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ANALYSIS OF THE IMPACT BIOLOGICAL ASSET ACCOUNTING ON INVESTMENT DECISION IN THE PLANTATION INDUSTRY INDONESIA

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ABSTRACT

This study aims to analyze the impact of biological asset accounting on investment decisions in the plantation industry in Indonesia. The plantation industry plays an important role in the economy that utilizes the uniqueness of biological assets as a focus in its production activities. Accounting for biological assets has a crucial role in measuring and reporting the value of biological assets which will ultimately affect investment decisions in the plantation industry. The research method of this research is included in quantitative research with a case study approach conducted on plantation industry companies using purposive sampling techniques with the criteria that are listed on the IDX from 2019 to 2022 resulting in 25 samples of plantation industry companies. The data used involves secondary data which will be analyzed using the SPSS application in conducting multiple linear regression analysis that analyzes the relationship between biological asset accounting and investment decisions and a paired t-test is conducted to compare differences before and after the application of biological assets accounting is carried out and what impact it has on investment decisions. The data analysis procedure in this study revealed interesting findings. Surprisingly, the application of biological asset accounting (PSAK 69, 2020 Adjustment) does not have a significant impact on investment decisions in the plantation industry. More interestingly, an equally strong finding showed that there were no significant differences in investment decisions before and after applying PSAK 69, 2020 Adjustment.

Keywords: Biological Asset Accounting, Investment Decision, Impact

INTRODUCTION

Indonesia's geographical superiority has given rise to a variety of natural resources such as wealth in the agrarian sector, for example agriculture and plantations, which are the driving force behind the progress and development of the nation's economy (Arisputra, 2021) . The distinctive feature of the plantation industry sector that is its advantage is the availability of land to support its management of various productive assets that contain sustainable economic value, such as biological assets which are important assets in industrial plantation production activities, for example oil palm, rubber, tea, sugar cane and cocoa (Ardiana and Augustine, 2021) .

Biological assets are a group of assets that have their own uniqueness compared to familiar assets in other industrial financial statements. The PSAK 69 standard defines biological assets as tangible assets of plants and animals with the characteristics of experiencing fluctuations in value from the growth process to harvesting and having a high risk of uncertainty, especially in the form of animals (PSAK 69 2020 Adjustments to Agriculture , 2020) . Biological assets experience unique changes both in quality and quantity within a certain period of time and are still undergoing a process of transformation even after these assets have produced a product (Ardiana & Agustina, 2021) . For example, biological assets such as oil palm trees that produce palm fruit output. This palm fruit is then transformed into a product such as palm oil.

The management of the economic value of biological assets by the majority of companies in the plantation industry in Indonesia is guided by the accounting for biological assets, namely PSAK 69 concerning Agriculture which adopts in its entirety IAS 41 concerning Accounting for Agriculture. The accounting standard for biological assets in PSAK 69 bases the recording and measurement of the

value of biological assets on the fair value method replacing the previous approach which used the acquisition cost method approach.

Investment decisions are financial decisions related to capital invested in a business, both internal and external to the business (Fajaria and Zahrah, 2015) . Various factors influence investment decision making , namely the level of company profitability ratios which also involve investor confidence in the company (HRP Husaini, 2019) , the intrinsic value of shares (Hairul and Moin, 2022) , then financial literacy factors, financial experience, and locus of control investors (Nuryasman and Suprasta, 2020) . Other research also suggests that internal investors play a role in making investment decisions, namely investment bias behaviors, for example, excessive self-confidence and anchoring . (Jovianto et al., 2023) .

Through various previous elaborations, the phenomenon that the researcher wants to examine further is whether biological asset accounting applied by plantation industry companies in Indonesia can be one of the factors that influence investment decisions, this phenomenon arises from the assumption that biological asset accounting has a crucial role in measuring and reporting of the value of its assets which will ultimately influence investment decision making in the plantation industry in Indonesia.

THEORY, LITERATURE REVIEW, AND HYPOTHESIS

Signal Theory (Signalling Theory)

Signal theory was put forward for the first time in 1973 which stated that there was a relationship between two parties, namely internal parties whose role was to send an information signal to external parties that could be useful to investors as recipients of information signals (Spence, 1973) . Signal theory explains that companies have suggestions in providing financial report information to investors, which stimulates the provision of information, namely to reduce the occurrence of information asymmetry between companies and users of financial statements. (Damayanti, 2020) .

