

Analysis of the Effect of Fixed Asset Intensity, Leverage, and Liquidity on Fixed Asset Revaluation in Manufacturing Companies Listed on the Indonesia Stock Exchange

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Keywords

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Fixed Asset Intensity,
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Abstract

Fixed asset revaluation has become an important issue in corporate financial management, especially in the midst of uncertain economic conditions. Manufacturing companies, which are one of the pillars of the Indonesian economy, must be able to manage their fixed assets to improve financial performance and competitiveness. This study aims to determine the effect of fixed asset intensity, leverage, and liquidity on fixed asset revaluation in manufacturing companies listed on the Indonesia Stock Exchange. The research method used is quantitative, with the population and sample in the form of annual reports from 10 manufacturing companies during the 2016-2021 period. Sampling was done by purposive sampling, and data were collected through financial statement documentation. Data analysis was carried out using the linear analysis method using panel data. The results showed that fixed asset intensity has a positive and significant effect on fixed asset revaluation. This is evidenced by the t count value of 3.637 which exceeds the t table 2.003, as well as a probability value of 0.0069 < 0.050. Leverage and liquidity also show a positive and significant influence on the revaluation of fixed assets. Simultaneously, the three variables have a significant effect on the revaluation of fixed assets, with a value of F count 4.315 which exceeds F table 2.77 and a probability of 0.000136 < 0.05.

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INTRODUCTION

According to PSAK 16 Revised 2011, if the company decides to use the fixed asset revaluation model, the valuation principles must be adjusted consistently after the initial valuation of fixed assets. After the company applies the cost model (Ardansyah & Junior, 2016). The company does not need to revalue its assets every year unless the assets fluctuate significantly. This is because fair value information is more relevant than historical cost information. If the fair value of an asset revalued differs significantly from its book value, it may revalue the fixed asset again (Amelinda & Murni, 2018). Corporate revalues its fixed assets based on the difference between its book value and fair value to adjust its financial position to fair value. The company's assets are revalued as part of revaluing its fixed assets. The benefits of a corporate revaluing its fixed assets include increased capital and asset valuation, which results in better balance sheet performance. In addition, since an increase in asset value may be reflected in an increase in share value, shareholder confidence may increase. Revaluation of fixed assets also creates tax benefits for the company, namely tax savings.

Based on PSAK No. 16 Revised 2011, fixed assets must be treated in a certain way. Referring to the IFRS convergence mandate issued by the Indonesian Financial Accounting Standards Board, this PSAK has adopted IAS 16 (Natalia & Mediawati, 2023). Fixed assets refer to assets that are owned for use in the production or provision of goods and services, for leasing to third parties, or for administrative purposes, and are expected to be used over a

long period of time. Fixed asset accounting standards clearly allow management to choose between the cost model or the revaluation model as the method for measuring assets after initial recognition (Tsamis & Liapis, 2017). Under the cost model, fixed assets are measured at cost less accumulated depreciation and accumulated impairment losses.

Revaluation of fixed assets following PSAK 16 is done solely to improve the financial status report (Fathmaningrum & Ningrum, 2023). It is important to note that the revaluation strategy does not generate additional cash inflows for the business as the calculation is only reflected in the books by recording the cost of fixed assets and crediting the revaluation surplus. In addition, dividends from the revaluation procedure cannot be distributed by the corporation. The purpose of revaluing fixed assets is to allow the company to get additional money from creditors or from external sources.

Fixed asset intensity refers to the percentage of a company's total assets that are made up of fixed assets. This ratio provides insight into the amount of cash that can be expected from transactions involving these assets (Firmansyah et al., 2017). Higher fixed asset intensity indicates that the company is likely to focus on the accounting methods that accurately reflect the true value of its fixed assets. Assets, in general, are considered resources that can potentially bring economic advantages to the company in the future, whether by generating cash inflows or minimizing cash outflows. Typically, companies record fixed assets based on the historical cost model (Fauziati, Minovia, & Khairati, 2015). The percentage of a company's assets that consists of fixed assets is known as fixed asset intensity. The amount of money expected to be received from transfers within these assets can be described as fixed asset intensity. Fixed asset documentation and recognition techniques that best capture the true value will be favored when fixed asset intensity is high. Resources with the potential to bring the business future financial rewards are referred to as assets (Solikhah et al., 2019). Assets can also refer to resources with the power to increase cash inflows or reduce cash outflows. The total purchase cost of assets is included in the historical cost model for fixed assets. The corporation will use that amount as the starting point for accounting for the fixed asset over its useful life once the cost is established. The historical cost approach measures the value of an asset based on its purchase price and all prior expenditures that may be directly related to its maintenance. The acquisition cost is reduced by accumulated depreciation to determine the value of the asset after recognition. Although many of the critics argue that data based on historical cost accounting is meaningless due to changes in the market value of assets from the previous acquisition price, this idea provides advantages in terms of simplicity and certainty. In the historical cost model, fixed assets are recorded at cost less accumulated depreciation and accumulated impairment losses (Zadorozhnyi & Yasyshena, 2019).

