

# Factors Influencing Asset Revaluation by Indonesian Listed Companies in IFRSs Implementation

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**Abstract**—The purpose of this study is to examine the effect of financial factors on companies' decision to apply assets revaluation method or to stay with cost model during the mandatory implementation of IFRSs in Indonesia. The adoption of IFRSs accounting standards and non IFRSs-based accounting standards differs in emphasis on applying asset revaluation. Non-IFRSs accounting standards do not require asset revaluation. The implementation of IFRSs-based standards requires companies to use asset revaluation method to value their fixed assets. Therefore, all listed companies must apply asset revaluation. In fact, not all listed companies in Indonesia apply asset revaluation. This study intends to test firms' decision to implement asset revaluation or to stay with cost model under the condition of the company has implemented IFRSs. This study uses a standards logistic model to examine the effect of financial factors on firm decision to revalue their fixed assets. Sample firms used in this study are the firms listed on Indonesia Stock Exchange for the periods 2013 – 2016. Sample firms consist of 850 firms stay with cost model and 262 firms choose asset revaluation. Therefore, the observation is relatively large 1112 firms – years. The results show that the companies that implement asset revaluation are the companies with higher leverage and lower investment opportunities two years before the companies applied asset revaluation. The findings also present that the companies decide to implement asset revaluation when their financial liquidity and fixed assets intention one year before are higher. From the firm size perspective, bigger firms are more likely to choose asset revaluation. However, smaller firms stay with cost model to revalue their fixed assets. As general, this finding has succeeded to support the hypothesis and previous literatures.

**Keywords**— Financial determination; Asset revaluation; Cost model, IFRSs

## I. INTRODUCTION

Full implementation of IFRSs in Indonesia since January 1, 2012 has prompted the company to conduct an asset valuation by using fair value. Revaluation of fixed assets over buildings, vehicles, equipment, machinery, etc. is a form of fair value implementation. The revaluation of these fixed assets is a mandate of IFRSs which is indispensable for maintaining the relevance of accounting information. Prior to the revaluation of fixed assets, the value of company's fixed assets was reliable but lacking in relevance. The revaluation of fixed assets is expected to reduce the trade-off between the relevance and reliability of accounting information. However, after 5 years of implementation of these IFRSs, not all companies have revalued their fixed assets. This can be seen from the number of companies that use assets revaluation model in assessing fixed assets in their financial statements is still small. This condition shows that not all companies are willing to revalue their fixed assets by using fair value.

Accounting standard in Indonesia allows companies to apply the historical cost model or the fair value model in valuing property, plant and equipment to be reported in the current financial statements. This provides an alternative for companies to choose one of the two models offered. The revaluation of property, plant and equipment under Indonesian SFAS 16 concerning Fixed Assets has been revised three times. First, SFAS 16 (1994) concerning Fixed Assets and Other Assets specifies that in measuring fixed assets, firms may only use the cost model. Next, SFAS 16 (2007) and SFAS 16 (2011) about Fixed Assets have been converted to IAS 16: Property, Plant, and Equipment. Both SFASs states that in measuring the value of fixed assets after recognition, the company may choose a cost model or revaluation model. By using the cost model, after recognizing as an asset, the property is recorded at cost less accumulated depreciation and accumulated impairment losses. By using revaluation model, fixed asset (property, plant and equipment) is recorded at the amount of revaluation, e.g. the fair value at the date of revaluation minus accumulated depreciation and accumulated impairment losses after the date of revaluation.

The asset revaluation is performed with regular regularity to ensure that the carrying amount is not materially different from the amount determined at fair value at the end of the reporting period. Generally, asset revaluation can affect financial position directly and cash flow indirectly. The asset revaluation undertaken is aimed to adjust the value of the asset to its current value by recording the asset revaluation to the equity resulting in an increase in assets and equity, but does not affect cash flow directly. It triggers the value of assets and equity to increase or decrease. Most companies that revalue their asset prefer upward asset revaluation. The reasons why a company revalues its assets have been described in several papers. First, the company revalued its assets cause of its high leverage and low investment opportunities (Missonier-Piera, 2007). By revaluing assets, leverage is expected to decline (Altman, 1995) (Easton, Eddey, & Harris, 1993) and investment opportunities increase as asset market value increases.