The relationship between signal theory and disclosure is growing in terms of the level of openness of giving positive signal information to stakeholders (interested parties/company shareholders). Disclosure of biological assets in accordance with PSAK 69 standards to attract investors' confidence that the company has been running according to the standards applied (Afiyanti, 2020) .

Biological Assets

Biological assets are a group of assets in the form of living plants and animals that experience at least four continuous biological changes consisting of growth, degeneration, production, as well as procreation or continuous biological changes in the quality and quantity of these assets (PSAK 69, 2020 Agricultural Adjustments , 2020) . Biological assets that have high economic value in Indonesia are generally managed in the plantation and livestock industry. Biological assets are in the form of living plants managed by the plantation industry which include annual crops, perennials, multi-harvest crops, horticultural crops, immature plants and mature plants (Ardiana dan Agustina, 2021) . Live plants owned by industrial plantation companies are generally intended for the company's normal activities or are not designated as stocks of goods ready for sale.

Biological Asset Accounting

Biological asset accounting is a branch of accounting that discusses how biological assets owned by companies should be treated. Appropriate treatment of biological assets is something that needs to be done because the benefits they have are related to the sustainability of the business of plantation industry companies and their role as a factor in the progress of the nation's economy (Nurhandika, 2018) . The standard statement that is currently used as a guideline by the company is PSAK 69, the 2020 adjustment.

Recognition

In PSAK No. 69, Recognition of biological assets has some of the same characteristics as asset recognition. An entity may recognize biological assets or agricultural products when the company controls the biological assets as a result of past events.

Measurement

In the annual adjustment to PSAK 69, the 2020 adjustment clarifies that the previous measurement requires entities not to take into account cash flows for financing assets, taxation or regrowth of biological assets after harvest to become an entity not to take into account cash flows for financing assets or regrowth of biological assets after harvest.

Disclosure

In PSAK 69, biological assets need to be disclosed. Disclosures made by the company are to disclose the combined profit or loss obtained during the current period when the initial recognition of biological assets and agricultural products, and fair value less costs to sell.

Presentation

In the financial statements, biological assets can be recognized and presented according to the biological transformation period as current assets or non-current assets.

Investation Decision

Investment decisions are decisions made by individuals and organizations regarding the assets they manage and have a direct effect on the return on assets received in the future (Dewantari et al., 2023) . Investment decisions can be a benchmark for the sustainability of a company's business, for example when a company does not have new investors investing, it is indicated that the company is not experiencing an opportunity to advance, so it is important for financial managers to consider the factors that influence investment decisions that have an impact on a long time scale. (Salim and Priscilla, 2019) . the factors that influence investment decisions include profitability (HRP Husaini, 2019) , the intrinsic value of shares (Hairul and Moin, 2022) , then the following factors consist of financial literacy factors, financial experience and locus of control owned by investors, known collectively. positively affect investment decision making (Nuryasman and Suprasta, 2020) .

Hypothesis Development

The impact of biological asset accounting on investment decisions in the plantation industry in Indonesia

Funding activities such as investment are important activities for companies in an industry to be able to maintain business continuity, increase company value, and to expand markets which causes competition between companies with one another (Ernawati and Rusliati, 2019). Investment decisions are a crucial element for the sustainability of an industry, including the plantation industry, which plays an important role in the country's economy, so it is important to maximize financial performance in order to increase the opportunity for interest options in investors' investment decisions. Biological asset accounting can be a place for companies to maximize their financial performance through good reporting quality so as to produce positive signals aimed at investors, which will directly influence investment decisions. Through accounting for biological assets, companies can make efforts to improve the recording and measurement of biological asset values and determine strict standards so as not to create variations in investor perceptions which will increase investor confidence in making investment decisions in the plantation industry. This is in line with research which has found that the higher the

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intensity of a company's biological assets, the greater the incentive to state information related to its biological assets (Sakinatunnisak et al., 2020) .

Based on this explanation, the hypothesis is expressed as follows:

H_1 : The application of biological asset accounting (PSAK 69 of 2020) has a significant impact on investment decisions in the plantation industry in Indonesia.

H_2 : There are significant differences in investment decisions before and after the application of biological asset accounting (PSAK 69 of 2020) in the plantation industry in Indonesia.