Leverage is a ratio intended to be used in assessing the ability of a corporate (company) to meet its long-term commitments is leverage or solvency risk. If the company's total debt exceeds its total assets, it is said to be unsolvable. This ratio is concentrated on the right side of the balance sheet because it measures the long-term liquidity of the company. To determine how much the company is financed by debt compared to its own capital, solvency (leverage) is used (Ardillah, 2024). Leverage, according to Riyanto, is the use of assets or finance for which the corporation must pay certain costs (Dewi & Manggabarani, 2022). Leverage, on the other hand, is described by Weston and Brigham as the extent to which debt is used as a source of corporate finance (Livia, 2022). Leverage, according to experts' interpretation of several definitions, is a business practice that uses debt as a source of funding for operations where it requires them to incur fixed costs (Juita, 2020). A high leverage ratio, which means the company's entire debt exceeds its entire assets, indicates that it cannot be solved. Leverage is a ratio that compares all debt to the company's total assets because it determines how much funding is provided by creditors. Therefore, investors will be cautious in investing in companies with high assets but high leverage risk because they are afraid that the high assets will be obtained through debt, increasing investment risk if the company cannot make its debt payments on time.

Liquidity is the capacity of a person or business to fulfill obligations or debts that must be immediately settled with its current assets known as liquidity (Mulyanti & Supriyani, 2018). Liquidity in the banking industry refers to the capacity of a bank's management team to provide money at any time to pay its obligations. These commitments also include unexpected withdrawals, including loans and other unexpected withdrawals (Zainal et al., 2017). According to the Big Indonesian Dictionary, "liquidity" refers to a company's cash situation and its ability to fulfill obligations according to a predetermined schedule. In addition, liquidity also refers to the capacity of a bank to handle possible withdrawals of depositors' and customers' savings.

The objectives and benefits of this research include two main aspects. First, the research objective aims to determine the effect of fixed asset intensity, leverage, and liquidity on fixed asset revaluation, both individually and simultaneously. Thus, this study focuses on four things: the effect of fixed asset intensity on revaluation, the effect of leverage on revaluation, the effect of liquidity on revaluation, and the effect of the three variables together.

The expected outcomes of this research are anticipated to offer both theoretical and practical contributions. From a theoretical perspective, the research aims to serve as a valuable source of information for the academic community, particularly in the area of fixed asset revaluation. On a practical level, it provides useful insights for companies in formulating policies related to revaluation, and for universities, it can act as a reference in their libraries and as a knowledge base for further investigations. Additionally, the research may serve as a guide for future researchers interested in examining the factors influencing fixed asset revaluation. For academics, the findings can be used as reference material for further studies. Finally, for consumers and readers, the study aims to enhance understanding of the factors affecting fixed asset revaluation and expand knowledge in this area.

RESEARCH METHODS

A. Research Approach

This study uses an associative approach, meaning that the study aims to test the relationship (correlation) or influence between two or more factors. Quantitative studies focus on the characteristics of social phenomena that can be measured objectively. Every social event that occurs is described into several elements of the problem, variables, and indicators so that measurements can be made. The main purpose of this methodology is to generalize while describing the problem.

B. Location and Time of Research

This research was conducted on manufacturing companies by taking secondary data and indirect information that is officially available on the website www.idx.co.id for the period 2016-2021. This research was conducted in June 2021 - Completed.

C. Population and Sample

The population in this research consists of all annual financial reports from manufacturing companies listed on the Indonesia Stock Exchange (IDX) between 2016 and 2021. The sample used in this research includes annual financial reports from the same period, specifically from 2016 to 2021, and is drawn from manufacturing companies listed on the IDX. The study sample comprises 10 manufacturing companies listed on the IDX. The manufacturing companies used as samples are:

Table 3. Research Sample

NO	CODE	COMPANY
1	DAMN	Cahaya Putra Asa Ceramics Tbk
2	GDYR	Goodyear Indonesia Tbk
3	DLTA	Delta Djakarta Tbk
4	ARNA	Arwana Citramulia Tbk
5	PLAY	Malindo Feedmill Tbk
6	GGRM	Gudang Garam Tbk
7	CHECK	Wilmar Light Indonesia Tbk

NO	CODE	COMPANY
8	SKBM	Sekar Bumi Tbk
9	BTON	PT.
10	ALKA	Alakasa Industrindo Tbk

D. Research Data

In this study, the type of data used is quantitative data, with operational data in the form of secondary data taken from the annual financial statements of manufacturing companies listed on the Indonesia Stock Exchange for the period 2016-2021. The data is sourced from the website www.idx.co.id and uses panel data, which combines time series data and cross-sectoral data, allowing measurement of the same unit at different times. Panel data analysis is usually applied to examine the relationship between the dependent variable and one or more independent variables.

E. Data collection technique

The data collection techniques in this study included two main methods: library techniques and secondary data techniques. First, the study reviewed publications related to the issue under study, including books, journals, papers, and research findings from previous studies. Secondly, information collection from other relevant sources is called secondary data, where manufacturing companies listed on the Indonesia Stock Exchange provide monthly financial reports that are collected directly.

F. Operational Definition of Research Variables

The operational definition of research variables includes dependent and independent variables. The dependent variable, represented by the letter y , is the variable that is explained or influenced by the independent variable; in this study, Fixed Asset Revaluation becomes the dependent variable. In contrast, the independent variable, represented by the letter x , is the variable that is considered as the result of the dependent variable; in this study, Fixed Asset Intensity is the first independent variable (X_1), Leverage is the second independent variable (X_2), and Liquidity is the third independent variable (X_3).

G. Data Analysis Techniques

Regression analysis with panel data is a procedure that must be followed. When the same cross-sectional unit is measured multiple times, panel data combines time series data and cross-sectional data. The relationship between one dependent variable and one or more independent variables is examined using panel data analysis. The collected research data will be evaluated statistically and described descriptively using the Eviews application program to support the research results and their accuracy.

