DOES ACCOUNTING INFORMATION BECOME PERTINENT TO ASSET REVALUATION DECISION?

Reaca Raksa Teruni[1]
Directorate General of Taxes,
Ministry of Finance of Indonesia
Gatot Subroto St., Jakarta,
Indonesia 12190
reacaraksa@kemenkeu.go.id

Resi Ariyasa Qadri[2*]
Center for Finance & Accounting Study,
Ministry of Finance of Indonesia
Bintaro Utama V St., Tangerang Selatan,
Indonesia 15222
resi.ariyasa@kemenkeu.go.id

Rahman Triadi Putra[3]
Directorate General of Taxes,
Ministry of Finance of Indonesia
Gatot Subroto St., Jakarta,
Indonesia 12190
rahmantriadi.putra@kemenkeu.go.id

Amrie Firmansyah[4]
Center for Finance & Accounting Study,
Ministry of Finance of Indonesia
Bintaro Utama V St., Tangerang Selatan,
Indonesia 15222
amrie@kemenkeu.go.id

ABSTRACT

This research aims to examine whether accounting information proxied by fixed asset intensity, financial leverage, and liquidity affect fixed asset revaluation decisions in the manufacturing sector in Indonesia. The study used the purposive sampling method with 80 firm-year observations derived from 20 chosen companies using logistic regression and generalized effect estimation analysis with panel data. The pooled data found a positive association between fixed asset intensity and fixed asset revaluation, a positive association between financial leverage and fixed asset revaluation, and a negative relationship between liquidity and fixed asset revaluation. This study found that public firms revaluing their fixed asset can provide more relevant accounting information for users of financial statements. The research implies that fixed asset revaluation improves a firm's borrowing capacity and capital structure.

Keywords: Revaluation; Fixed Assets; Logistic Regression; Generalized Estimation Effect; Data Panel

ABSTRAK

Penelitian ini bertujuan untuk menganalisis apakah informasi akuntansi yang diukur melalui intensitas perolehan aset tetap, leverage, dan likuiditas akan mempengaruhi keputusan revaluasi aset tetap pada perusahaan sektor manufaktur di Indonesia. Penelitian ini menggunakan metode purposive sampling untuk mengumpulkan data dari 80 perusahaan-tahun yang dianalisis melalui regresi logistik data panel dan regresi efek rerata populasi. Hasil penelitian ini menunjukkan bahwa intensitas pembelian aset tetap dan financial leverage berpengaruh positif signifikan terhadap keputusan revaluasi aset, sedangkan likuiditas berpengaruh negatif terhadap keputusan revaluasi tersebut. Selain itu, diperoleh kesimpulan bahwa emiten yang merevaluasi aset tetapnya akan meningkatkan kualitas informasi akuntansi yang bermanfaat bagi pengguna laporan keuangan. Implikasi dari penelitian ini adalah perusahaan yang melakukan revaluasi aset tetap akan meningkatkan kapasitas struktur permodalannya.

Kata Kunci :   Revaluasi; Aset Tetap; Regresi Logistik; Efek Rerata Populasi; Data Panel
JEL Classification: M41; C33

*corresponding author

INTRODUCTION

The COVID-19 pandemic not only yields in humanitarian crisis but also a large-scale catastrophe in the business sector as productivity slows down and earnings expectations reverse in a sharp direction bringing our economy to a halt (OECD, 2020; Wren-Lewis, 2020). According to The World Economic Outlook update, global growth was projected to be negative at -4,9% in 2020 and 5,5% in 2021 (OECD, 2020; World Bank, 2020). Economic fallout affects the normal business cycle and also the company's accounting information in the form of capital and debt structure. In some countries, financial instability is likely to increase because of rapid growth in private-sector debt. In the middle of financial distress, companies may have opted to improve their accounting information to secure financing support or renegotiate their existing obligation (Deloitte, 2020).

Given that companies do not perform well throughout the pandemic, it adds a new layer of complexity for companies to access additional capital, such as by loan or debt. Therefore, a different approach must be taken so companies can still access a broader credit spectrum. One way that companies can do to get a more flexible debt covenant is by revaluing their fixed assets (Jaggi & Tsui, 2001). In the commercial sector, the decision to implement a revaluation of fixed assets may benefit the entity in a way that fixed asset revaluation brings a more relevant report of financial statements where the value of fixed assets is presented at fair value (Azouzi & Anis, 2012).

Although revaluing fixed assets does not inherently improve a firm's profitability, it would enhance total asset efficiency since it lessens the company's leverage. (Fathmaningrum & Yudhanto, 2019; Nailufaroh, 2019). Revaluation of property and equipment will sustain and foster economic growth during the pandemic (Musthafa et al., 2020; Seng & Su, 2010). However, there may be better options than a company's choice to revalue physical assets for the institution. Certain obstacles, such as the implementation of the tax on revaluation excess, high appraisal services cost, and the adoption of a cost model, drive businesses to avoid revaluing their assets (D. Firmansyah et al., 2017). These reasons illustrate that managers should consider careful considerations before evaluating a tangible asset. While contrasting needs of companies and government regulation of tax imposition exist, economic growth will recover slowly. Hence, government intervention, such as tax incentives, is expected. In 2015, the Ministry of Finance Indonesia issued PMK 191/PMK.010/2015 regarding Fixed Assets Revaluation for Taxation Purposes for Applications Filed in 2015 and 2016. This policy provides special treatment for taxpayers who carry out asset revaluation by imposing a tax rate of 3%, 4%, or 6%, which is lower than the general tax rate of 10%, according to PMK 79/PMK.03/2008. This regulation can be applied in the context of the revaluation of fixed assets during the pandemic.