The framework of thought used in this study can be visualized as follows:

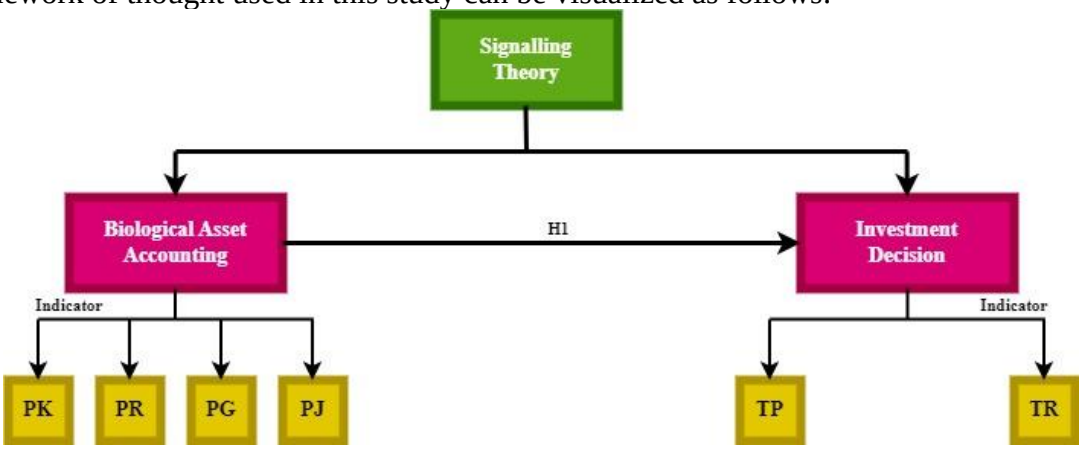

Figure 1, First Hypothesis Thinking Framework

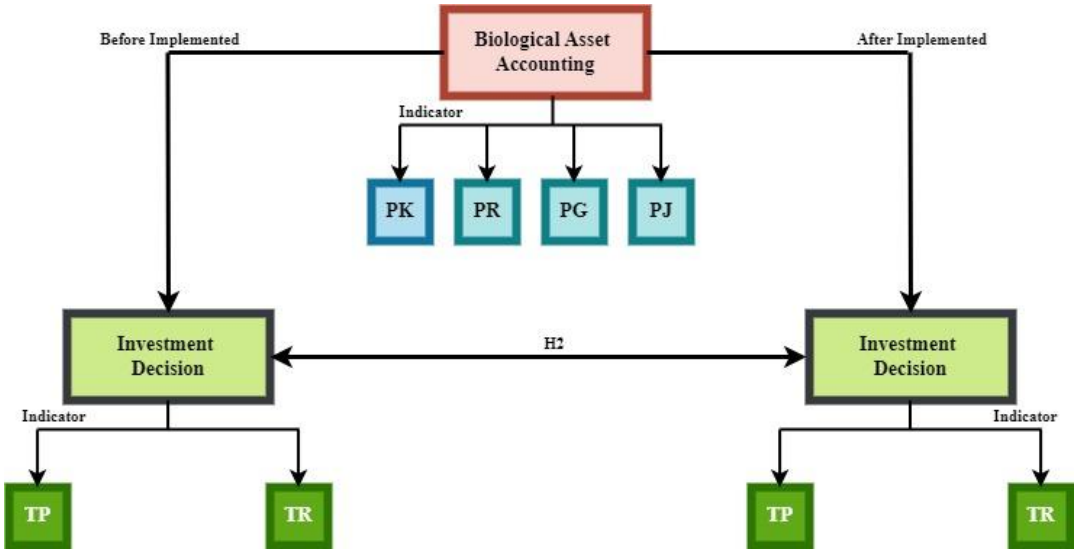

Figure 2, Second Hypothesis Thinking Framework

RESEARCH METHOD

This research uses a type of quantitative research approach and case studies. The phenomenon to be studied in this study is how biological asset accounting influences investment decisions in the plantation industry sector and compares whether there are differences in investment decision conditions before and after the application of biological asset accounting. The population used in this study are companies engaged in the plantation industry sector with an area coverage of Indonesia. Sampling uses a purposive sampling technique which will produce two sample sizes for two different types of

hypothesis testing. The use of purposive sampling technique was chosen because not all samples met the required criteria in the test.

The following sampling has been carried out to produce a sample size:

Table 1.
Sampling.

Criteria	Number of Selected Samples
Companies in the plantation industry sector are listed on the IDX	31
The company is listed on the IDX at least until 2022	31
The company manages biological assets as the focus of its production	25
Has stock value information starting in 2019	22
If there is no stock information in 2019, then you can consider using their share value data starting in 2020.	22

Source: Processed data, 2023

Based on Table 1, it is known that there were 25 samples selected for testing the first hypothesis and 22 samples selected for testing the second hypothesis.