1. Descriptive Analysis Test

The research strategy known as descriptive analysis aims to define and analyze an object in terms of what it is. This study explains the minimum value, maximum value, average, and standard deviation of each variable.

2. Classical Assumption Test

The Classical Assumption Test looks for significant deviations from the assumptions required by the Ordinary Least Square (OLS) approach, indicating that the estimated model meets econometric standards. There must be at least four assumption tests performed:

a. Normality Test

Normality test will be conducted to determine whether the independent and dependent variables in the regression model are normally distributed or not.

Using normal probability plot graph analysis, decisions are made based on:

- 1) The regression model meets the normality criteria if the data is spread around the diagonal line and moves in the same direction as the diagonal line or the histogram displays a normal distribution pattern.
- 2) The regression model does not meet the normality assumption if the data is spread away from the diagonal and/or does not follow the orientation of the diagonal line, or if the histogram graph does not show a normal distribution pattern.

Making judgments based on statistical tests using the Kolmogorov-Smirnov Z (I-Sample KS) is justified by:

- 1) Data is normally distributed if the significance value is more than 0.05 or 5%.
- 2) Data is not normally distributed if the significance level is less than 0.05 or 5%.

b. Multicollinearity Test

To ensure whether there is a significant correlation between the independent variables used in the model construction, a multicollinearity test is used. Variance Inflation Factor (VIF) and Tolerance Value can be used to analyze the reasons for the decision of an acceptable regression model or to determine whether a linear regression model shows multicollinearity. The upper limit of the tolerance value is more than 0.10 of the variance inflation factor (VIF) <10. (Richardson, 2015).

3. Hypothesis Testing

To determine statistically whether a claim is true and to determine whether to accept or reject it, hypothesis testing is used (Richardson, 2015). The purpose of hypothesis testing is to provide a basis so that data can be collected to decide whether to accept or reject the truth of the claims or assumptions made (Richardson, 2015). Hypothesis testing consists of the following tests, in the following order:

c. t-test (Partial Test)

The t-test, sometimes referred to as a partial test, is a statistical procedure used to determine how well one independent variable, either alone or in combination, can explain the fluctuations of a dependent variable (Richardson, 2015). The following are the steps in achieving an assessment for the t-test:

- 1) The independent variable partially influences the dependent variable significantly if the calculated t value > t table and Sig. t < a = 0.05.
- 2) It can be concluded that the independent variable partially does not have a significant effect on the dependent variable if the calculated t value < t table and Sig. t > a = 0.05.

d. F Test (Simultaneous Test)

The F test is also called a simultaneous test to determine whether all independent variables in the model influence the dependent variable simultaneously (Richardson, 2015). Making judgments for an F test involves the following steps:

- 1) It can be concluded that the independent variables together have a significant effect on the dependent variable if F count > F table and Sig. F < a = 0.05.
- 2) F count < F table and Sig. F > a = 0.05 indicates that the independent variable as a whole has no visible influence on the dependent variable.

F Table Formula:

Information:

n : number of samples
 k : number of variables X

e. Determination Coefficient Test (R² Test)

The variability of the dependent variable is measured from the model's ability to explain it using the coefficient of determination (R²). The coefficient of determination has a value between 0 and 1. Because R² is low, the ability of the independent variable to explain the variance in the dependent variable is relatively limited (Richardson, 2015).

4. Regression Analysis Test With Panel Data

Panel data is a combination of time series data and cross-section data, where the same cross-section unit will be measured at different times. Panel data analysis will be used to observe the relationship between one dependent variable and one or more independent variables. The regression equation formula used is:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

Information:

a = Constant
 X₁ = Fixed Asset Intensity
 X₂ = Leverage
 X₃ = Liquidity
 Y = Fixed Asset Revaluation

b_1, b_2, b_3 = Regression coefficients for X_1, X_2 , and X_3
 e = Disturbance Factor

According to Gujarati (2013) there are three models for regressing data, namely the common effect model, fixed effect model, and random effect model.

a. Common Effect Model

Common Effect Model (CEM) is a panel data regression model that will combine time-series data and cross-section data with the least squares approach and can use the pooled least square method. The assumptions of this common effect model are:

$$Y_{it} = \alpha + \beta X_{it} + e_{it}$$

Information:

Y = Dependent Variable	i	= Cross Section
a = Constant	t	= Time Series
X = Independent Variable	e	= Disturbance Factor

b. Fixed Effect Model

Fixed effect model (FEM) is a panel data regression model that has different effects between individuals. And individuals are unknown parameters and can be estimated using the least square dummy technique. The assumptions of the fixed effect model are as follows:

$$Y_{it} = \alpha + \beta_1 X_{it} + \beta_2 X_{it} + \beta_3 X_{it} + e_{it}$$

Information:

Y = Dependent Variable	X = Independent Variable
a = Constant	i = Cross Section
β = Regression Coefficient	t = Time Series
	e = Disturbance Factor

c. Random Effect Model

Random effect model (REM) is a panel data regression model that is different from the fixed effect model, the use of random effect model can save the use of degrees of freedom so that the estimation is more efficient. Random effect model uses generalized least square as parameter estimation. The assumptions of random effect model are as follows:

$$Y_{it} = \alpha + \beta_1 X_{it} + \beta_2 X_{it} + \beta_3 X_{it} + \dots + \beta_n X_{it} + e_{it}$$