Although the decision to conduct asset revaluation remains under the assessment of an appraiser, the manager's subjective view plays a big part in the decision. The financial manager has the right to determine how long the economically useful life of fixed assets lasts, when to revalue fixed assets, how much the residual value is, and how much depreciation needs to be calculated (Barlev et al., 2007). From a theoretical perspective, Sundaramurthy and Lewis (2003) claim that stewardship theory is an extension of the theory that assumes the agent's goals are perfectly aligned with the stakeholders' goals. The manager's decision to revalue the company's fixed assets is partly motivated by the government's incentives, such as PMK 191/PMK.010/2015. It is aligned with the stewardship theory. Directorate General of Taxes (DGT) through PMK 191/PMK.010/2015 offers tax rate reduction for the surplus amount over

revaluation of fixed assets. This regulation aims to motivate companies to report fixed asset value on fair value.

Previously, numerous studies explored what variables affect a company's decision to revalue fixed assets. These factors are mostly related to information asymmetry, namely fixed asset intensity (FAI) (Fioni et al., 2019; Ghozali & Tedjasuksmana, 2019; Gunawan & Nuswandari, 2019; Kurniawati & Yushuda, 2019; Latifa & Haridhi, 2016; Manihuruk & Farahmita, 2015; Nailufaroh, 2019; Sitepu & Silalahi, 2019; Yulistia M et al., 2015; Zakaria, 2015), company size (Fahmie & Triandi, 2016; Nailufaroh, 2019; Yulistia M et al., 2015), leverage (Army, 2013; Fahmie & Triandi, 2016; Fathmaningrum & Yudhanto, 2019; D. Firmansyah et al., 2017; Ghozali & Tedjasuksmana, 2019; Gunawan & Nuswandari, 2019; Yulistia M et al., 2015), market assessment (Andison, 2015; Jaggi & Tsui, 2001), and liquidity (Army, 2013; Ghozali & Tedjasuksmana, 2019; Gunawan & Nuswandari, 2019; Nailufaroh, 2019). Previous studies involved similar variables, but the results revealed mixed conclusions. Additionally, prior research investigated the relationship between revaluation decisions and window dressing activity, but none used stewardship theory as the underlying theory.

Fixed asset intensity (FAI) shows fixed assets to total company assets and aims to test the existence of information asymmetry factors in corporate financial reporting (Seng & Su, 2010). Companies with high FAI ratios tend to conduct a revaluation of fixed assets because revaluation is significantly increasing the value of fixed assets. Revaluation is vital because an increase in asset value can signal an increase in company management performance (Ghozali & Tedjasuksmana, 2019). Fixed asset intensity has proven to significantly affect the company's decision to reassess fixed assets (Diantimala et al.,2019; Fioni et al., 2019). Fathmaningrum & Yudhanto (2019) stated that there was a tendency for companies to reflate fixed assets as a high FAI ratio would have a positive influence on the company's financial statements. The intensity of fixed assets can illustrate the expected cash that can be received if the fixed assets are sold. Hence, companies with high fixed asset intensity tend to prioritize the method of recording and recognizing fixed assets that better reflect the actual asset value (Manihuruk & Farahmita, 2015).

Additionally, leverage defines how much of a company's debt is utilized to finance its assets. Using external finance to accelerate the business's growth is expected if the company can create more significant income than the interest paid. However, emphasis on debt funding rather than equity is deemed hazardous and frequently inhibits firms' ability to obtain more vital financial facilities. In response, organizations with high leverage choose to perform fixed asset revaluation since it allows them to raise the value of fixed assets and equity while decreasing the DER ratio (Zakaria, 2015). As per past studies, a hike in the leverage ratio would strengthen the company's financial credibility in the eyes of creditors (Sitepu & Silalahi, 2019). This statement is also in line with the research results of Andison (2015), E. Firmansyah & Sherlita (2012), and Ghozali & Tedjasuksmana (2019). Kasmir (2011) has a similar opinion. His research states that companies with high leverage levels will use fixed asset revaluation.

A low liquidity ratio indicates that a company has trouble paying off its short-term debt. This condition will significantly affect the level of trust of external parties in credit fulfillment performance and company investment performance. In these conditions, the company will make efforts to increase the value of its assets. Kasmir (2011) argued that companies with low liquidity levels would use fixed asset revaluation and vice versa. Zakaria (2015) claims that upward revaluation needs to be

carried out by companies with low liquidity levels so that these companies can get new sources of funding and improve the quality of their collaterals. Using the facts mentioned above and justifications as a foundation, our study seeks to determine if accounting information represented by fixed asset intensity, financial leverage, and liquidity impacts fixed asset revaluation choices in Indonesia's manufacturing sector. Therefore, our research objectives are to confirm and explain (1) the positive relationship between fixed asset intensity and asset revaluation decisions, (2) the positive association between financial leverage and asset revaluation judgments, and (3) the negative causation between the liquidity and asset revaluation motives.

METHOD

Our study employed quantitative research inquiry and relied on secondary data acquired from financial statements of manufacturing businesses filed on the Indonesia Stock Exchange (IDX) between 2016 and 2019. The secondary data collection technique was carried out utilizing the purposive sampling strategy. As a result, only companies with representative inquiries were evaluated and examined. Criteria used to determine samples and observations of this research were summarized in Table 1 as follows.

Table 1. Purposive Sampling Summary

No.	Purposive Sampling Criteria	Number of Company	Count of Year (n)
1	Manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2016-2019	51	4
2	Financial statements that independent auditors have audited during 2016-2019	(17)	4
3	Companies did not experience delisting from Indonesia Stock Exchange	(0)	4
4	Companies provide complete information for the measurement variables under the needs of this study.	(14)	4
	Number of observations	20	80

This study obtains 20 companies that meet the specified criteria, or 39.21% of the total initial sample using the purposive sampling method. In general, 51 manufacturing companies have submitted complete annual financial reports for 2016-2019. As of June 30, 2020, 17 companies were identified to have incomplete financial statements, the majority of which are 2019 reports. Between 2016 and 2019, the Indonesia Stock Exchange has not delisted any companies. However, 14 companies do not provide the necessary information for this study. Incomplete information is primarily due to the presence of outlier data or because some companies were registered on the IDX only for 2016-2019. To ensure data quality and reliability, companies that do not provide complete financial reports, provide financial reports but include outlier data in their financial statements, or were only registered after 2016 ended are not included in the research sample.

