  $> 0.10$  and VIF values  $< 10$ . This indicates no symptoms of multicollinearity in the regression model. The Autocorrelation test using the Durbin-Watson test (Ghozali, 2018) obtained a Durbin-Watson value of 2.157. With a total sample of 72 data points and 3 independent variables, the upper limit ( $d_u$ ) and the limit  $4 - d_u$  from the Durbin-Watson table are 1.7054 and 2.2946, respectively. The result is  $d_u < d < 4 - d_u$ , which is  $1.7054 < 2.157 < 2.2946$ , indicating no positive or negative autocorrelation. The Heteroscedasticity test was conducted by examining the scatterplot graph. The figure below shows that the data points do not form a specific pattern, like a wave or widening then narrowing. The data points are also randomly scattered above and below zero on the Y-axis, concluding that heteroscedasticity does not occur in the regression model.

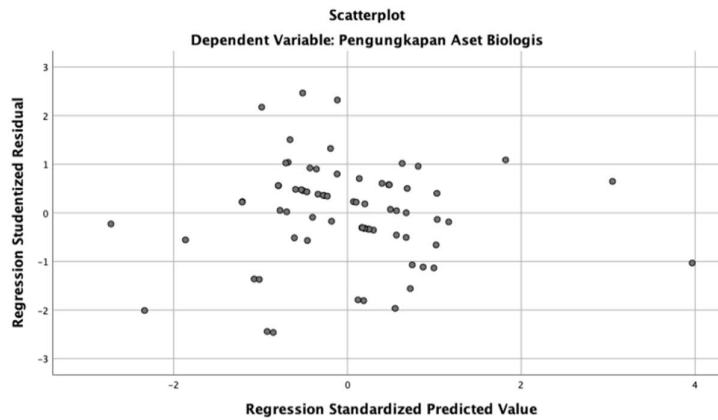


Figure 1. Scatterplot

**Goodness of Fit Model  
F Statistical Test**

The test results show a significant value for biological asset intensity, profitability, and firm size of 0.025, which is less than 0.05. Therefore, the regression model of biological asset intensity, profitability, and firm size collectively influences biological asset disclosure.

**Coefficient of Determination**

The adjusted R<sup>2</sup> value obtained is 0.089, indicating that the variables (biological asset intensity, profitability, and firm size) can explain 8.9% of the variation in the biological asset disclosure variable, while the remaining 91.1% is influenced by other factors not included in this research regression model.

**Hypotheses Testing Results**

Table 1. t Statistical Test Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.936	7.379		.804	.424
	Biological Asset Intensity	6.991	20.115	.040	.348	.729
	Profitabilitas	-.027	.009	-.350	-2.940	.004
	Ukuran Perusahaan	.460	.248	.218	1.854	.068

**Discussion**

**The Effect of Biological Asset Intensity on Biological Asset Disclosure**

Hypothesis testing results show a significance value of 0.729, greater than the predetermined significance level of 0.05. Thus, it is concluded that the biological asset intensity variable does not affect biological asset disclosure. On average, biological asset intensity obtained a value of 0.018461 or 1.846% of total assets. This indicates that the average ownership of biological assets in the companies sampled in this study is small, which may cause biological asset intensity to have no effect on disclosure. The magnitude of biological asset intensity does not influence the disclosure of biological assets in a company's annual report.

Hasil These results are consistent with research by Zufriya et al. (2020), Alfiani and Rahmawati (2019), and Aliffatun and Sa'adah (2020), which state that

biological asset intensity does not affect biological asset disclosure. Companies will certainly disclose their biological assets in their financial statements regardless of the level of biological asset intensity because biological assets are the main assets of agricultural companies. High biological asset intensity does not guarantee the breadth or completeness of biological asset disclosure. Therefore, in their decision-making, stakeholders do not consider biological asset intensity as a benchmark for a company's biological assets. However, these results are inconsistent with findings from Putri and Siregar (2019) and Hayati and Serly (2020), which stated that biological asset intensity positively affects biological asset disclosure.

### **The Effect of Profitability on Biological Asset Disclosure**

From the hypothesis test results, it was found that profitability has a significance value of 0.004, which is smaller than the predetermined significance level of 0.05. However, profitability obtained a beta coefficient of -0.027. This indicates that profitability affects biological asset disclosure in a negative direction. The completeness of biological asset disclosure is inversely related to the high profitability ratio. Companies with high profitability ratios do not always disclose their biological assets completely and transparently. This is because companies with high profitability ratios already demonstrate good performance through those high ratios, leading them to deem it unnecessary to disclose their biological assets more completely. Stakeholder trust in the company is not solely based on the disclosure of biological assets as characteristic assets of agricultural companies; stakeholders focus more on the profit received by the company.

These results are consistent with research by Sakinatunnisak and Budiwinarto (2020) and Riski et al. (2019), which state that profitability affects biological asset disclosure, although the direction of the result differs (their studies found a positive relationship where higher profitability leads to wider disclosure). Similarly, research by Setiadi et al. (2022) found that profitability affects biological asset disclosure (positively). High profitability ratios indicate substantial company resources, thus increasing the company's responsibility to stakeholders. However, this study differs from the results of Zufriya et al. (2020) and Santoso and Handayani (2021), which revealed that profitability does not affect biological asset disclosure.

### **The Effect of Firm Size on Biological Asset Disclosure**

Hypothesis testing results show a significance value of 0.068, greater than the predetermined significance level of 0.05. It can be concluded that the firm size variable does not affect biological asset disclosure. Firm size obtained an average value of Ln 29.7041, a minimum value of Ln 27.1449, and a maximum value of Ln 31.3829. This indicates a small range between the minimum, average, and maximum values, meaning the companies used as samples in this study are estimated to be similarly sized. Agricultural companies with large total assets do not necessarily have a large proportion of biological assets. Therefore, firm size does not guarantee that an agricultural company will pay full attention to the completeness of its biological asset disclosure, as every company has an obligation to disclose its biological assets in its annual report as a form of responsibility to stakeholders. Furthermore, large companies generally tend to guard their corporate information more closely from the public, so there is no guarantee that disclosure in the annual reports of larger companies will be more complete and detailed (Sa'diyah, Dimiyati, & Murniati, 2019).

This research has results consistent with findings from Sa'diyah et al. (2019) and Alfiani and Rahmawati (2019), which state that firm size does not affect biological asset disclosure. Agricultural companies with large total assets do not necessarily have large total biological assets, thus not ensuring the completeness and breadth of their biological asset disclosure compared to agricultural companies with smaller total biological assets. This is because agricultural companies with small total biological assets also have an interest in attracting investor attention by still disclosing their biological assets. These results differ from the findings of Rokhimah and Nurhayati (2021), Halim (2022), and Santoso and Handayani (2021), which stated that firm size affects biological asset disclosure.

## **5. CONCLUSION**

Based on the research results, it can be concluded as follows: (1) Biological asset intensity does not affect biological asset disclosure; (2) Profitability negatively affects biological asset disclosure; (3) Firm size does not affect biological asset disclosure.

### **Research Limitations and Suggestions**

This study still has limitations: the dependent variable was measured using a score of 0 and 1, and the adjusted R-square value obtained was 0.089 or 8.9%. Based on these limitations, several suggestions are offered: using other independent variables such as ownership concentration, company growth, or level of internationalization, and using fractional regression analysis if the dependent variable measurement uses a score of 0 and 1.

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