Information:

Y = Dependent Variable	X = Independent Variable
a = Constant	i = Cross Section
β = Regression Coefficient	t = Time Series
	e = Disturbance Factor

5. Panel Data Regression Model Selection Test

Multiplier test, hausman test, and chow test are used in panel data analysis. The F3 statistical test will usually be used in conjunction with the Chow test to check whether there is a structural change in the regression. The Hausman test tests whether the endogenous variable is directly related to the disturbance variable to determine whether or not there is a simultaneity problem in an equation.

a) Chow Test

The F-statistic test, the LR test, and the log likelihood ratio test can all be used to make decisions or hypotheses in the chow test. Based on the testing requirements, the common effect model will be used in this study if the chi-square value of the cross-section profitability is more than 0.05. If the chi-square value of the cross-section profitability is less than 0.05, then the study will use the fixed effect model and continue with the Hausman test. The chow test is to determine the model to be selected between the common effect model and the fixed effect model. The chow test hypothesis is:

H_0 : common effect model (pooled OLS)

H_1 : fixed effect model (LSDV)

The null hypothesis in this test is that the intercepts are the same or in other words the appropriate model for panel data regression is the common effect and the alternative hypothesis is that the intercepts are not the same or the appropriate model in panel data regression is the fixed effect.

The calculated F statistic value will of course follow the F statistic distribution with degrees of freedom (degree of freedom) of m for the numerator and for the denominator. M is the number of restrictions or limitations in the model without dummy variables. The number of restrictions is the number of individuals minus one. N is the number of observations and K is the number of parameters, the number of parameters in the fixed effect model.

b) Hausman test

The Hausman test will be conducted to compare the most suitable panel model to use between the Fixed Effect Model and the Random Effect Model. For statistics, the Hausman test follows the chi-square statistical distribution where if the chi-square statistical probability value is smaller than the 5% (0.05) level of significance, then the model used is the Fixed Effect Model, but if the chi-square statistical probability value is greater than the 5% (0.05) level of significance, then the panel model used is the Random Effect Model.

The Hausman test is a test used to select the best model between the fixed effect model and the random effect model. This Hausman test is based on the idea that the Least Squares Dummy Variables (LSDV) in the fixed effect method and the Generalized Least Square (GLS) in the random effect method are efficient while the Ordinary Least Square (OLS) in the common effect method is not efficient. Namely by testing the hypothesis in the form of:

Ho : $E(C_i | X) = E(u) = 0$ or there is a random effect model

H1 : fixed effect model

RESULTS AND DISCUSSION

1. Descriptive Analysis Test

By using the minimum, maximum, average, and standard deviation values of the variables in the table below, the descriptive analysis test offers a summary or description of the data used as a research sample.

Table 4. Descriptive Analysis Test Results

Information	Asset Intensity Fixed (X ₁)	Leverage (X ₂)	Liquidity (X ₃)	Asset Revaluation Fixed (Y)
Mean	0.397026	0.440042	3.264113	23.43882
Median	0.389000	0.376500	2.010800	23.34620
Maximum	0.870000	0.981000	8.637800	29.99020
Minimum	0.034000	0.155000	0.620200	16.11100
Std. Deviation	0.210081	0.212279	2.389047	3.208613
Skewness	-0.065689	0.560252	0.650434	-0.321281
Kurtosis	2.003102	2.592079	1.959858	2.794673
Jarque-bera	2.527663	3.554816	6.935380	1.137611
Probability	0.282569	0.169076	0.031189	0.566201
Sum	23.82159	26.40250	195.8468	1406.329
Sum. Sq. Dev	2.603916	2.658686	336.7453	607.4167
Observations	60	60	60	60

Source: Secondary data processed with E-Views-12

The Fixed Asset Intensity variable (X₁) has a minimum value of 0.034 and a maximum value of 0.870, with an average value of 0.397 and a standard deviation or average spread of 0.210. This information is based on the table above.

The leverage variable value (X₂) ranges from 0.155 to 0.981 with an average of 0.440 and a standard deviation or average spread of 0.212. The liquidity variable (X₃) has an average value of 3.264 and an average standard deviation or spread of 2.389. The minimum value is 0.620 and the maximum value is 8.637.

Fixed Asset Revaluation Variable (Y) has an average value of 23.438 and a standard deviation or average spread of 3.208. Its value ranges from 16.111 to 29.990, with a minimum value of 16.111 and a high value of 29.990.

2. Regression Model Selection

With three method approaches, namely Common Effect Model, Fixed Effect Model and Random Effect Model can be used to test the model in panel data regression. Here are the test results:

Table 5. Common Effect Model Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob
Fixed Asset Intensity (X1)	-1.194008	1.902054	-0.627746	0.5327
Leverage (X2)	-6.748488	1.957687	-3.447174	0.0011
Liquidity (X3)	-0.093388	0.177954	-0.524786	0.6018
C	27.18732	1.590866	17.08963	0.0000
R-squared	0.183903	Mean dependent variable		23.43882
Adjusted R-squared	0.140183	SD dependent var		3.208613
SE of regression	2.975228	Akaike information criterion		5.082859
Sum squared residual	495.7110	Black criterion		5.222482
Log Likelihood	-148.4858	Hannan-Quinn critter.		5.137473
F-statistic	4.206429	Durbin-Wats on stats		1.326768
Prob (F-statistic)	0.009396			

