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THE INCENTIVE FOR CHOOSING REVALUATION MODEL OF FIXED ASSET: EVIDENCE FROM INDONESIAN LISTED FIRMS AFTER IFRS ADOPTION

Dyah Purwanti[1] and Edy Purwanto[2]

[1] *STAN-Polytechnic of State of Finance*
[2] *FETA, Ministry of Finance*

Abstracts: The purpose of this study is to investigate why Indonesian firms choose revaluation model of fixed assets. Choosing revaluation model is a voluntary option, whereby accounting standards allow accounting entities to use either the cost model or revaluation model for recognizing fixed assets in their financial statements. By observing all listed firms in the Indonesia Stock Exchange, we employ logistic regression to investigate the motivation. This study finds export sales as the strongest incentive for choosing revaluation model. We document that firms which have larger export activity are more likely to choose a revaluation model. It implies that a revaluation model or asset revaluation is used as a device to improve foreign stakeholders' perception on the firms' financial strength. Other findings are the larger firms and firms suffering loss in the previous year and having greater diffusion of ownership were less likely to choose a revaluation model. The implication of this research improves our understanding on what incentive underlies the revaluation decision. The choice of accounting method is influenced by the manager's incentives and the business environment in which firms immerse. The success of IFRS implementation should consider such factors, then the objective of producing high quality accounting information is achieved.

Keywords: revaluation model, incentive, IFRS adoption, fixed assets

I. INTRODUCTION

Indonesia has officially adopted International Financial Reporting Standards (IFRS) since 2012. The most interesting topic in IFRS adoption is fair value option to recognize fixed assets. IFRS gives an option to recognize fixed assets under either cost model or revaluation model. Accounting rules of fixed asset have been accommodated in Indonesian Financial Accounting Standards Statements (IFASS) No. 16 since 2012. The use of revaluation models for fixed assets was believed to increase the relevance of financial information to external parties. However, asset revaluation causes higher cost for revaluation service and higher tax payment where an increase in value of upward revaluation becomes an object of income tax provisions. Article 17 of the Indonesian Income Tax Act imposes a 10% of tax rate on upward revaluation. Since upward revaluation has no impact to future cash flows and increases tax burden, manager considers the trade-off of costs and benefits to revalue their fixed assets.

Prior to IFRS adoption in 2012, Indonesian Institute of Chartered Accountant (IICA) regulates the recognition of property, plant and equipment under the cost model, y*et al*lows the use of the revaluation model. Prior to the adoption, there were only 7 companies using the revaluation model to recognize their fixed assets in the financial statements. After the IFRS adoption, the firms using the revaluation model increase to 76 firms. The rising number of the firms occurs gradually, where in 2012, 2013 and 2014 there were 6, 5 and 6 firms respectively. Just in 2015 and 2016, there were additional 52 firms that chose the revaluation model. In total, until 2016, there were 76 firms out of 583 listed firms on

Indonesia Stock Exchange choosing revaluation model to recognize their fixed assets. This fact shows that the revaluation model is seen as an unfavorable choice to accounting entities, and most firms still use the cost model. Since there are only a few of firms choose revaluation model, we are interesting to investigate what incentives that underlie the decision. The findings are very useful in developing an understanding in positive accounting theory, whether in the choice of accounting methods, in this case the revaluation model, is influenced by manager's incentives.

We find the incentive for choosing revaluation model is foreign sales. The larger foreign sales volume, the more likely they are to choose the revaluation model. It proves that revaluation is used as a device to improve the foreign stakeholders' perception of the firm's financial confidence (Missonier-Piera, 2007). However, the size, previous loss disclosure and ownership diffusion have a negative association with the revaluation model. It means the larger firms are less likely to choose revaluation model and neither do the firms that have previous loss experience and more diffused ownership (Choi, Pae, Park and Song, 2013).

By descriptive analysis, we find that most of Indonesian firms revalue their land, instead of other fixed assets, such as buildings, equipment, ship and plantation. It suggests that land is the most preferred choice to revalue because the land's value continues to grow. This fact supports our finding, most of firms tend to engage upward revaluation. It reveals the revaluation model as a tool to enhance their financial position.