Second, assets revaluation is driven by relative investment in property, growth rate of assets, and size (Brown, et.al., 1992). Condition of current assets and fixed assets in the statement of financial position has motivated management to revalue assets. The amount of current assets disproportionately higher than fixed assets and the tendency that companies prefer to own fixed assets in the form of land and buildings, Third, the decrease in cash flow from operation has motivated management to revalue assets when the leverage level is high (Cotter & Zimmer, 1995). Fourth, poor liquidity, bigger size, higher fixed assets intensity, lower market-to-book value ratios, and higher profitability motivate management to choose asset revaluation (Lin & Peasnell, 2000).

This study aims to examine whether the above four reasons affect corporate managers in Indonesia to choose asset revaluation after the company implemented international accounting standards (IAS 16). (Brown, et.al., 1992), Cotter & Zimmer, 1995), and (Lin & Peasnell, 2000) conducted the studies under the conditions of the company had not applied international accounting standards yet. (Missonier-Piera, 2007), (Agnes Cheng & Lin, 2009), and (Iatridis & Kilirgiotis, 2012) performed the study regarding asset revaluation of IFRSs companies. This study intends to examine the manager's decision to choose asset revaluation under the condition of the company has implemented IFRSs. The adoption of non IFRSs accounting standards and IFRSs-based accounting standards differs in emphasis on applying asset revaluation. Non-IFRSs accounting standards do not require asset revaluation so companies that conduct asset revaluation have special motivations. Implementation of IFRSs-based standards requires companies to use asset revaluation; however, there is no penalty for companies that do not apply asset revaluation as a form of fair value.

This paper provides the empirical evidences from firms which are listed in Indonesian Stock Exchange during four years implementation (2013 – 2016) of IFRSs. After six years implementation (2012 – 2017), all companies should have implemented asset revaluation. In fact, based on pre-research analysis on the data of this study, I find that it is only around 30% of listed companies which apply asset revaluation. This study intends to investigate companies' motivation from financial perspective to employ asset revaluation or to stay with cost model under the condition of the company has implemented IFRSs. This study is different from previous studies. Several studies like (Lin & Peasnell, 2000), (Missonier-Piera, 2007), (Cheng & Lin, 2009), (Iatridis & Kilirgiotis, 2012), (Demska, Lin, & Sappington, 2008) have highlighted the way and the incentives of managers to do asset revaluation. The decision on upward asset revaluation or downward asset revaluation has examined in different countries, like UK and Australia. The upward asset revaluation is common practice in Australia and well-known practice in U.K. However, for Indonesia case, this study investigates the decision to choose asset revaluation or cost model in Indonesia. In addition, some studies have looked at managers' incentives that motivated them to do asset revaluation from external and internal factors. This study investigates the incentives to do assets revaluation from firms' internal factors, because internal factor like financial performance is a main factor that affects firms to do asset revaluation.

The structure of this study is as follows. Section 2 presents literature review. Section 3 discusses the research hypotheses. Section 4 presents research method. Section 5 discusses the empirical result. The last, section 6 presents the conclusions of the study.

## II. PRIOR LITERATURE AND HYPOTHESIS DEVELOPMENT

An asset revaluation is an adjustment of book value of assets to its market value (Brown et al., 1992). The adjustment causes the assets value upward or downward. As book value of assets is extremely different with its market value, the companies need to restate their fixed assets value to avoid under-valued assets. It is an accrual transaction, has no noticeable direct effect on companies cash flow. In the revaluation model, a fixed asset is recorded at its fair value on the date of revaluation less any accumulated depreciation and any accumulated impairment losses incurred after the date of revaluation (SFAS 16, 2015). If an asset is still revalued, all fixed assets in the same class are revalued to avoid selective asset revaluation and mixed costs and other values on different dates. However, an asset class may be revalued as long as the revaluation of the asset class can be completed in a relatively short period and as long as the revaluation is updated (SFAS 16, 2015).

One reasons why a company apply asset revaluation is to increase asset value (Demski, Lin, & Sappington, 2008) and equity (Dillon, 1979). If the carrying amount of the asset increases as a result of the revaluation then the increase is recognized in other comprehensive income and accumulates in equity in the revaluation surplus section. However, the increase is recognized in profit and loss up to the amount of impairment in the value of the same asset as a previously recognized revaluation in profit or loss. If the carrying amount of the asset decreases as a result of the revaluation, the decrease is recognized in profit or loss. However, such impairment is recognized in other comprehensive income insofar as it does not exceed the revaluation surplus balance for the asset. The decline in the value recognized in other comprehensive income reduces the accumulated amount in equity in the revaluation surplus section. This causes the reported amount of equity to be lower.