Source: Secondary data processed with E-Views-12

Table 6. Fixed Effect Model Test Results

Variables	Coefficient	Std. Error	t-Statistic	Prob.
Fixed Asset Intensity (X1)	2.692747	4.224595	3.637398	0.0069
Leverage (X2)	-5.046554	2.325329	2.170253	0.0351
Liquidity (X3)	0.262486	0.231755	4.132604	0.0131
C	25.44721	2.343291	10.85960	0.0000
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.524211	Mean dependent variable		23.43882
Adjusted R-squared	0.402733	SD dependent var		3.208613
SE of regression	2.479714	Akaike information criterion		4.843300
Sum squared residual	289.0020	Black criterion		5.297074
Log Likelihood	-132.2990	Hannan-Quinn critter.		5.020796
F-statistic	4.315278	Durbin-Wats on stats		2.313148
Prob (F-statistic)	0.000136			

Source: Secondary data processed with E-Views-12

Table 7. Random Effect Model Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Fixed Asset Intensity (X1)	-0.293554	2.622766	-0.111925	0.9113
Leverage (X2)	-5.503266	2.050516	-2.683844	0.0096
Liquidity (X3)	-0.182926	0.195809	-0.934205	0.3542
C	26.57413	1.920885	13.83432	0.0000
Effects Specification			SD	Rho
Random cross-section			1.765363	0.3364
Idiosyncratic random			2.479714	0.6636
Weighted Statistics				
R-squared	0.117687	Mean dependent variable		11.65981
Adjusted R-squared	0.070420	SD dependent var		2.580388
SE of regression	2.487874	Sum squared residual		346.6129
F-statistic	2.489851	Durbin-Wats on stats		1.898111
Prob (F-statistic)	0.069602			

Source: Secondary data processed with E-Views-12

The test results of the three regression models cannot be described yet because it must first determine which is the best and most appropriate test result for this study. To find out, the Chow Test and the Hausman Test are carried out.

3. Regression Test Model Selection

a. Chow Test

The chow test is a test to determine between the common effect model or the fixed effect model that is most appropriate to use to estimate research data by making a hypothesis from the results of the chow test. Hypothesis for the chow test:

Ho: If the cross-section chi-square probability value is greater than 0.05 then it is better to use the common effects model.

Ha: If the cross-section chi-square probability value is less than 0.05 then it is better to use the fixed effects model.

Table 8. Chow Test Results

Redundant Fixed Effects Tests			
Equation: Untitled			
Cross-section fixed effects test			
Effects Test	Statistics	df	Prob.
Cross-section F	3.735199	(9.47)	0.0013
Cross-section Chi-square	32.373562	9	0.0002

According to the Chow test result, Ha is accepted and Ho is rejected because the Cross-Section F probability value is $0.0013 < 0.05$. Ha, which passes the Chow test and is a Fixed Effect Model, is thus accepted. The Fixed Effect Model is the appropriate model for this panel data test, according to the Chow test.

b. Hausman test

The Hausman test is a statistical test to choose the most appropriate for research between the fixed effect model or the random effect model. The Hausman test hypothesis:

Ho: If the random cross-section probability value is less than 0.05 then it is better to use the fixed effects model.

Ha: If the random cross-section probability value is greater than 0.05 then it is better to use a random effects model.

Table 9. Hausman Test Results

Equation: Untitled			
Cross-section random effects test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. df	Prob.
Random cross-section	3.369172	3	0.0021

Source: Secondary data processed with E-Views-12

From the test results with the Hausman test above, it can be seen that the Chi-Square probability value is $0.0021 < 0.05$, meaning that Ho is accepted. Thus, Ha is rejected, so according to the Hausman test, the right model for this panel data test is the Fixed Effect Model.

4. Panel Data Regression Analysis

Based on the above tests, especially the Chow test and the Hausman test, the Common Effect Model has been selected 2 (two) times. Meanwhile, both the Hausman test and the Chow test do not select the Random Effect Model (Yusra et al., 2019). While the selected test uses the Fixed Effect Model. Thus, it can be said that the Fixed Effect Model, compared to the Common Effect Model and the Random Effect Model, is more effective in interpreting panel data regression to overcome this problem. The results of the fixed effect model are shown in Table 10.

Table 10. Panel Data Regression Analysis Test Results with Fixed Effect Model

Dependent Variable: Fixed Asset Revaluation (Y)				
Method: Panel Least Squares				
Date: 01/31/23 Time: 16:08				
Sample: 2016 – 2021				
Periods included: 6				
Cross-sections included: 10				
Total panel (balanced) observations: 60				
Variable	Coefficient	Std. Error	t-Statistic	Prob.

Fixed Asset Intensity (X1)	2.692747	4.224595	3.637398	0.0069
Leverage (X2)	-5.046554	2.325329	2.170253	0.0351
Liquidity (X3)	0.262486	0.231755	4.132604	0.0131
C	25.44721	2.343291	10.85960	0.0000
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.524211	Mean dependent variable	23.43882	
Adjusted R-squared	0.402733	SD dependent var	3.208613	
SE of regression	2.479714	Akaike information criterion	4.843300	
Sum squared residual	289.0020	Black criterion	5.297074	
Log likelihood	-132.2990	Hannan-Quinn critter.	5.020796	
F-statistic	4.315278	Durbin-wats on stat	2.313148	
Prob (F-statistic)	0.000136			

Source: Secondary data processed with E-Views-12

From the coefficient values above, a multiple regression equation can be constructed as follows:

$$Y = 25.447 + 2.692X_1 - 5.046X_2 + 0.262X_3$$

From this equation it can be concluded that:

- The constant value (a) = 25.447 means that if the scores of the Fixed Asset Intensity, Leverage, and Liquidity variables are equal to zero, then the Fixed Asset Revaluation (Y) increases by 25.447.
- The regression coefficient of Fixed Asset Intensity (X1) is 2.692. This means that an additional one point on Fixed Asset Intensity (X1) will increase Fixed Asset Revaluation (Y) by 2.692 times.
- The regression coefficient of Leverage (X2) is -5.046. This means that an additional one point on Leverage (X2) will reduce Fixed Asset Revaluation (Y) by -5.046 times.
- The regression coefficient of Liquidity (X3) is 0.262. This means that an additional one point on Liquidity (X3) will increase Fixed Asset Revaluation (Y) by 0.262 times.

According to the findings of the regression equation, there is a positive relationship between fixed asset intensity and liquidity and asset return, and when fixed asset intensity and liquidity increase, so does fixed asset revaluation. On the other hand, there is a negative correlation between leverage and asset return, which means that when leverage increases, fixed asset revaluation will also suffer.

5. Classical Assumption Test

a. Normality Test

The normality test aims to determine whether the independent variables and dependent variables in the panel data regression model are both normally distributed. The decision-making principles in this test are:

- 1) A distribution is considered normal if the probability value is greater than 0.05.
- 2) A distribution is considered abnormal if the probability value is less than 0.05.

Based on the results of the normality test above, it can be seen that the Probability value is 0.131493 which is greater than 0.05. So it can be concluded that the variable data has been normally distributed.

b. Multicollinearity Test

To find out whether there is a strong or perfect correlation between the independent variables and the regression model. A multicollinearity test needs to be conducted. If there is a significant correlation between the independent variables, the multicollinearity symptoms of the study can be concluded.

Table 11. Multicollinearity Test Results

	Fixed Asset Intensity (X1)	Leverage (X2)	Liquidity (X3)
Fixed Asset Intensity (X1)	1,000,000	-0.039083	-0.214351
Leverage (X2)	-0.039083	1,000,000	-0.343442
Liquidity (X3)	-0.214351	-0.343442	1,000,000

Source: Secondary data processed with E-Views-12

The correlation value is $-0.214 < 0.90$ which indicates that there is no multicollinearity problem with the research variables, in accordance with the results of the multicollinearity test discussed above.

c. Heteroscedasticity Test

To find out whether there is a deviation from conventional assumptions, a heteroscedasticity test is performed. Heteroscedasticity, also known as the variance of the residuals for each observation in a regression model. The absence of heteroscedasticity symptoms is a requirement of a regression model.

Table 12. Heteroscedasticity Test Results

Dependent Variable: RESABS				
Method: Panel Least Squares				
Date: 01/31/23 Time: 17:47				
Sample: 20016 - 2021				
Periods included: 6				
Cross-sections included: 10				
Total panel (balanced) observations: 60				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.782989	1.337161	0.585561	0.5610
Fixed Asset Intensity (X1)	2.187803	2.410695	0.907540	0.3688
Leverage (X2)	2.038797	1.326911	1.536499	0.1311
Liquidity (X3)	-0.064706	0.132247	-0.489285	0.6269

Source: Secondary data processed with E-Views-12

Based on table 12 above, it can be seen that the prob value of variable X1 is 0.5610, variable X2 is 0.3688, and the prob value of variable X3 is 0.1311. These results indicate that all prob values of independent variables are > 0.05 , so it can be concluded that this data is free from heteroscedasticity problems.

6. Hypothesis Testing

a. t-test (Partial Test)

The t-test is used to test each independent variable (X). Does the independent variable have a positive and significant influence on the dependent variable.

The following criteria are used to decide whether to accept or reject the hypothesis at the significance level (α) = 0.05:

- 1) If the calculated t exceeds the table t, then H_0 is rejected or H_a is accepted.
- 2) If the t table exceeds the calculated t, then H_0 is accepted or H_a is rejected.

The t-test can also be seen at the level of significance, namely:

- 1) When the significance level is less than 0.05, H_0 is rejected or H_a is accepted.
- 2) When the significance level is more than 0.05, H_0 is accepted or H_a is rejected.

The table value to be tested at a significant level of $\alpha = 0.05$, the t distribution table is searched at 0.05: 2 = 0.025 (two-sided test) with degrees of freedom (df) $nk-1$ or $60-3-1 = 56$ (n is the number of data and k is the number of independent variables). With a two-sided test (significance = 0.025) the results obtained for the table are 2.003.

Table 13. Result of t-Test (Partial Test)

Dependent Variable: Fixed Asset Revaluation (Y)				
Method: Panel Least Squares				
Date: 01/31/23 Time: 16:08				
Sample: 2016 - 2021				
Periods included: 6				
Cross-sections included: 10				
Total panel (balanced) observations: 60				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Fixed Asset Intensity (X1)	2.692747	4.224595	3.637398	0.0069
Leverage (X2)	-5.046554	2.325329	2.170253	0.0351
Liquidity (X3)	0.262486	0.231755	4.132604	0.0131

C	25.44721	2.343291	10.85960	0.0000
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.524211	Mean dependent variable	23.43882	
Adjusted R-squared	0.402733	SD dependent var	3.208613	
SE of regression	2.479714	Akaike information criterion	4.843300	
Sum squared residual	289.0020	Black criterion	5.297074	
Log likelihood	-132.2990	Hannan-Quinn Criterion	5.020796	
F-statistic	4.315278	Durbin-wats on stat	2.313148	
Prob (F-statistic)	0.000136			