Table 2.
Operational Research Variables

Variable	Indicator	Measurement Scale
Biological Asset Accounting (X)	1. Recognition 2. Measurement 3. Disclosure 4. Presentation	Binary Scale
Investment Decision (Y)	1. Rate of Return 2. Risk Level	Ratio Scale

Source: Processed data, 2023

Table 3 below shows how the variables and indicators in this study are measured.

Table 3.
Measuring Instruments

Variable	Indicator	Measuring Instruments
Biological Asset Accounting (X)	1. Recognition 2. Measurement 3. Disclosure 4. Presentation	Checklist method with Yes/No statement criteria. Weighting value "1" if Yes and "0" otherwise.
Investment Decision (Y)	1. Rate of Return	$\text{Simple Price Return} = \frac{\text{Rti}}{\text{Rt0} - 1}$
	2. Risk Level	$\text{Standar Deviasi} = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(R_i - \bar{R})^2}$

Source: Processed data, 2023

Method of collecting data

Data was collected by the observation method and reviewing literature using books, journals, articles, theses and several other related documents such as company annual reports, quarterly financial reports, as well as data related to the historical value of sample company shares accessed through several websites such as www.idx.com , www.investing.com , www.yahoofinance.com and the websites of sample companies.

Data analysis technique

Data analysis techniques used to test the first hypothesis include (1) Classical Assumptions Analysis namely Normality Test (Kolmogorov-Smirnov), Autocorrelation Test, Multicollinearity Test, and Heteroscedasticity Test, Hypothesis Test using Multiple Linear Regression Analysis, Simultaneous and Partial Significance Test , and analysis of the Coefficient of Determination. Furthermore, to test the second hypothesis, among others: (2) Shapiro – Wilk Normality Test and Paired Sample T -Test.

RESULTS AND DISCUSSION

Descriptive statistics

The descriptive statistics carried out in this study aim to identify and describe data centering measures; average (mean), standard deviation, minimum and maximum. The descriptive statistical test conducted is expected to provide an overview of each variable and indicator characteristics in this study. Table 4 shows the results of the descriptive statistical tests performed using SPSS version 26 software as follows:

Table 4.

Results of Descriptive Statistics

Variables and Indicators	Minimum	Maximum	Means	Standard Deviation
Recognition (PK)	2	5	4.25	0.680
Measurement (PR)	1	4	2.71	0.653
Disclosure (PG)	1	6	4.72	0.727
Presentation (PJ)	2	5	4.35	0.647
Investment Decision (IP)	-0.0656	1.0507	0.207520	0.1924903
N	**75**			

Source: Data processed by SPSS, 2023

It is known that the independent variable, namely biological asset accounting, is divided into four indicators, namely recognition (PK), measurement (PR), disclosure (PG) and presentation (PJ) and the dependent variable, namely the investment decision variable, each has a minimum, maximum and standard value. different deviations between indicators but having the same analysis results, namely the standard deviation value is smaller than the average indicating that the research data on all variables and indicators is less varied.

First Hypothesis Testing

Kolmogorov-Smirnov Normality Test

The data normality test is said to produce a normal distribution if the significance value exceeds the alpha value (0.05). This test uses the value of the Monte Carlo approach based on determining the Monte Carlo Sig. (2-tailed) > 0.05 is shown in Table 5 as follows:

Table 5.

Kolomogorov-Smirnov Normality Test

			Unstandardized Residuals
N			75
Normal Parameters [a, b]	Means		0.0000000
	std. Deviation		0.19012482
Most Extreme Differences	absolute		0.129
	Positive		0.129
	Negative		-0.097
Test Statistics			0.147
asymp. Sig. (2-tailed)			0.003c
Monte Carlo Sig. (2-tailed)	Sig.		0.155d
	95% Confidence Intervals	Lower Bound	0.148
		Upper bound	0.162

Source: Data processed by SPSS, 2023

Based on Table 5, it is known that the value of Monte Carlo Sig. (2-tailed) > Alpha value (0.155 > 0.05) with the implication that the data is normally distributed and fulfills the classical assumption test requirements.