This research employed three types of variables, namely independent variables, control variables, and dependent variables. *The first independent variable* was fixed asset intensity. Fixed Asset Intensity measures the number of fixed assets compared to the company's total assets. *The second independent variable* was leverage. The Debt Equity Ratio (DER) formula was used to measure leverage. DER proxy illustrates how

much a company uses debt to finance its equity. A company is considered to have a high dependence on debt if the firm has a high DER ratio (more than 0,00). It means the company has a pretty material credit risk because a high dependence on the debt will burden the company with future loan principal and interest payments. ***The last independent variable*** was company liquidity. Liquidity denotes the company's ability to pay off short-term obligations to external parties, such as the government or creditors who provide loans. Creditors use this ratio to assess the company's credit risk, which is usually one of the clauses in the debt covenant. According to Fields et al. (2001), companies will choose accounting policies in such a way as to avoid violating the debt covenant. This study also employs ***one control variable***, which is firm size. Firm size is measured by the natural logarithm of the company's total assets.

The panel logistic regression (logit) was used to analyze the interaction between predictors and the dependent variable in the objective test. The panel logit can be implemented even if the assumption of multivariate normality is not met (Hair et al., 2010). Researchers may avoid performing classical assumption tests when using this regression model. The panel logit was adopted for this study because the dependent variable was represented by non-metric data as a revaluation judgment with only two feasible replies: 0 and 1. We followed Agresti's (2002) and Mood's (2010) proposition to undergo the panel logit procedures in this study. Our panel logit steps consisted of five tests: (1) pre-estimation, (2) model specification, (3) estimator selection, (4) post-estimation, and (5) objective test. The regression model utilized in this work is based on the models used by Sitepu & Silalahi (2019) and Latifa & Haridhi (2016). Based on previously developed objectives, we propose a modified research formula.

$$\text{Log}(P_{AR}/1-P_{AR}) = \alpha + \beta_1 * FAI_{it} + \beta_2 * LEV_{it} + \beta_3 * LIQ_{it} + \beta_4 * SIZE_{it} + \varepsilon_{it} \quad ....(\text{Equation 1})$$

Description:

$\text{Log}(P_{AR}/1-P_{AR})$	=	*The log of odds* shows the probability of asset revaluation, which has a value of 1 if the company chooses the revaluation method and 0 if the company chooses the cost method.
α	=	Constant.
$\beta_1, \beta_2, \beta_3$	=	Regression coefficient.
FAI_{it}	=	*Fix Asset Intensity* shows the number of fixed assets to total assets of the company *i* in year *t*.
LEV_{it}	=	*Leverage* shows how company *i* finances its assets by dividing total debt with total equity in year *t*.
LIQ_{it}	=	*Liquidity* shows the ability of company *i* to pay off its short-term obligations by dividing current assets by current liabilities in year *t*.
$SIZE_{it}$	=	*Company size* shows the scale of business run by company *i* by measuring the natural log of total assets in year *t*.
ε_{it}	=	Residual error of company *i* in year *t*.

RESULT AND DISCUSSION

This section explains six critical findings: (1) descriptive statistics, (2) pre-estimation, (3) model specification, (4) estimator selection, (5) post-estimation, and (6) objective testing. The elaboration of each finding is as follows.

Descriptive Statistics

The fixed asset intensity (FAI) calculation is obtained by comparing the number of fixed assets to total assets with a maximum scale of 1.00. Based on the data shown in Table 2, companies have a fixed asset intensity average percentage of 35.69%, which

indicates that the miscellaneous sub-sector manufacturing companies have 35.69% of fixed assets of total assets. The smallest FAI percentage, with a value of 0.12%, is obtained from the FAI calculation of companies with the issuer code STAR in the 2019 reporting year. Leverage measurement (LEV) is calculated by comparing total debt to total equity. According to Table 2, on average, the sample companies have a leverage profile with a debt-to-equity ratio scale of 1.35, which means that the company's capital structure consists of debt 1.35 times the total equity. However, a DER ratio that is far above the average, like that of the issuer code LPIN, whose total debt is 8.26 times its total equity, must be managed very carefully because it has the potential to have a high default risk.

The liquidity ratio (LIQ) is calculated using the current ratio, which compares current assets to the company's current liabilities. This measurement determines the company's ability to settle short-term liabilities with liquid assets. Based on the data processing results shown in Table 2, on average, the sample companies obtained an LIQ ratio of 2.49, indicating that the company can adequately fulfill its current obligations. The calculation of company capacity (SIZE) is used to determine the extent of the business scale run by the company. Based on Table 2, the average company size is 27.64. In comparison, the company with the most significant size scored 34.12 on behalf of the MYTX issuer, one of Indonesia's most significant garment and textile companies.

Table 2. Descriptive Statistics

Item	AR	FAI	LEV	LIQ	SIZE
Mean	0.387500	0.356937	1.352453	2.497642	27.64144
Median	0.000000	0.345721	0.985026	1.713455	27.85453
Maximum	1.000000	0.645092	8.261326	13.04157	34.12082
Minimum	0.000000	0.001218	0.071274	0.713502	18.00547
Std. Dev.	0.490253	0.162384	1.222896	2.039458	3.709955
Sum	31.00000	28.55492	108.1962	199.8114	2211.315
Observations	80	80	80	80	80

We performed five kinds of tests: pre-estimation, model specification, estimator selection, post-estimation, and objective testing. The output of each test is as follows.

Pre-estimation Result

Table 3 demonstrates the results of the classical assumption tests for the selected estimators bringing about the best linear unbiased predictors for determining the decision of asset revaluation, which are FAI, LEV, LIQ, and SIZE. The complete test comprises four tests: normality, multicollinearity, autocorrelation, and heteroscedasticity. To fulfill the standard distribution assumption, the dependent variable data should range from negative to positive infinite. In contrast, our dependent data contains dummy numbers that only have two values: zero "0" or one "1". Based on this condition; most statisticians propose researchers put into practice the central limit theorem, which presupposes the normality compliance for logistic regression model (Agresti, 2002; Williams, 2009). A similar condition applies to the heteroscedasticity test for our binomial model, which poses probability. The predictive value generated from the logit model will not provide exact numbers of the dependent variable. Instead, the generated value may bring forth the probability of altering the dependent variable value. Consequently, the probability imposes uncertainty derived from all variables not included in our model. Regardless of this uncertainty,

statisticians suggest that researchers may have to give a counterfactual conjecture towards the categorical data model as the conjecture will only be correct when scholars effectuate the surmise of no-heteroscedasticity under logit circumstance (Agresti, 2002; Buis, 2010; Long & Mustillo, 2021).