The results confirmed the previous research. Selection of accounting methods, i.e. revaluation model is based on manager's incentives to benefit from the application of such method. By applying revaluation model, it is expected that the accounting information will be more relevant for users of financial statements. We provide evidence that financial reporting is not solely based on compliance to accounting standards but also business environment where the company is immersed and the preparers' incentive.

However, our research has several limitations and we suggest to explore the phenomenon when more than 60 companies revalue their assets during 2015-2017. Further research investigates what economic events took place during 2015-2017, prompting Indonesian firms to revalue their assets. In addition, we also suggest to compare the application of revaluation models in other countries adopting IFRS.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Revaluation Model

Revaluation model is an accounting method for recognizing fixed asset at fair value. The purpose of this revaluation model is to provide information on the value of fixed assets at fair value. The information is expected to provide current-value of fixed assets that are useful in decision making. Stakeholders as creditors, suppliers and investors need relevant information in credit approval, adequacy of debt guarantees and firm capacity for expansion.

The revaluation model requires fixed asset to be carried at a revalued amount, have fair value at the date of revaluation, and have less subsequent accumulated depreciation. Revaluation difference is recorded in Other Comprehensive Income (OCI) within the equity section of the balance sheet under the heading of revaluation reserve. The revaluation shall be made regularly to ensure that the carrying amount does not differ materially from the amount determined using fair value at the financial position date.

IFRS Adoption in Indonesia

The Indonesian accounting standards were formulated by Indonesian Institute of Chartered Accountant (IICA). In 1984, Indonesia already had an accounting standard. This standard more referred to US GAAP rather than to International Accounting Standards (IAS). US GAAP used the principle of historical cost, particularly to recognize fixed assets. Most of Indonesian firms used historical cost or cost model for their fixed assets. However, in subsequent developments, standard setters also converged Indonesian accounting standards to IAS. Officially, the standards have been converged to IFRS since 2012. IFRS gives an option to use fair value

accounting or historical cost. IICA converges the option to accounting of property, plant and equipment (PPE) rules, set forth in the Indonesian Financial Accounting Standards Statements (IFASS) no. 16. PPE could be recognized by either cost model or revaluation model. At the date of the financial statements, PPE will be valued at cost after deducting the accumulated depreciation by cost model. The carrying amount of the asset will be compared to its fair value. Using the revaluation model, the management is allowed to revalue either the upward or downward adjustment to its current fair value (IICA, 2017). Since the IFRS adoption, Indonesian firms as accounting entity allow to recognize their fixed assets under either cost model or revaluation model.

Fair value has been the subject of debate over the past years. Fair value data may be unavailable, as managers can arbitrarily determine the value they wish for their fixed assets. But in substance, upward revaluations increase the value of fixed assets and bring up revaluation reserves in the equity section. An increase in the value of an asset is followed by market prices as a result of the presentation of the changed asset-money-years. However, the upward revaluation increases depreciation expense in the subsequent period. It is predicted that the future profit will decrease, either return on asset (ROA) or return on equity (ROE).

Hypothesis Development

The accounting standard governs the accounting treatment for asset revaluation for PPE. Since PPE was the largest component of asset, asset revaluation would generate potential benefits to the company (Choi *et al.*, 2013). And the choice of assets to be revalued is a regularly increasing-value's asset. Firms having debt contract would concern about high value of asset as a positive signal to creditors on adequacy debt covenant. Thus, we predict that companies with greater PPE intensity are more likely to revalue their fixed assets or more likely to choose a revaluation model.

H_1: *Firms with high capital intensity are more likely to choose revaluation model.*

Associated with assets as a debt guarantee, the revaluation of fixed assets would increase the borrowing capacity of debtor companies (Cotter, 1999; Cotter and Zimmer, 1995). Firms that have high debt-to-equity ratio (DER) will improve their financial position by lowering DER. The revaluation can be used to decrease DER by increasing equity value through revaluation reserve. It supports the fact that land and building are the most used collaterals. It is the reason why firms revalue their land and buildings.