Source: Secondary data processed with E-Views-12

It can be seen that the Fixed Asset Intensity Variable has a t-value of 3.637 and a significance level of 5%. It can be said that Fixed Asset Intensity partially has a positive and substantial effect on Fixed Asset Revaluation because the t-value for variable X₁ (3.637) is greater than t-table (2.003) with a probability value of 0.00069 ± 0.05 , which indicates that H_{a1} is accepted and H_{o1} is rejected. From the leverage variable, the t-value is 2.170 and the significance level is 5%. It can be said that Leverage has a partial positive and substantial effect on Fixed Asset Revaluation because the t-value for variable X₂ (2.170) is greater than the t-table (2.003) with a probability value of 0.0351 ± 0.05 . This proves that H_{a2} is accepted and H_{o2} is rejected.

From the liquidity variable, the t-value is 4.132 and the significance level is 5%. It can be said that liquidity has a partial positive and significant effect on fixed asset revaluation because the t-value for variable X₃ (4.132) is greater than the t-table (2.003) with a probability value of 0.0131 ± 0.05 . This shows that H_{a3} is accepted and H_{o3} is rejected.

b. F Test (Simultaneous Test)

The simultaneity test, also known as the F-statistic test, determines whether the regression coefficients of the independent variables affect the dependent variable individually or collectively. The F-test is used to determine whether the dependent variable is affected jointly or simultaneously by all the independent variables in the model. 5% or 0.05 substantial simultaneity level.

The F table value to be tested at a significant level of $\alpha = 0.05$. And how to determine the F table is $df(n_1) = k-1$ or $4-1 = 3$ and $df(n_2) = nk$ or $60-4 = 56$. Then the F table can be obtained as much as 2.77.

Table 14. F Test Results (Simultaneous Test)

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.524211	Mean dependent variable	23.43882
Adjusted R-squared	0.402733	SD dependent var	3.208613
SE of regression	2.479714	Akaike information criterion	4.843300
Sum squared residual	289.0020	Black criterion	5.297074
Log likelihood	-132.2990	Hannan-Quinn Criterion	5.020796
F-statistic	4.315278	Durbin-Wats on stats	2.313148
Prob (F-statistic)	0.000136		

Source: Secondary data processed with E-Views-12

The probability value is 0.000136, and the F count value is 4.315, as can be seen from the computation results. If the probability value is less than 0.05 (Prob < 0.05), then the conclusion is significant, which is the basis for decision making. The probability value (0.000136) is less than 0.05 as seen in the table above. The choice is then important. This shows that H_{o4} is rejected while H_{a4} is accepted, this shows that all independent variables affect the dependent variable simultaneously.

The decision H_{a4} is accepted and H_{o4} is rejected because the F count value in this equation, which is 4.315, is greater than the F table values, which are 2.77. This means that all independent variables including the Fixed Asset Intensity, Leverage, and Liquidity

variables simultaneously have a positive and significant effect on the dependent variable, namely Fixed Asset Revaluation.

c. Coefficient of Determination Test

The coefficient of multiple determinations is used to determine how changes in the value of 783the independent variable affect changes in the value of 783 the dependent variable. A low R2 value indicates that the capacity of the 783independent 783 variable 783to explain variance in 783the dependent variable is very limited.

Table 15. Results of Determination Coefficient Test

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.524211	Mean dependent variable	23.43882
Adjusted R-squared	0.402733	SD dependent var	3.208613
SE of regression	2.479714	Akaike information criterion	4.843300
Sum squared residual	289.0020	Black criterion	5.297074
Log likelihood	-132.2990	Hannan-Quinn Criterion	5.020796
F-statistic	4.315278	Durbin-Wats on stats	2.313148
Prob (F-statistic)	0.000136		

Source: Secondary data processed with E-Views-12

The table above shows that the R Square value is 0.524. This shows that the independent variables, namely Fixed Asset Intensity, Leverage, and Liquidity, are able to explain the dependent variable, namely Fixed Asset Revaluation, by 52.4%, the remaining 47.6% is explained by other variables outside the regression model.

DISCUSSION

1. The Influence of Fixed Asset Intensity on Fixed Asset Revaluation

Based on the test run, the table in the t-test above has a t count value of 3.637 with a significance level of 5% and a t table value of 2.003 with a total of 60 (n) data points and 3 independent factors (k). The next variable is marked significant if the t count is more than the t table. The decision Ha1 is approved and Ho1 is rejected because the t count for variable X1 (3.637) is greater than the t table (2.003). Fixed Asset Intensity variable (X1) has a positive and significant effect on Fixed Asset Revaluation (Y).

Thus the results of this study support previous research conducted by Rosyid & Lukman (2022) with the research title "Factors Affecting Fixed Asset Revaluation" (Rosyid & Lukman, 2022). The results of this study indicate that the intensity of fixed assets has a positive and significant effect on the revaluation of fixed assets.

Fixed asset intensity is the ratio between fixed assets and total assets of the company. Revaluation of fixed assets is the process of redetermining the value of a fixed asset based on current conditions. The relationship between these two things is that the higher the fixed asset intensity of a company, the more important fixed asset revaluation is to determine the true value of these assets and ensure that the company's financial statements describe the actual financial condition.