Table 3. Best Linear Unbiased Estimator (BLUE) Test

Test	Result
Shapiro-Wilk	Normal
Variance Inflation Factor	No Multicollinearity
Wooldridge	No Autocorrelation
Breusch-Pagan	Homoscedasticity
Cross-Tab of Dummy Dependent	60-40
Conclusion	Unbiased

The Shapiro-Wilk test in Table 3 shows p-values less than 0.05, indicating no significant deviation from normality. We conclude there is no correlation between variables and the Variance Inflation Factor. Furthermore, the Wooldridge test shows no autocorrelation between variables used in our research. We use the Breusch-Pagan test to determine whether heteroscedasticity is present in the residuals or not. The test results show that the residuals are distributed with equal variance at each level of the predictor variable, meaning the data is homoscedasticity. We concluded that our variables are unbiased based on the classical assumption tests.

Model Specification Result

The breusch-Pagan test to determine the usage of the Random Effect Model (REM) or Pooled Ordinary Least Square Model (CEM) cannot be executed for the panel logit. Hence we perform the AIC-BIC test to analyze which model provides the lowest error value. Based on Table 4, the Chow Test result informs that CEM is the preferred model compared to Fixed Effect Model (FEM) or REM. However, Hausman Test and AIC-BIC test show that REM is the best model to provide the lowest error value. As a result, the Random Effect Model is the best model for testing the objective fulfilments regarding the asset revaluation decision. Table 4 summarizes appointing the best model specification for the objectives testing stage.

Table 4. Model Fitting Test

Item	Pooled OLS	Fixed Effect	Random Effect	Conclusion
Chow	V			
Hausman			V	Random Effect Model
AIC-BIC			V	

Estimators Selection Result

We present the objective testing result in Analysis 1, which summarizes the odds ratio and probability of panel logit using random effect estimation, as referred to in Table 5. The probability of REM output of this research is cut in half to determine the positive and negative significance of each independent variable involved (one-tailed). Based on Table 5, our research has proved that all predictors: FAI, LEV, and LIQ, as controlled by SIZE, have a significant influence on a firm's revaluation decision with significance levels ranging from 1% to 5%. The estimators' power to estimate the probability of a revaluation decision is about 12.05%, with a P-value below 0.01.

Table 5. Panel Logistic Regression Results – Random Effect Model

		Analysis 1				
Predictors	Prediction	Coef.	Odds	Z-Stat	Prob	Sig
FAI	+	28.92144	3.63E+12	2.72	0.00	***
LEV	+	8.204296	3656.624	2.45	0.00	***
LIQ	-	-34.50996	1.03E-15	-1.91	0.02	**
SIZE		0.754531	2.126614	1.61	0.05	**
Constanta		-28.51308	4.14E-13	-1.87	0.03	**
Wald-chi2	12.05					
Prob>chi2	0.00					
Log-Likelihood	-26.83					

However, we found uncommon numbers of odds ratios in Analysis 1, which will bias our interpretation toward the logit result. To tackle the issue, we further playact the robustness test by executing the Generalized Estimating Equation (GEE) procedures towards the chosen model resulting in the fair values of odds ratio presented in Analysis 2 in Table 6. The GEE test of Analysis 2 provides a similar output to the REM test of Analysis 1. All main predictors: FAI, LEV, and LIQ, shows significant relations to the dependent variable of the probability of asset revaluation. The positive or negative prediction in the GEE model also displays the same results as REM. The only difference between GEE and REM is the relationship between the control variable: SIZE with the dependent. With the P-value of 0.28 under one-tail analysis, SIZE has no substantial causation with the dependent. Table 6 shows the summary of the GEE model to interpret factors affecting asset revaluation decisions.

Table 6. Robustness Test – General Effect Estimation Model

		Analysis 2				
Predictors	Prediction	Coef.	Odds	Z-Stat	Prob	Sig
FAI	+	3.86188	47.55468	2.44	0.00	***
LEV	+	0.9602734	2.612411	1.83	0.03	**
LIQ	-	-3.646031	0.026094	-1.29	0.09	*
SIZE		0.0688445	1.07127	0.57	0.28	
Constanta		-3.373716	0.034262	-0.93	0.17	
Wald-chi2	9.72					
Prob>chi2	0.04					
Log-Likelihood	-26.83					

The Post-estimation Result

Conducting the post-estimation test, nonetheless, is pivotal to ensure the model's validity in predicting the dependent variable in the form of asset revaluation motives. We found a significant constraint during the test execution using Stata14 that is related to the insufficiency of the statistical program to perform full pictures of the panel logit post-estimation test. As proposed by Agresti (2002), the entire test consists of a goodness-of-fit (GOF) test, sensitivity-specificity examination, and classification table. As a corollary, we conducted another way of measuring GOF for panel logit by identifying the probability of chi-square from our most robust model: the GEE model. The probability of a Wald chi-square value under 0.05, as illustrated in Table 7, means the model is valid for measuring the dependent variable values. We replaced the

sensitivity-specificity examination and classification table by performing the receiver operating characteristic (ROC) test to specify the cut-off point of the selected model. The cut-off point of 0.6880, as shown in Table 7, provides us the threshold to classify the decision of "evaluating fixed assets" or "not enacting the revaluation."