H_2: *Firms with high debt to equity ratio are more likely to choose revaluation model.*

When the leverage is high, i.e. debt is higher than asset, firm will try to improve their leverage by reducing debt or increasing their assets. The using of revaluation model will increase the value of asset. And it implies that firms use revaluation as a tool to improve the creditors' perception of the ability to satisfy their obligation (Missonier-Piera, 2007; Choi *et al.*, 2013; Cotter *et al.*, 1995; Brown *et al.*, 1992; Lin and Peasnell, 2000; Nichols and Buerger, 2002).

H_3: *Firms with high leverage are more likely to choose revaluation model.*

Accounting information is often used in the political process. Reported large earnings may be used as an evidence of monopoly which is often used to set rates in regulated industries such as public utilities. Under such assumption, large companies are politically more sensitive than small companies (Watts and Zimmerman, 1986). The size hypothesis suggests that large companies are more likely to revalue in order to project a conservative picture of profitability, which will help to lower the attention of the press and the government. Consistent with the size hypothesis, prior studies report a positive relationship between the propensity to revalue PPE and size (Choi *et al.*, 2013; Lin and Peasnell, 2000).

H_4: *Firms with big size are more likely to choose revaluation model.*

Companies that engage in foreign trade activities are committed to foreign stakeholders, so they have an incentive to show financial confidence (Missonier-Piera, 2007). Asset revaluation can serve as a tool to improve the financial position, so that firms with foreign trade activities will tend to prefer the revaluation model for their fixed assets.

H_5: *Firms with higher foreign sales are more likely to choose revaluation model.*

Brown *et al.* (1992) and Whittred and Chan (1992) partially explained the occurrence of voluntary upward revaluations by the Australian firms. They found that revaluation was associated with debt contracts, high leverage, reduction political costs, bonus stock issues, and avoidance of hostile takeovers. Further, the study of Brown *et al.* (1992) and Whittred *et al.* (1992), confirmed the results of Choi *et al.*(2013), where the Korean companies were more likely to revalue Property, Plant and Equipment (PP&E) to improve their financial position or reduce debt by contracting costs rather than less political costs or signal better future prospects. Choi also concluded that Korean firms tended to choose to revalue land and depreciable assets when they are highly leveraged, experience equity depletion, and report losses.

H_6: Firms with previous loss experience are more likely to choose revaluation model

Accounting practices carried out by managers cannot be separated from corporate governance principles that are implemented in the company. If the principles of corporate governance are properly implemented, management will intend to better communicate with stakeholders in order to meet the interests of external parties. These companies would be less likely to disguise accounting information (Lopes and Walker, 2012). The committee's duties are associated with the quality of the financial statements as the audit committee is expected to assist the board of commissioners in performing the task of overseeing the financial reporting process by management. The role of the audit committee is very important because it affects the quality of corporate profits which is one of the important information available to the public and can be used by investors to assess the company. The role of the audit committee, the board of commissioners and the shareholder structure affects the company's financial reporting practices (De Fond and Jiambalvo, 1994; Beasley and Salterio, 2001).

H_7: Firms with good corporate governance are more likely to choose revaluation model.

II. RESEARCH METHODOLOGY

We observed all of the listed firms in the Indonesia Stock Exchange during 2008-2016. The sample consisted of 76 firms choosing a revaluation model and 128 firms that did not choose revaluation model. We considered prior period data in the financial statements of the revaluation company to examine the determinant factors underlying the selection of a fixed asset revaluation model in the current period.

Based on previous research, we proposed a research model which described the influencing factors to choose revaluation model. The choosing of revaluation model was set as dependent variable with dummy measurement. If the company chose the revaluation model, then it was assigned with "1". Whereas, the company which did not choose the revaluation model would be given "0". The factors underlying the decision of revaluation model selection such as capital intensity, debt-to-equity ratio, leverage, size, previous loss disclosure, exports sales, ownership diffusion, foreign commissioner, change in audit committee and change in management were independent variables. The independent variable was measured by the lag t-1 size, where the condition of the factors in the previous year became the basis for changing the accounting method from the cost method to the revaluation model. Improving company leverage or increase the value of debt guarantees could be achieved by revaluing their fixed assets. Therefore, we measure the independent variables such as capital intensity, debt-to-equity ratio, leverage, size, previous loss disclosure, exports sales, ownership diffusion, and foreign commissioner using previous year data before the adoption of the revaluation model. We suspected that the conditions in the year prior to the adoption became the motivation for selecting a revaluation model. Thus, we propose the research model as following:

$$REVAL_{it} = a + b_1.Capint_{it-1} + b_2.DER_{it-1} + b_3.LEV_{it-1} + b_4.SIZE_{it-1} + b_5.LossDisc_{it-1} + b_6.ExportSales_{it-1} + b_7.OwnDiff_{it-1} + b_8.ForeignComm_{it-1} + b_9.Change\_AC_{it-1} + b_{10}.Change\_Mgt_{it-1} + b_{11}.ROE_{it-1} + b_{12}.ROA_{it-1} + e$$

Description

Reval = Dummy variable, if the firm is revaluation firm, 1, otherwise 0

Capint = Capital intensity, where PPE/Total Assets

DER = Debt to equity ratio

LEV = Financial leverage (debt/total assets)
Size = size of Firms, Ln (Total Assets)
Lossdisc = Disclosure of previous year Loss, Loss = 1, Otherwise =0
Export Sales = the ratio of export sales /Total sales
Owndiff = ownership diffusion, measured by (1 – major ownership)
Foreign Comm = Dummy variable, 1= if there is foreign commissioner, 0 = none
Change_AC = change of Audit Committee, 1=if there is a change in audit committee, 0 = otherwise
Change_Mgt = change in management, 1= if there is a change in management, 0 = otherwise
ROE = Net income/equity
ROA = Net income/total assets

In the model, we included independent variables, a dependent variable and control variables, i.e. ROE and ROA which indicated the proxy of firm profitability. We employed logistic regression, Stata 14 and Microsoft Excel to process the data. Logistic regression is one type of regression that links between one or several independent variables (independent variables) with dependent variable in the form of categories; usually 0 and 1.

III. RESULT AND DISCUSSION

Table 2 shows the result of the logistic regression. The model is fit based on Hosmer-Lemeshow test, where Prob. > chi2 = 0.3403. Hosmer and Lemeshow test results are used to test the goodness of fit of the model, or in other words to test whether the model we use, i.e. by using independent variables (capital intensity, debt-to-equity ratio, leverage, size, previous loss disclosure, exports sales, ownership diffusion, foreign commission, change in audit committee and change in management) is in accordance with empirical data or not. The null hypothesis of this test is "the model has sufficient explanation of the data (fit)" with the criterion of the null hypothesis if the probability value is smaller or equal to the specified significance level ($p \leq 0.05$). Based on the regression results, Chi-square value is 8.502 with a probability value of 0.3403. Thus, the null hypothesis is accepted ($0.3403 > 0.05$), meaning the model has sufficiently explained the data (fit).

Table 2
Logistic Regression Results

Variables	*Z*	*P>z*	*Decision*
Capint	-0.22	0.826	Do Not Reject H_0
DER	0.02	0.986	Do Not Reject H_0
LEV	0.65	0.519	Do Not Reject H_0
Size	-1.68	0.093*	Reject H_0
Lossdis	-1.86	0.062*	Reject H_0
Exportsales	3.25	0.001***	Reject H_0
Owndiff	-3.66	0.000***	Reject H_0
Foreign_comm	0.04	0.965	Do Not Reject H_0
Ch_ac	-0.81	0.42	Do Not Reject H_0
Ch_mgt	0.44	0.658	Do Not Reject H_0
ROE	-0.21	0.837	Do Not Reject H_0
ROA	0.72	0.474	Do Not Reject H_0
_cons	1.33	0.182	

*** significant at 1% level, ** significant at 5% level, * significant at 10% level

Based on the results of individual testing, we get that the activity of foreign sales (export sales) is the strongest incentive to conduct revaluation of fixed assets. The regression is positive and statistically significant, presenting z: 3.25 and p-value 0.001 where p-value < 0.01. While other independent variables specifically firm size, previous loss disclosures and the diffusion of ownership showed significant and negative relation with dependent variable. It is interpreted that firm size, last year's loss disclosures and the diffusion of ownership became disincentives for companies to revalue assets. Table 2 shows that hypothesis 5 is accepted, whereas hypotheses 4, 6 and 7 are significant but negatively correlated. The size, loss experience and ownership diffusion are less likely to choose revaluation model.