The conditions above give managers the option to revalue their fixed assets or not. An increase or decrease in the value of a fixed asset affects total assets and total equity so that adding or subtracting other elements such as long term debt, investment, current assets, and cash flow from operation will affect the manager decision to revalue the fixed assets. This study will test the hypothesis proposed by (Brown et al., 1992), (Cotter & Zimmer, 1995), and (Lin & Peasnell, 2000), (Missonier-Piera, 2007), (Cheng & Lin, 2009), and (Iatridis & Kilirgiotis, 2012) in context of Indonesia.

High debt to asset ratios and low investment opportunities are two things that are bad for the company because higher debt to asset ratio and lower investment opportunities indicate high financial risks and the weakness of the possible increase in welfare transfer from the return on investment. Therefore, lowering the debt to asset ratio is one of the managers' considerations for revaluing assets (Brown et al., 1992; Henderson & Goodwin, 1992). The impact of revaluation of fixed assets is the increase in total fixed assets and equity of owners of capital. Assuming total debt over the current period, the increase in total assets will decrease the debt to asset ratio. This decrease in leverage ratio will encourage managers to undertake new lending with lower cost of capital (Henderson & Goodwin, 1992).

In terms of investment opportunities, firms with higher investment opportunities tend to asset revaluation downward compared to firms with higher asset in place (Missonier-Piera, 2007). Companies with high investment opportunities are perceived to be more at risk because their activities are more difficult to control, thus creating incentives for managers to revalue assets. (Missonier-Piera, 2007) examined the company's motives in Switzerland in revaluing its fixed assets. The Company revalued its fixed assets which increased its asset value because the company with high total debt and low investment opportunity will revalue the increased assets to increase its total assets and equity.

Cash flow also becomes the basis for the company's decision to revalue the assets or not. Cash flow affects asset revaluation decision indirectly. Current cash flow from operations indicates the company's ability to repay the principal and interest of its short-term and long-term debt. The ability to pay and existing leverage affects the company's ability to add new debt (Barac & Sodan, 2011; Cotter & Zimmer, 1995). Lower cash flow from operation decrease companies' ability to pay will higher companies motivation for asset revaluation. Therefore, higher the operating cash flow lower the tendency of companies to asset revaluation. It concludes that cash flow from operation negatively affects companies' motivation for asset revaluation.

The implementation of market value as a consequence of IFRS implementation has increased the company's attention to the value of fixed assets elements because the market value of fixed assets must be different from the book value. The extremely different between market value and asset book value encourage firms to revalue their assets (Brown et al., 1992). With regards to property, land and building are two elements of property which are highly affected by accounting policy. (Brown et al., 1992) specifically examine the effect of the proportion of land and building on the decision of Australian companies to revalue their asset upward. These two assets have a specific characteristic. Land is a non-depreciable fixed asset and building is fixed assets with lower depreciation rate than the other fixed assets component (Brown et al. (1992). They find that higher the proportion of land and building motivate managers to revalue their assets.

Based on literature explanation above, the hypothesis examined are as follows.

- H1: The decision to implement asset revaluation is positively affected by financial leverage.
- H2: The decision to implement asset revaluation is negatively affected by firm's investment opportunities.
- H3: The decision to implement asset revaluation is positively affected by relative investment on property.
- H4: The decision to implement asset revaluation is negatively affected by cash flow from operation.
- H5: The decision to implement asset revaluation is positively affected by profitability and fixed asset intensity.

### III. RESEARCH METHOD

#### A. Sample and Data

All sample firms in this research is non-financial public company listed on the Indonesian Stock Exchanges during period 2013 – 2016. Financial public companies like banks, insurances, pensions, and brokerages are excluded from the analysis as their comparability problem with non-financial companies. The sample criteria are (1) company issuing financial statements in rupiah

currency; (2) the companies perform asset revaluation or cost model in assessing their fixed assets. After conducting sample selection, there are 1112 firms-years eligible companies during the period 2013 - 2016 consisting of 262 companies doing asset revaluation and 850 companies doing cost model as detailed in Table I.

TABLE I. SAMPLE FIRMS BY RESEARCH PERIODS

Criteria	Years				Total
	2013	2014	2015	2016	
Firms with Asset Revaluation	28	53	75	106	262
Firms with Cost Model	250	225	203	172	850
Total					1112

Sources: Based on self investigation on companies annual reporting. All financial data and companies' policy needed is collected from companies annual reporting. All financial data is collected from companies' financial statement, while information regarding companies' decision to choose assets revaluation or cost model is obtained from notes of financial statement. Companies annual reporting is available on the Indonesian Stock Exchange website.