Autocorrelation Test

The ideal multiple linear regression model is one that does not have autocorrelation symptoms or does not indicate the problem that the sample variance cannot describe the population variance. The results of the autocorrelation test in this study are shown in Table 6 below:

Table 6.
Autocorrelation Test Results
Summary Model [b]

Model	R	R Square	Adjusted R Square	std. Error of the Estimate	Durbin-Watson
1	0.156 [a]	0.024	-0.031	0.1954815	1,493

Source: Data processed by SPSS, 2023

Based on Table 6 above, the value of d = 1,493, the value of dL = 1,486 and the value of dU = 1,768 obtains a comparison of dL < d < Du 1,768 with an indication that it has not yet produced a clear conclusion, so further testing is needed using a non-parametric Run-Test. In further testing using the Run-Test test, the basis for making the decision is that autocorrelation occurs when the Asymp. Sig. (2-tailed) < alpha value (0.05). Table 7 shows the results of the Run-Test namely as follows:

Table 7.

Autocorrelation Test Results (Run Test)

Run Test

	Unstandardized Residuals
Test Value [a]	-0.03166
Cases < Test Value	37
Cases >= Test Value	38
Total Cases	75
Number of Runs	36
Z	-0.580
asymp. Sig. (2-tailed)	0.562

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Run Test

	Unstandardized Residuals
a. Median	

Source: Data processed by SPSS, 2023

The results of the above Run Test show that the Asymp. Sig. (2-tailed) > Alpha (0.562 > 0.05), thus indicating that there is no autocorrelation in the research data.

Multicollinearity Test

The multicollinearity test tests whether the regression model performed finds at least one relationship between biological asset accounting variables and investment decision variables. The results of the multicollinearity test of this study are presented in Table 8 below:

Table 8.
Multicollinearity Test Results

Model		Collinearity Statistics			
		partial	Part	tolerance	VIF
1	(Constant)				
	Recognition (PK)	0.062	0.061	0.793	1,260
	Measurement (PR)	-0.112	-0.110	0.930	1075
	Disclosure (PG)	0.051	0.050	0.639	1,564
	Presentation (PJ)	-0.153	-0.151	0.797	1,254

Source: Data processed by SPSS, 2023

From Table 8, we know that the tolerance value for each independent variable produces a value above 0.1 and a VIF value not exceeding 10, indicating that all indicators of biological accounting variables in this study are free of multicollinearity.

Heteroscedasticity Test

The heteroscedasticity test determines whether the resulting regression model has residual variance inequality where an ideal regression model is free of heteroscedasticity. The results of the heteroscedasticity test in this study are shown in Figure 3 below:

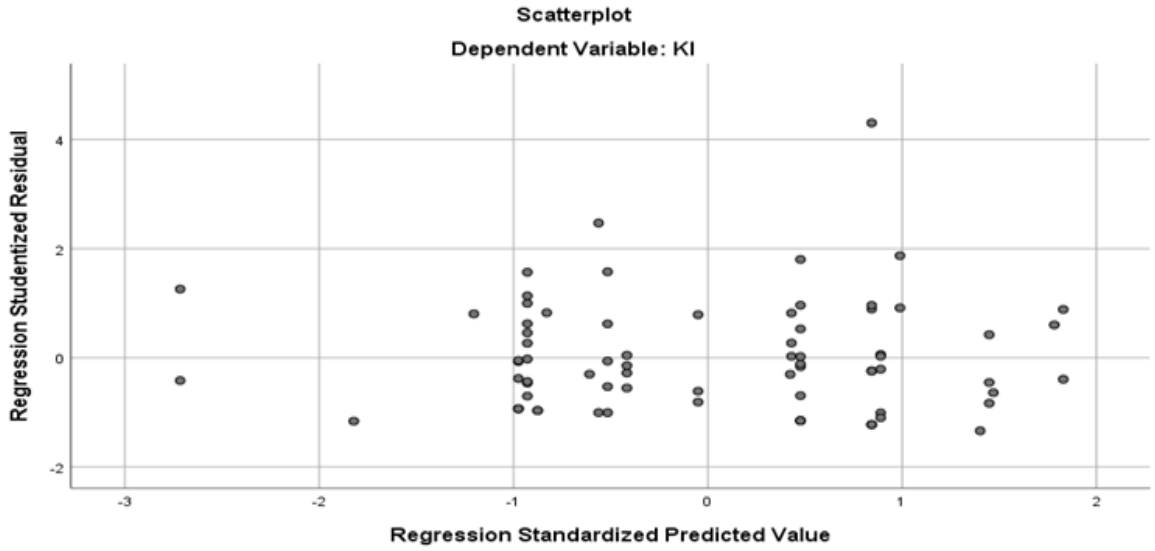

Figure 3, Heteroscedasticity Test Results

In Figure 3 above, the scattered points form uneven and unclear patterns both above and below the y-axis, indicating that there is no heteroscedasticity in this study's linear regression model.