Table 7. Prob-Chi-Square and ROC Curve of Asset Revaluation Model

Wald Chi-Square	9.72
Prob>Chi-Square	0.04
ROC Cut-off Point	0.6880
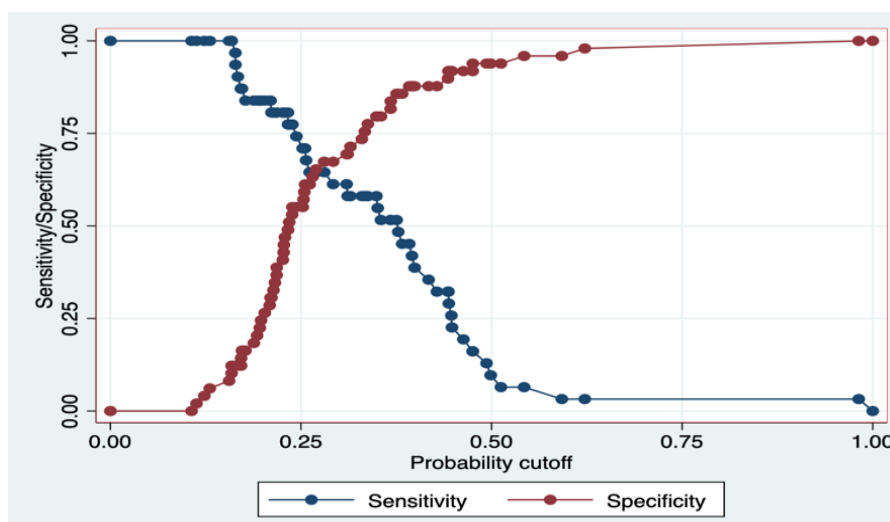
Figure 1. ROC Sensitivity and Specificity

Objectives Testing Results

The final model of the asset revaluation decision model is as follows:

$$\text{Log } (P_{AR}/1\text{-}P_{AR}) = -3.37 + 3.86*FAI_{it} + 0.96*LEV_{it} - 3.64*LIQ_{it} + 0.06*SIZE_{it} + \varepsilon_{it} \ \dots\dots\dots \ \text{(Equation 2)}$$

The elucidation of the final model is as follows. The researchers adopt model 2 as the final model, which is already robust for discerning the research findings, given that all variables have a significant P-value at a significance level of 1% -10%. After being regulated by LEV and LIQ, FAI is the accounting information that has the most critical effect in prompting fixed asset revaluation choices based on the odds ratio value of 47.55. FAI has a P-value of 0.00, less than 1% significant, and a positive coefficient of 3.86, indicating that FAI has positively influenced fixed asset revaluation choices. As a result, the first objective is fulfilled. Public companies with high FAI have a *47-fold* larger capacity to reassess fixed assets after being controlled by LEV and LIQ than issuers without FAI.

LEV has a P-value of 0.03, below the 5% significance threshold, and a positive coefficient of 0.96, indicating that it substantially influences the decision to revalue fixed assets. Thus, the second objective is satisfied. It can be stated that public firms with high LEV values are *twice* as likely as companies with low LEV values to reevaluate fixed assets after being regulated by LIQ and FAI. LIQ has a P-value of 0.09, less than the 10% significance level, and a negative score of -3.64, implying that it significantly negatively influences fixed asset revaluation decisions. As a result, the third objective is validated, and we can conclude that after being regulated by FAI and LEV, public corporations with high LIQ have a *0.02* more significant likelihood of not revaluing fixed assets than firms with low LIQ values. Table 8 summarizes the

conclusion drawn from the findings of our investigation. Based on Table 8, our research has confirmed all three objectives by proving that FAI, LEV, or LIQ can influence the asset revaluation decisions in manufacturing companies listed on the IDX from 2016 to 2019.

Table 8. Summary of Research Results

	Objective	Conclusion
Objective 1	The Positive Relation Between FAI and AR	Fulfilled
Objective 2	The Positive Relation Between LEV and AR	Fulfilled
Objective 3	The Negative Relation Between FAI and AR	Fulfilled

Fixed Asset Intensity and Fixed Assets Revaluation Motives

According to the test result, this finding supports the stewardship theory as companies with higher fixed asset intensity tend to reevaluate its asset. Davis et al. (1997) and Zhang et al. (2018) explain that managers, from the stewardship theory perspective, are driven to operate to their owners' most significant advantage as stewards. The model of managers, in theory, is based on a steward whose conduct is regulated as pro-organizational. A steward's behavior will not deviate from his or her organization's interests if given a choice between self-serving behavior and pro-organizational behavior. Self-serving actions will not be traded for cooperative behaviors by a steward. As a result, even when the steward's and principal's objectives are at odds, the steward values collaboration above defection. The outcome of our research shows that companies must represent a more relevant financial statement and keep the representation of their assets' price the same as its original condition. This result aligns with the stakeholder's theory because the managers serve the shareholders' interest by providing more relevant information via asset revaluation. Managers who carry out the high intensity of fixed asset investment strategy tend to conduct asset revaluation to improve the relevancy of the firm's financial statements.

Our results also support the research results conducted by Diantimala et al. (2019), Fathmaningrum & Yudhanto (2019), Fioni et al. (2019), and Manihuruk & Farahmita (2015). The features of manufacturing businesses may have a significant impact on this finding. In general, fixed assets account for the majority of total assets reported in financial statements in industrial enterprises. Fixed assets are critical to a company's operational longevity. All of the revaluations applied by manufacturing enterprises in this study are upward. Such demonstrates that the revaluation mechanism is used to increase the firm's worth in the case of investment.

Moreover, there are two critical aspects. Surplus revaluation is most common on fixed assets with a greater possibility of increasing in fair value year after years, such as land and buildings. Meanwhile, revaluation is only sometimes performed for fixed assets that have the potential to depreciate in fair value, such as factories and machinery. In this case, industries prefer to employ historical techniques. According to PMK 191, the manager's judgments, in this case, conform with the government's plea while still advancing the firm's purpose of improving its worth.