### B. Variables Measurement

The decision to implement fixed asset revaluation (FAR) is dependent variable. Financial leverage (LEV), investment opportunity set (IOS), relative investment on property (RIP) is measured by the proportion of land and building to fixed asset, cash flow from operation (CFO), profitability (ROE), and fixed asset intensity (FAI) are independent variables. Relative proportion of current asset to total asset (RPL), rate growth of asset (RGA), and SIZE are control variables. RPL, RGA, SIZE, and LIQ are sensitive to fixed asset revaluation (Brown et al., 1992). Companies' size is measured as natural logarithm of total assets. Higher total assets indicate larger companies' size. Larger firms tend to revalue assets than smaller firms (Brown et al., 1992; Lin & Peasnell, 2000; Missonier-Piera, 2007; Barac & Sodan, 2011). Liquidity ratio or current ratio is determined by current assets to current liabilities ratio. Low liquidity ratio indicates a potential problem regarding company's ability to meet their current liabilities with their current assets. Lower liquidity ratio motivate managers to revalue their assets (Barac & Sodan, 2011).

The measurement of dependent and independent variables in this study is denoted in Table II.

TABLE II. VARIABLE MEASUREMENT

Variable	Measurement	Represented by	Expected Sign of Relationship	Reference
Leverage	$\text{leverage} = \frac{\text{total liability}}{\text{total assets}}$	LEV	(+)	Cotter & Zimmer (1995); Missonier-Piera (2007); Iatridis & Kilirgiotis (2012)
Investment Opportunity Set	IOS = Firm Market Value/Firm Book Value IOS = (Market Capitalization at Year End + Financial Debt)/Total Assets.	IOS	(-)	Missonier-Piera (2007); Lin & Peasnell (2000); Agnes Cheng & Lin, (2009)
Relative Investment in Property	Book Value of Land and Building / Total Fixed Assets (Brown et al., 1992).	RIP	(+)	Brown et al. (1992)
Relative Proportion of Liquid Assets	Current assets/ Total Assets.	RPL	(+)	Brown et al. (1992)
Rate Growth of Assets	Percentage change of total assets	RGA	(-)	Brown et al. (1992)
SIZE	SIZE = Ln total assets	SIZE	(+)	Brown et al. (1992); Lin & Peasnell (2000); Iatridis & Kilirgiotis, (2012)
Cash Flow from Operation	$\frac{\text{The change of CFO}}{\text{Total fixed assets}}$	CFO	(-)	Cotter & Zimmer (1995); Barac & Sodan (2011)
Liquidity	$\text{CR} = \frac{\text{Current Asset}}{\text{Current Liabilites}}$	LIQ	(-)	Lin & Peasnell (2000); Barac & Sodan (2011)
Profitability	$\text{ROE} = \frac{\text{Laba bersih}}{\text{Ekuitas biasa}}$	ROE	(+)	Brown et al. (1992)
Fixed – Assets Intensity	Intensity = $\frac{\text{Book value of total fixed assets}}{\text{Total assets}}$	FAI	(+)	Lin & Peasnell (2000); Agnes Cheng & Lin, (2009); Iatridis & Kilirgiotis (2012)
Decision to asset revaluation	1, If the firms decide to revalue their assets after the implementation of IFRSs. 0, If the firms decide to keep cost model after the implementation of IFRSs.	FAR		Lin & Peasnell (2000); Missonier-Piera (2007); Agnes Cheng & Lin, (2009); Iatridis & Kilirgiotis (2012).

### C. Research Design

The Logistic regression used as empirical research model is expressed as follows:

$$FAR_{it} = \alpha_0 + \alpha_1 LEV_{it} + \alpha_2 IOS_{it} + \alpha_3 RIP_{it} + \alpha_4 RPL_{it} + \alpha_5 RGA_{it} + \alpha_6 SIZE_{it} + \alpha_7 CFO_{it} + \alpha_8 LIQ_{it} + \alpha_9 ROE_{it} + \alpha_{10} FAI_{it} + \varepsilon_{it} \dots\dots(1)$$

Where FAR is dependent variable, companies' decision to implement assets revaluation (1) or stay with cost model (0); LEV is total debt – to total assets ratio; IOS is investment opportunity market-to-book ratio, firm market value (market capitalization at year end + financial debt) to firm book value (total assets). RIP is the ratio of book value of land and building to total fixed assets. RPL is the ratio of current assets to total assets. RGA is percentage change of total assets. SIZE is Ln of total assets. CFO is the ratio of the change of cash flow from operation to total fixed assets. LIQ is liquidity ratio (current assets to current liabilities). ROE is return on equity ratio. FAI is fixed assets intention, the ratio of book value of total fixed assets to total assets.