Multiple Linear Regression Analysis

The objective of the multiple regression analysis was to identify and evaluate the significant impact of the individual accounting variables of biological assets on the investment decision variables. Multiple linear analysis results in this study are shown in Table 9:

Table 8.
Results of Multiple Linear Regression Analysis

Model		Unstandardized Coefficients B	std. Error	Sig.
1	(Constant)	0.203	0.218	0.356
	Recognition (PK)	-0.042	0.038	0.254
	Measurement (PR)	0.001	0.036	0969
	Disclosure (PG)	0.027	0.039	0.494
	Presentation (PJ)	0.012	0.039	0.753

Source: Data processed by SPSS, 2023

Based on table 4.8, the multiple linear regression equation in this study can be formulated as follows:

$$KI = 0.203 - 0.042PK + 0.001PR + 0.027PG + 0.012PJ + \varepsilon$$

The results of this multiple regression allow us to identify a linear relationship between indicators in the accounting variables of biological assets, namely indicators of recognition, measurement, reporting and presentation of investment decisions:

1. A constant value of 0.203 describes that if the constant value of recognition, measurement, disclosure, and presentation indicators in the accounting variables of biological assets is zero, then the value of the investment decision variable is 0.0469.
2. The regression coefficient value of the recognition indicator (PK) is 0.042, which is negative or there is an inverse relationship between the accounting variables of biological assets represented by the recognition indicator (PK) and the investment decision variable, whose interpretation is that the recognition indicator has no effect and is not significant on the investment decision variable, namely when the recognition indicator (PK) increases by 1 point it will reduce the value of the investment decision by 0.042.
3. The regression coefficient value of the measurement indicator (PR) of 0.001 is positive, indicating that if the measurement indicator (PR) increases by one point, it will affect the increase in the value of the investment decision variable by 0.001.
4. The regression coefficient value of the disclosure indicator (PG) of 0.027 is positive, indicating that if the disclosure indicator (PG) increases by one point, it will affect the increase in the value of the investment decision variable by 0.027.
5. The regression coefficient value of the presentation indicator (PJ) of 0.012 has a positive value indicating that if the presentation indicator (PJ) increases by one point, it will affect the increase in the value of the investment decision variable by 0.012.
6. ε is the standard error which represents other factors outside of this study.

Determination Coefficient Test

The results of the test for the coefficient of determination are presented in Table 10 below:

Table 9.
Determination Coefficient-test Results
Summary Model [b]

Model	R	R Square	Adjusted R Square	std. Error of the Estimate	Durbin-Watson
1	0.156a	0.024	-0.031	0.1954815	1,493

Source: Data processed by SPSS, 2023

Based on Table 10, it is known that the Adjusted R-square value has a value of 0.031 with a negative value considered as a value of 0 with an indication that all indicators representing accounting variables for biological assets are unable to explain the variance of investment decision variables with good quality. Then the R-square value shows a value of 0.024 indicating all indicators that represent biological asset accounting variables which explain investment decision variables only at the 2.4% level while others are explained by other variables outside this study.

Concurrent Significance Test (F Test)

The F test was carried out with the aim of proving whether all the indicators in the accounting variables of biological assets have a simultaneous influence, both significant and insignificant, on investment decision variables. Table 11 presents the results of the F test.

Table 10.
Simultaneous Significance Test Results (f-test)
ANOVA [a]

Model	Sum of Squares	df	MeanSquare	F	Sig.
1 Regression	0.067	4	0.017	0.438	0.781b

Source: Data processed by SPSS, 2023

Based on Table 11 above, it is obtained that the value of F_{table} = 2.503, F_{count} = 0.438 and Significance = 0.781 forming a comparison of the calculated $F_{value} < F_{table}$ and the significance value > alpha value. The comparison formed resulted in the decision that H_0 was accepted and H_1 was rejected.

Partial Significance Test (t-test)

The T-test has the objective of proving whether there are all indicators in the accounting variables of biological assets that have a partial or separate effect, the basis for making a decision is that H_0 is rejected and Ha is accepted if $T_{count} > T_{table}$ and significance value < alpha value. Table 12 below presents the results of the t-test that has been carried out, namely:

Table 11.
Partial Significant Results

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	std. Error	Betas	t	Sig.
1 (Constant)	0.203	0.218		0.930	0.356
Measurement (PK)	-0.042	0.038	-0.149	-1,127	0.264
Measurement (PR)	0.001	0.036	0.005	0.039	0969
Disclosure (PG)	0.027	0.039	0.102	0.688	0.494
Presentation (PJ)	0.012	0.039	0.042	0.316	0.753

Source: Data processed by SPSS, 2023

Based on Table 12 above, a $T_{table\ value}$ of 1,944 is obtained and it is known that the comparison formed is a $T_{count} < T_{table}$ and a significance value > alpha value. The comparison formed resulted in the decision that H_0 was accepted and H_1 was rejected.