Leverage and Fixed Assets Revaluation Motives

As previously stated, all manufacturing firms implementing this research's revaluation method produce a surplus revaluation. As a result of this fact, inflation of shareholder's equity happened. This scenario, then, has a domino effect, leading to a decrease in the firm's leverage ratio and the possibility of more borrowing from creditors. Consequently, the firm's leverage is commensurate with the fixed asset

intensity. The reason is due to the nature of the liabilities. Manufacturing enterprises' indebtedness is often productive debt. It means that loans are assigned to fixed assets that aid in the long-term profitability of the company's performance. A higher fixed asset intensity will result from increased leverage. Both are mutually important regarding a manager's decision to select a model. In line with stewardship theory, managers will behave as responsible stewards of the assets they oversee if they are left to their own devices, and the presence of a significant link between the degree of debt and the desire to revalue the fixed assets is described (Davis et al., 1997). Intrinsic benefits, such as trust, brand improvement, degree of responsibility, work satisfaction, and stability, inspire managers as stewards. Stewardship theory relies heavily on the trustworthiness orientation of both the principal and the steward (Zhang et al., 2018).

Based on the test result, this finding supports the stewardship theory as companies with higher debt composition will carry out revaluation to escalate their DER performance. High leverage ratios may reflect a company's reliance on its capital structure in the form of indebtedness. Even if the debt is used for productive reasons, a high-leverage profile may provoke investor concerns about the firm and impede credit extension. In conclusion, high leverage will further push enterprises to revalue fixed assets. By expanding the firm's total assets and equity, companies can lower their leverage ratio to zero. Our findings corroborate the findings of Andison (2015), E. Firmansyah & Sherlita (2012), and Ghozali & Tedjasuksmana (2019).

Liquidity and Fixed Assets Revaluation Motives

We have the same view as Black et al. (1998) and Zakaria (2015) in the preliminary proposition. They stated that upward revaluation needs to be carried out by firms with a low level of liquidity. In doing so, the firms can get a new source of funding and improve the quality of their collaterals in events such as credit appliances. From the perspective of stewardship theory, to safeguard and maximize the shareholder's investment, managers require both inner and extrinsic incentives, which may both strengthen trustworthiness (Davis et al., 1997; Zhang et al., 2018). Alternatively, the firm's performance may improve due to the nature of company managers' trust and adherence to corporate liquidity. Our findings substantiate the initial hypothesis of Black et al. (1998) and Zakaria (2015). PMK 191 policy encourages enterprises to utilize the revaluation model by providing facilities. However, those amenities were only available in 2015 and 2016. PMK 191 does not nullify the terms of PMK 79 of 2008. After two years, the income tax rate owing to revaluation will revert to 10%. Although the decision to use the revaluation model may have been motivated by the facilities provided by PMK 191, it is a long-term decision. In the future, corporations will be liable for a 10% Final Income Tax if there is an excess of revaluation. This tax must be paid in the year in which the excess occurs. It will not result in deferred tax obligations that can be repaid. This tax must be paid in the same year the excess happened. It will not generate deferred tax debt, which can be reversed in the following year if the asset value decreases. Surplus revaluations are generated by all manufacturing enterprises in this study that employ the revaluation strategy.

Fixed asset components in the excess revaluation are indeed unlikely to lose value. If the business applies revaluation and the price increases yearly, the firm must pay a 10% Final Income Tax each year. Based on this reason, it is possible to conclude that using the revaluation technique is a long-term decision. It contrasts with the nature of liquidity, which is short-term. In conclusion, the test result supports the stewardship theory, where companies with higher liquidity would likely negate their chance of conducting assets revaluation.

CONCLUSION

The research uses the Random Effect Model and financial ratios to determine the effect of fixed asset intensity, leverage, and liquidity on fixed asset revaluation decisions among 20 listed manufacturing companies in Indonesia. The study covers 2016 to 2019 fiscal years. We use the data panel regression technique to find a correlation between financial ratios proxy, which in this case are FAI, DER, and CA, and the decision to implement revaluation of the fixed asset. The results demonstrated that the variables of fixed asset intensity and leverage had been proven to affect fixed asset revaluation motives positively. Liquidity, on the other hand, has a negative effect on fixed asset revaluation decisions. The revaluation of fixed assets has one major drawback: the absence of cash inflow. It is a window dressing and goes hand in hand with the concept of agency theory. However, it should be noted that the implications for fixed asset revaluation are different in Indonesia. From a tax perspective, the manufacturing sector has had the largest share of total tax revenue over the years. For example, the realization of manufacturing sector tax revenue until the end of 2019 reached IDR 365.39 trillion. This figure confirms the manufacturing sector as the primary contributor to tax revenue, contributing 29.4% of the total tax revenue. This significant contribution became one of the bases for the issuance of PMK 191 of 2015 concerning the Revaluation of Fixed Assets for Taxation Purposes for Applications Filed in 2015 and 2016.

The implication of the PMK 191 policy is to stimulate decision-makers to ignore the weaknesses and focus on the benefits offered in the revaluation method. A similar case also happened in the post-monetary crisis events that urged the issuance of KMK Number 384/ KMK.04/1998 concerning the Revaluation of Company Fixed Assets. At that time, almost all firms reported losses and caused inflation at a significant level. In response to this critical situation, the government provided incentives by issuing regulations related to fixed asset revaluation. This regulation aims to motivate the firms to conduct a revaluation of fixed assets and produce financial reports that can attract investors. In this scenario, window dressing through fixed asset revaluation is something the government recommends. It is why window dressing implications in Indonesia are different, especially from a tax perspective. Managers who choose to use the revaluation model reflect the firm's objectives but also comply with recommendations from the government, so in this case, stewardship theory is more relevant than agency theory.

The limitations of this research include the following: first, the research was conducted using data from 2016 to 2019. We do not consider existing macroeconomic factors, so there may be a bias in the data used in this research. Second, limited research time so that we cannot extract more in-depth information on the profile and activities of each issuer, especially those not included in the financial statements. Third, there are other variables that we need to discuss in more depth. Our suggestions for future research: firstly, include other variables that can influence fixed asset revaluation decisions, such as deferred tax liability, market-to-book ratio, operating cash flow, tax incentives, differences in tax and accounting regulations, and other factors; secondly, use a broader range sample of data, namely by increasing the period of the data studied and adding to the sub-sectors studied such as the primary industry and chemicals and the consumer goods industry. Future research can also dig deeper into the revaluation of fixed assets in the financial sector and trade, services, and investment. Thirdly, Subsequent research can find conclusions about whether the provision of incentives from the government, such as reducing tax rates, can

significantly impact tax revenues and the tendency of companies to reevaluate fixed assets.