2. The Effect of Leverage on Fixed Asset Revaluation

Based on the results of testing the table in the t test above shows the t count value of 2,170 with a significance level of 5% and a t table value of 2,003 for the number of data 60 (n) and independent variables (k) of 3. The next variable is significant if the t count is more than the t table. The decision Ha2 is approved and Ho2 is rejected because the t count for variable X2 (2.170) is greater than the t table (2.003). Fixed Asset Revaluation is positively and significantly influenced by the leverage variable (X2) (Y).

Thus the results of this study do not support previous research conducted by Mellanias (2022) with the research title "Factors Affecting Fixed Asset Revaluation" (Surgawi & Solikhah, 2018). The results of the analysis that the leverage variable has no effect on the revaluation of fixed assets.

Leverage is the ratio between debt and equity in a company. The relationship between leverage and fixed asset revaluation is that a high level of leverage can affect the fair value of fixed assets and worsen the company's ability to finance the purchase or development of new fixed assets. Therefore, companies should consider the level of leverage when revaluing fixed assets in order to ensure that the determined value reflects the actual financial condition.

3. The Effect of Liquidity on Fixed Asset Revaluation

Based on the results of testing the table in the t test above has a t count value of 4.132 with a significance level of 5% and a t table value of 2.003 with a total of 60 (n) data and 3 independent variables (k). The next variable is marked significant if t count is more than t table. Ha3 is selected and Ho3 is rejected because the t count for variable X3 (4.132) is greater than the t table (2.003). Fixed Asset Revaluation is positively and significantly influenced by the liquidity variable (X3) (Y).

Thus the results of this study do not support previous research conducted by Rosyid & Lukman (2022) with the research title "Factors Affecting Fixed Asset Revaluation" (Rosyid & Lukman, 2022). The results of this study indicate that liquidity has no effect on the revaluation of fixed assets.

The relationship between liquidity and fixed asset revaluation is that fixed assets that have high liquidity are easier to sell and receive at a good value, so they have a higher value in revaluation. Therefore, companies should consider the liquidity of fixed assets when revaluing to ensure that the value determined reflects actual market conditions.

4. The Influence of Fixed Asset Intensity, Leverage, and Liquidity on Fixed Asset Revaluation

According to the F-test findings, Fixed Asset Intensity, Leverage, and Liquidity all have a significant positive effect on Fixed Asset Revaluation simultaneously (Zakaria, 2015). According to the previous calculation findings, the probability value is 0.000136 and the F count is 4.315, which is shown in the table above.

The assumption underlying the decision is that the conclusion is very influential if the prob value is less than 0.05. In addition, we can compare the F count value > from F table by knowing the model. If the F count in this equation is 4.315 and there are 3 independent variables and 1 dependent variable with a significance level of 5%, then the F table value is 2.77 and the number of data is 60. Thus, the Ha4 assessment is upheld while the Ho4 Decision is rejected because the F count (4.315) is greater than the F table (2.77). Therefore, the dependent variable Fixed Asset Revaluation is significantly and positively influenced by all factors, namely Fixed Asset Intensity, Leverage, and Liquidity.

Despite the existence of literature addressing fixed asset revaluation, there remains a significant gap in understanding the specific influence of fixed asset intensity, leverage, and liquidity on revaluation practices in manufacturing companies listed on the Indonesia Stock Exchange. Previous research often focuses on isolated factors or is conducted in different jurisdictions, thus providing limited insight into the unique economic and regulatory environment in Indonesia.

First, while many studies have examined fixed asset revaluation globally, few have tailored their focus to the Indonesian market. This research aims to fill that gap by analyzing local manufacturing firms that face different economic challenges and regulatory frameworks. Secondly, previous studies generally investigate one or two factors that influence fixed asset revaluation. However, this study uniquely combines fixed asset intensity, leverage, and liquidity in one model, allowing for a comprehensive analysis of how these variables interact with each other and jointly influence revaluation decisions.

Third, many studies rely on qualitative methods or case studies that may lack generalizability. This research adopts a quantitative approach using panel data analysis, which allows for robust statistical conclusions that can inform policy and practice. Finally, the focus on the period 2016 to 2021 allows for the examination of recent trends and practices in fixed asset revaluation amid economic fluctuations, including the impact of the COVID-19 pandemic, which has not been widely discussed in previous studies.

By addressing these shortcomings, this study not only contributes to the academic discourse on fixed asset revaluation but also provides practical recommendations for manufacturing companies in Indonesia regarding their asset management strategies.

CONCLUSION

Based on the previous research findings, the conclusions of this study are as follows: Firstly, the intensity of fixed assets has a significant positive impact on fixed asset revaluation, as evidenced by a t-statistic of 3.637, exceeding the t-table value of 2.003, and a probability of 0.0069, which is below the 0.05 threshold. Secondly, leverage also has a significant positive influence on the revaluation of fixed assets, with a t-statistic of 2.170, surpassing the t-table value of 2.003, and a probability of 0.0351, which is less than 0.05. Thirdly, liquidity similarly demonstrates a significant positive effect on the revaluation of fixed assets, supported by a t-statistic of 4.132, higher than the t-table value of 2.003, and a probability of 0.0131, which is below 0.05. Finally, the intensity of fixed assets, leverage, and liquidity together have a significant combined impact on the revaluation of fixed assets, indicated by an F-statistic of 4.315, which exceeds the F-table value of 2.77, and a probability value of 0.000136, well below 0.05.

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