Second Hypothesis Testing

Shapiro-Wilk Normality Test

The normality test was carried out on the distribution of the second hypothesis data using the Shapiro-Wilk approach based on decisions that the data is normally distributed if the significance value is greater than the alpha value (0.05). The resulting output is shown in Table 13 namely:

Table 12.
Shapiro-Wilk Normality Test Results

	Shapiro-Wilk		
	Statistics	df	Sig.
TP_Before Implementation	0912	22	0.051
TP_After Implementation	0.934	22	0.151
TR_Before Implementation	0.959	22	0.478
TR_After Implementation	0.918	22	0.068

Source: Data processed by SPSS, 2023

Based on Table 13 it is known that the significance value of each related indicator both before and after implementation was at a significance value that was greater than the alpha value resulting in a decision that the data was normally distributed.

Paired Sample T-Test

This test aims to determine whether there is a significant difference in investment decisions before and after the implementation of biological asset accounting in plantation companies in Indonesia. Based on the significance value ≤ alpha value (0.05), then H0 is rejected. Table 14 below shows the results of the paired sample t-test conducted, namely:

Table 13
Paired Sample T-Test Results

		Means		std. Error Means	t	df	Sig. (2-tailed)
Pair 1	TP_Before TP_After	-0.0070364	0.0305006	0.0065027	-1,082	21	0.291
Pair 2	TR_Before TR_After	0.0600545	0.3372381	0.0718994	0.835	21	0.413

Source: Data processed by SPSS, 2023

Based on Table 14 the results of the paired sample T-Test it is known that both the return rate and risk level indicators before and after the application of biological asset accounting (PSAK 69 2020 Adjustments) have a significance value that is greater than the alpha value, namely with the following description:

1. The rate of return before and after implementation has a significantly greater value than the alpha value (0.291 > 0.05), indicating that there is no significant difference in the rate of return in investment decisions before or after accounting for biological assets (PSAK 69 2020 Adjustment) is applied.
2. The level of risk before and after implementation has a significance value greater than the alpha value (0.413 > 0.05), indicating that there is no significant difference in the level of risk in

investment decisions before and after accounting for biological assets (PSAK 69 Adjustment of 2020) is applied.

Referring to this elaboration, the results of testing the second hypothesis produce H_0 accepted and H_1 rejected.

Discussion of the First Hypothesis Testing Results

Testing the first hypothesis in this study aims to investigate the possible impact of biological asset accounting variables on investment decisions in the plantation industry in a context that has not been widely studied. Our first initial hypothesis was that the application of biological asset accounting would have a significant impact on investment decisions in the Indonesian plantation industry. However, the results of the multiple linear regression analysis proved otherwise. Recognition and Valuation have their lowest coefficients of -0,042 and -0,001 respectively, suggesting a negligible impact on investment decisions. Logically, the application of all indicators in the accounting of biological assets, especially in recognition and measurement, should have at least an impact on investment decisions that is inversely proportional to the results of this study.

Empirically, in the context of the sample companies, biological assets such as rubber and oil palm tend to be included in the productive assets group rather than biological assets, in accordance with the accounting principles of PSAK 69 Agriculture. On the other hand, these productive plants have been recognized as part of fixed assets in accordance with PSAK 16 Fixed Assets. The existence of two different accounting frameworks creates complexity in the recognition and measurement of assets that have intrinsic biological characteristics.

This discrepancy raises questions about the impact of valuation differences on plantation investment decisions. More specifically, the low contribution of recognition indicators in their impact on investment decisions in the plantation industry may be largely due to differences in the way biological assets and productive assets are recognized under different PSAK. This phenomenon indicates the potential for bias in the analysis of investment feasibility conducted by stakeholders, including investors. Therefore, understanding the impact of asset recognition differences is essential to ensure proper investment decisions in a dynamic and challenging plantation environment.

Furthermore, there is theoretical evidence that is in line with the inconsistency of research results in the context of measurement indicators. One thing that needs to be considered is the use of two different measurement methods, namely the fair value method and the acquisition cost method (Ardiana and Agustina, 2021) . Presenting the value of biological assets through these two methods produces different numbers and presents advantages and disadvantages that must be considered carefully. The fair value method tends to give an actual market picture of the value of an asset, while the cost method is more concerned with the historical value associated with an investment that has been made.