To the government, we also suggest encouraging the level of participation of firms to implement fixed asset revaluation by providing more tax incentives. Fixed asset revaluation will increase market value in specific sectors so that firms can present more relevant values. Increasing the company's market value will also increase the potential for tax revenue. The government also needs to help make the process of revaluation for firms easier so it can be another push for doing that. This policy is especially needed during the COVID-19 pandemic. In this pandemic, firms directly need to revalue their fixed assets. The government can play a crucial role by providing tax incentives similar to PMK 191/PMK.010/ 2015. It is proven that revaluation is more relevant information because it displays fixed asset prices in financial statements. It helps investors provide a suitable investment because relevant information portrays the ongoing economic conditions, especially during the COVID-19 pandemic. It is also valid for authority agencies such as the Indonesian Accountant Association (IAI) to make policies following the latest conditions and relevant information.

REFERENCES

Agresti, A. (2002). Categorical Data Analysis. In Wiley Interscience (Second). Wiley. https://doi.org/10.1016/B978-008044910-4.00409-0

Altig, D., Baker, S., Barrero, J. M., Bloom, N., Bunn, P., Chen, S., Davis, S. J., Leather, J., Meyer, B., & Mihaylov, E. (2020). Economic uncertainty before and during the COVID-19 pandemic. Journal of Public Economics, 191, 104274. https://doi.org/10.1016/j.jpubeco.2020.104274

Andison, M. (2015). Fixed Asset Revaluation : Market Reactions. Simposium Nasional Akuntansi, 18(29), 122–135.

Army, J. (2013). Pengaruh Leverage, Likuiditas dan Profitabilitas Terhadap Risiko Sistematis pada Perusahaan Perbankan yang Terdaftar di BEI. Jurnal Akuntansi 1, XVIII, 1–28.

Azouzi, M. A., & Anis, J. (2012). CEO emotional bias and investment decision, Bayesian network method, Management Science Letters, 9(2), 239-256, https://doi.org/10.5267/j.msl.2012.02.012

Barlev, B., Fried, D., Haddad, J. R., & Livnat, J. (2007). Reevaluation of revaluations: A cross-country examination of the motives and effects on future performance. Journal of Business Finance and Accounting, 34(7-8), 1025-1050, https://doi.org/10.1111/j.1468-5957.2007.02019.x

Black, E. L., Sellers, K. F., & Manly, T. S. (1998). Earnings management using asset sales: An international study of countries allowing noncurrent asset revaluation. Journal of Business Finance and Accounting, 25(9-10), 1287-1317, https://doi.org/10.1111/1468-5957.00238

Bloomberg. (2020). Distressed Debt Balloons to Almost $1 Trillion, Nears 2008 Peak - BNN Bloomberg.

Buis, M. L. (2010). Heteroscedasticity in logit / probit model. www.stata.com. https://www.stata.com/statalist/archive/2010-11/msg00996.html

Caers, R., Du Bois, C., Jegers, M., De Gieter, S., Schepers, C., & Pepermans, R. (2006). Principal-agent relationships on the stewardship-agency axis. Journal of Nonprofit Management and Leadership, 17(1), 25-47, https://doi.org/10.1002/nml.129

Davis, J. H., Schoorman, F. D., & Donaldson, L. (1997). Toward a stewardship theory of management. The Academy of Management Review, 22(1), 473–500. http://www.jstor.org/stable/259223

Diantimala, Y., Syahnur, S., & Ridwan, R. (2019). Factors Influencing Asset Revaluation by Indonesian Listed Companies in IFRSs Implementation. 292(Agc), 452–459. https://doi.org/10.2991/agc-18.2019.68

Fahmie, A., & Triandi. (2016). Pengaruh Leverage dan Ukuran Perusahaan Terhadap Keputusan Revaluasi Aset (Studi Empiris pada Perusahaan Manufaktur yang Terdaftar di BEI periode 2012-2016). Jurnal Ilmiah Akuntansi Kesatuan, 6(2), 110-118, https://doi.org/10.37641/jiakes.v6i2.135.

Fathmaningrum, E. S., & Yudhanto, S. K. (2019). Determinants of Fixed Asset Revaluation Decision and Its Impacts on Market Reaction: A Comparative Study in Indonesia and Singapore. Journal of Accounting and Investment, 20(2), 76-98, https://doi.org/10.18196/jai.2002118

Fields, T. D., Lys, T. Z., & Vincent, L. (2001). Empirical research on accounting choice. Journal of Accounting and Economics, 31(1–3), 255–307.

Fioni, D., Rifa, D., Darmayanti, Y., & . (2019). Pengaruh Jaminan Utang, Penurunan Arus Kas dari Aktivitas Operasi dan Fixed Asset Intensity Terhadap Revaluasi Aset Tetap. Reviu Akuntansi dan Bisnis Indonesia, Vol. 3 No.(1), pp:27-37.