These results confirm the previous researches of Missonier-Piera (2007), Nichols and Buerger (2002) and Cullinan (1999). These three studies have provided evidence that foreign stakeholders, i.e. foreign trade partners, foreign suppliers and fund providers, contribute to the selection of accounting methods. Firms that engage in overseas operations and facing international

competition, strive to present their financial statement in a more favorable light for those stakeholders. Given the choice of the revaluation model, it provides an alternative presentation of better financial information for managers to increase their asset and equity values. As a result, firms engaging in international trading activities might wish to enhance their perceived financial strength through the choice of income maximizing accounting policies (Cullinan, 1999). Our results support the evidence that the revaluation model is used as a tool to provide a positive perception of the firm's financial strength facing foreign competition. Furthermore, firms that conduct international activities (foreign sales) tend to choose a revaluation model for its fixed assets (Missonier-Piera, 2007).

IFRS was promoted as a high quality accounting standard, enhanced transparency, lowered cost of capital and improved the comparability of internationally financial statement (Barth, Landsman and Lang, 2006). We predict firms engaged in foreign operations attempt to reduce information asymmetry by uniform accounting methods. However, the scope of our study does not include the comparison of firm's financial statement among countries, so the assertion is a conjecture of opportunity for future research.

Our results are also part of the successful proofing in positive accounting theory which provides the explanation whether such contracts provide incentives to managers to choose among accounting method to achieve desired financial reporting objectives (Watts and Zimmerman, 1986). This implies the application of IFRS as an accounting principle is believed to produce high quality accounting information. The implementation of accounting methods under IFRS is insufficient only with incentives to produce high-quality financial information. Accounting standard setters should also consider incentives from financial reporters and the business environment where they operate. The revaluation model as the most popular principle of IFRS is only chosen by firms engaged in foreign activities. We suspect that the selection of the revaluation model is also an attempt to uniform the method of accounting internationally between firms engaging in foreign transactions.

In the final section, we show that the fixed asset revaluation performed by Indonesian managers is upward revaluation with the land as the most widely selected revalued asset. Land revaluation always results in an upward revaluation, so it can be concluded that the objective of selecting fixed assets revaluation focuses on increasing asset values. Table 3 documents the choice of items to revalue. Land is the most preferred item to revalue (86.8%), followed by building (63.16%), equipment (23.68%), machine and ship (11.84%).

Table 3
Composition of Revalued Assets

Revalued Assets	*Percentage*
Land	86.8%
Building	63.16%
Equipment	23.68%
Machine and Ship	11.84%
Plantation	1.32%

IV. CONCLUSIONS AND LIMITATIONS

This study focuses on Indonesian firms and investigates the incentives for choosing revaluations model of fixed assets. The study explores the relation between choosing revaluation model of fixed asset and capital intensity, debt-to-equity ratio, leverage, size, previous loss disclosure, exports sales, ownership diffusion, foreign commission, change in audit committee and change in management. The findings showed that revaluation model would be chosen to favorably affect firms' financial position.

The results are; *first*, export sales' activities become the strongest reason to choose a revaluation model. The more the export sales' volume gets, the more likely the managers to choose the revaluation model. *Second*, size, previous loss disclosure and ownership diffusion are negatively associated with the revaluation model. It explains that the larger the firm size, previous loss experience and the more the diffusion of ownership, the less likely the managers to choose the revaluation model. We also find that land is the most preferred choice to revalue. The reason why land is the most item to revalue because the value of land always goes up. It implies that many Indonesian firms tend to do upward revaluation.

We have several limitations, *first,* we should extend the scope of the study and include economic and political events during 2008-2016 because economic and political factors also influence the selection of an accounting method. *Second*, we do not make any comparison among countries in how revaluation model is implemented in different countries. *Third,* the future research should continue with a questionnaire survey to the manager to find out directly what is their motivation whether they choose or do not choose a revaluation model of fixed assets. *Fourth*, we do not examine the value relevance of revaluation model implementation, whether the decision to revalue an asset is an opportunistic or efficient decision. The value relevance of asset revaluation could be examined from the investor's reaction or from better firm's financial performance in the future.

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