In a broader scope, it is important for this research to reflect that the low impact given by measurement indicators on plantation industry investment decisions is a direct result of the differences in the use of the two measurement methods in PSAK 69. These findings make a significant contribution to understanding why the value of biological assets may not have a significant influence on investment decisions in the plantation industry. The discrepancy in the fair value approach and acquisition cost by the company will lead to different interpretations regarding the actual value of biological assets in the financial statements of the plantation industry sample companies.

This study also revealed significant findings that in the scope of research on biological asset accounting, especially the plantation industry sector, the results showed that biological asset accounting plays more of a role in aspects of the application of biological asset accounting and the company's treatment of its biological assets, as evidenced by previous research which assessed suitability of

biological asset treatment based on PSAK 69 in a trading business (Erawan and Julianto, 2020) and research that further analyzes the effect *of biological asset intensity* and profitability on the disclosure of biological assets in the agricultural sector (Sakinatunnisak et al., 2020) . Based on this explanation the role of biological asset accounting policies in influencing the value of the object such as investment decisions is still limited.

Discussion of the Second Hypothesis Testing Results

Testing the second hypothesis using a paired sample t-test resulted in the finding that the second alternative hypothesis which assumes there are significant differences in investment decisions before and after the application of biological asset accounting (PSAK 69 2020 Adjustments) in the plantation industry in Indonesia is not proven. Even though the findings in part of paired sample t-test show that after implementation produces a better rate of return and risk level, this is not sufficient to significantly describe the conditions for investment decisions before and after the application of different accounting for biological assets (PSAK 69 2020 Adjustment).

The results of this study are in line with the findings in testing the first hypothesis which confirms that the application of accounting for biological assets (PSAK 69 2020 Adjustments) does not have a significant impact on investment decisions. The existence of a correlation between the two alternative hypotheses in this study implies that the differences in the recognition of biological assets described in the first hypothesis are also not strong enough to create significant changes in investment decisions in the plantation industry.

In addition, the results of this study are also in line with the invention of previous research exploring the impact of implementing PSAK 69 Adjustment of 2020 which indicates that changes in the accounting for biological assets only minimally affect certain aspects, such as adding to the Biological Inventory account without creating significant changes in investment decision making (Aisyah , 2023) . This finding integrates with the second hypothesis to strengthen the argument that the application of biological asset accounting does not significantly affect investment decision conditions in the plantation industry.

FINDINGS AND CONCLUSION

Through various tests that have been carried out in examining the impact of biological asset accounting on investment decisions in the plantation industry in Indonesia along with the interpretation of the test results obtained, the findings can be concluded as follows:

1. Testing the first hypothesis using multiple regression analysis shows the results that the application of biological asset accounting does not have a significant impact on investment decisions in the plantation industry in Indonesia. This is because the application of accounting for biological assets, especially PSAK 69 2020 Adjustment is still relatively new and requires a longer observation period to be able to assess the significant impact that will arise further.
2. paired sample t-test analysis shows the results that there are no significant differences in investment decisions both before and after accounting for biological assets, especially PSAK 69 2020 Adjustment is applied. This is in line with the results of the research testing the first hypothesis.

IMPLICATIONS, LIMITATIONS AND SUGGESTIONS

Implications and Limitations

As in every research, limitations naturally arise which can be described as follows:

1. Realistic considerations regarding sample size. Based on the criteria that have been developed, only 22 to 25 companies are eligible.

2. Limitations on the year of observation, this limitation is caused by PSAK 69 Adjustment for 2020, which is implemented by most companies starting in 2021, thus limiting the observation period in this study.
3. The limitations on the historical value of the selected company's shares arise because several new companies have listed their shares on the Indonesia Stock Exchange at the same time as PSAK 69 2020 Adjustment was implemented.

Although the initial hypothesis was not proven, the disclosure of these results makes an important contribution to understanding the role of biological asset accounting in the plantation industry. This finding may trigger reconsideration in making investment decisions in the future. The results of this research can help raise awareness in the plantation industry about the impact of biological asset accounting on investment decisions. This can motivate industry players to better understand and consider accounting aspects in the process of making investment decisions.

Suggestion

For future studies, when conducting further research, it is advisable to use a longer observation period in order to obtain more samples and data from the samples and data used in this study, as well as to ensure consistency of the research results that have been conducted.

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