Firmansyah, D., Ahmar, N., & Mulyadi, J. (2017). Pengaruh Leverage, Size, Likuiditas, Arus Kas Operasi Terhadap Revaluasi Aset Tetap. Jurnal Ilmiah Manajemen Bisnis, 3(01), 1–18. https://doi.org/http://dx.doi.org/10.22441/jimb.v3i1

Firmansyah, E., & Sherlita, E. (2012). Pengaruh Negosiasi Debt Contracts Dan Political Cost Terhadap Perusahaan Untuk Melakukan Revaluasi Aset Tetap (Studi Empiris Pada Perusahaan Yang Terdaftar Di Bursa Efek Indonesia Tahun 2010). Seminar Nasional Akuntansi dan Bisnis. https://doi.org/2252-3936

Ghozali, D., & Tedjasuksmana, B. (2019). Pengaruh Leverage, Market-to-Book Ratio, Likuiditas, dan Intensitas Aset Tetap Terhadap Keputusan Revaluasi Aset Tetap. Jurnal Akuntansi Kontemporer, 11(2), 74–84. https://doi.org/10.33508/jako.v11i2.2079

Gunawan, F., & Nuswandari, C. (2019). Likuiditas, Leverage, Fixed Asset Intensity, Arus Kas Operasi, dan Ukuran Perusahaan Terhadap Pemilihan Model Revaluasi Aset Tetap (Studi Empiris pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia Periode 2013-2017). Dinamika Akuntansi, Keuangan dan Perbankan, 8(1), 1–11. https://doi.org/10.1017/CBO9781107415324.004

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate Data Analysis. In Vectors. https://doi.org/10.1016/j.ijpharm.2011.02.019

Jaggi, B., & Tsui, J. (2001). Management motivation and market assessment: Revaluations of fixed assets. Journal of International Financial Management and Accounting, 12(2), 160-187. https://doi.org/10.1111/1467-646X.00070

Kasmir. (2011). Analisis Laporan Keuangan. Cetakan ke-11. Depok: Rajawali Pers

Kurniawati, L., & Yushuda, E. B. (2019). Pengaruh Revaluasi Aset Tetap Terhadap Kinerja Perusahaan Pada Masa Mendatang. Jurnal Sumber Artikel Akuntansi Auditing dan Keuangan Vokasi, 3(1), 1-21. https://doi.org/10.1017/CBO9781107415324.004

Latifa, C. A., & Haridhi, M. (2016). Pengaruh Negosiasi Debt Contracts, Political Cost, Fixed Assets Intensity, dan Market-to-Book Value Ratio terhadap Perusahaan

Melakukan Revaluasi Aset Tetap (Studi pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia Tahun 2010-2014). Jurnal Ilmiah Mahasiswa Ekonomi Akuntansi (JIMEKA), 1(2), 166–176.

Long, J. S., & Mustillo, S. A. (2021). Using Predictions and Marginal Effects to Compare Groups in Regression Models for Binary Outcomes. Sociological Methods & Research, 50(3), 1284–1320. https://doi.org/10.1177/0049124118799374

Manihuruk, T. N. H., & Farahmita, A. (2015). Analisis faktor-faktor yang mempengaruhi pemilihan metode revaluasi aset tetap pada perusahaan yang terdaftar di bursa saham beberapa negara ASEAN. Simposium Nasional Akuntansi 18. https://doi.org/10.3233/978-1-61499-672-9-655

Mood, C. (2010). Logistic Regression: Why We Cannot Do What We Think We Can Do, and What We Can Do About It. European Sociological Review, 26(1), 67–82. https://doi.org/10.1093/esr/jcp006

Musthafa, T. F., Triyuwono, I., & Adib, N. (2020). Application of Asset Revaluation By the Public Assessment Office: a Reflection of Sharia Accounting, Shari'Ah Enterprise Theory. International Journal of Economics, Business and Accounting Research (IJEBAR), 4(03), 16–26. https://doi.org/10.29040/ijebar.v4i03.1281

Nailufaroh, L. (2019). Pengaruh Likuiditas, Fixed Assets Intensity, Market To Book Ratio, Dan Ukuran Perusahaan Terhadap Keputusan Perusahaan Melakukan Revaluasi Aset Tetap. Jurnal Akuntansi : Kajian Ilmiah Akuntansi (JAK), 6(1), 1-19. https://doi.org/10.30656/jak.v6i1.943

OECD. (2020). Corporate sector vulnerabilities during the Covid-19 outbreak: Assessment and policy responses.

Reuters. (2020). Coronavirus bringing record $1 trillion of new global corporate debt in 2020: report | Reuters.

Seng, D., & Su, J. (2010). Managerial Incentives Behind Fixed Asset Revaluations : Evidence from New Zealand Firms. Working Paper Series University of Otago Departement of Accountancy and Business Law, 3(3), 1-33.

Sitepu, H. B., & Silalahi, E. R. . (2019). Pengaruh intensitas aset tetap,leverage,likuiditas,pertumbuhan perusahaan dan ukuran perusahaan terhadap revaluasi aset tetap pada perusahaan manufaktur sektor industri dasar dan kimia yang terdaftar di BEI. Jurnal Reviu Akutansi dan Keuangan, 5(2), 165–190.

Sundaramurthy, C., & Lewis, M. (2003). Control and collaboration: Paradoxes of governance. The Academy of Management Review, 28(3), 397-415. https://doi.org/10.5465/AMR.2003.10196737

Williams, R. (2009). Using Heterogeneous Choice Models to Compare Logit and Probit Coefficients Across Groups. Sociological Methods & Research, 37(4), 531–559. https://doi.org/10.1177/0049124109335735

World Bank. (2020). From Containment to Recovery. East Asia and Pacific Economic Update (October), World Bank, Washinton DC. 10.1596/978-1-4648-1641-3. License: Creative Commons Attribution CC BY 3.0 IGO

Wren-Lewis, S. (2020). The economic effects of a pandemic, retrieved on April 2020 from https://socialeurope.eu/the-economic-effects-of-a-pandemic.

Yulistia M, R., Fauziati, P., Minovia, A. F., & Khairati, A. (2015). Pengaruh Leverage , Arus Kas Operasi , Ukuran Perusahaan dan Fixed Asset Intensity Terhadap Revaluasi Aset Tetap. Simposium Nasional Akuntansi 18. https://doi.org/10.1016/j.jhsa.2014.07.008

Zakaria, A. (2015). An Empirical Analysis of the Motives for and Effects of Fixed Assets Revaluation of Indonesian Publicly Listed Companies. Birmingham City University Press.

Zhang, F., Wei, L., Yang, J., & Zhu, L. (2018). Roles of Relationships Between Large Shareholders and Managers in Radical Innovation: A Stewardship Theory Perspective. Journal of Product Innovation Management, 35(1), 88–105. https://doi.org/10.1111/jpim.12376