Before the regression model was analyzed, several steps of the test were performed. First, overall model fit test to test whether the model is fit or not by using Hosmer and Lemeshow Test. If the Hosmer-Lemeshow value is more than 0.05, then the empirical model is fit. Second, the classification matrix is used to test the percentage of correct level. Third, hypothesis testing is done by comparing the probability value with the level of significance. In the logistic regression to predict the test partially, it was analyzed by using Wald numbers with a significance level of 5%.

## IV. FINDINGS AND DISCUSSION

Table III presents descriptive statistics of book value of land and building, total fixed assets, total assets, total debt, and total equity for the firms with asset revaluation and the firms with cost model. These five values are usually used as a basis for making decision to choose an asset revaluation or cost model. The mean of book value of land and building for firms with asset revaluation (IDR 843,146) is higher than it for firms with cost model (IDR 400,005). The mean of total fixed assets for firms with asset revaluation (IDR 2,276,765 rupiahs) is higher than it for firms with cost model (IDR 1,908,417). The mean of total asset for firms with asset revaluation (IDR 8,752,429) is higher than it for firms with cost model (IDR 6,117,228). The results represent that firms with asset revaluation have total fixed assets higher than firms with cost model.

The mean of total debt for firms with asset revaluation (IDR 4,311,189) is higher than it for firms with cost model (IDR 3,043,476). The mean of book value of equity for firms with asset revaluation (IDR 4,353,585) is higher than it for firms with cost model (IDR 3,054,735). The values indicate that the firms with higher amount of land and building, total fixed assets, total assets, total debt, and total equity are more likely to choose asset revaluation.

TABLE III. DESCRIPTIVE STATISTICS (IN IDR MILLION)

	<i>Land and Building</i>	<i>Fixed Assets</i>	<i>Total Asset</i>	<i>Total Debt</i>	<i>Total Equity</i>
<b>Panel A: Firms with Asset Revaluation</b>					
Mean	843,116	2,276,765	8,752,429	4,311,189	4,353,585
Maximum	18,997,000	41,702,000	245,435,000	118,902,000	126,533,000
Minimum	(9,420)	299	11,155	2,029	(12,513,155)
Std. Dev.	2,213,069	5,535,102	27,253,803	13,403,521	13,994,276
Observation	262	262	262	262	262
<b>Panel B: Firms with Cost Model</b>					
Mean	400,005	1,908,417	6,117,228	3,043,476	3,054,735
Maximum	10,152,000	103,700,000	182,274,000	92,460,000	93,428,000
Minimum	(738,021)	100	5,081	479	(5,129,083)
Std. Dev.	846,307	7,120,710	13,968,863	6,795,079	7,778,619
Observation	850	850	850	850	850
<b>Panel C: all sample firms</b>					
Mean	504,407	1,995,204	6,738,112	3,342,164	3,360,759
Maximum	18,997,000	103,700,000	245,435,000	118,902,000	126,533,000
Minimum	(738,021)	100	5,081	479	(12,513,155)
Std. Dev.	1,316,550	6,780,050	18,023,844	8,819,247	9,620,260
Observation	1112	1112	1112	1112	1112

Notes: This table presents the descriptive statistics of the firms with asset revaluation and the firms with cost model groups; Panel A, B, and C show the mean, and standards deviation of each group and all sample firms during the period 2012 – 2015. FAR is dependent variable, firm's decision to choose assets revaluation (1) or stay with cost model (0).

The mean of land and building to total fixed assets ratio for firms with asset revaluation is higher than it for firms with cost model. It specifies that firms with higher land and building are more likely to choose asset revaluation. This finding is consistent with Brown et al. (1992). The means of current assets to total assets ratio and percentage change of total assets for firms with asset revaluation are lower than them for firms with cost model. The values indicate that firms will decide to choose asset revaluation when current asset and percentage change of total assets are lower. It is consistent with Brown et al., (1992).

Appendix I presents descriptive statistics of leverage (LEV), investment opportunity (IOS), the ratio of book value of land and building to total fixed assets (RIP), the ratio of current assets to total assets (RPL), percentage change of total assets (RGA), SIZE, the ratio of the change of cash flow from operation to total fixed assets (CFO), liquidity ratio (LIQ), profitability (ROE), fixed assets intention (FAI) for both firms with asset revaluation and firms with cost model during 2012 – 2015. The mean of leverage for firms with asset revaluation (0.3274) is higher than it for firms with cost model (0.2583). The value indicates that firms with higher leverage are more likely to choose asset revaluation. By revaluing asset, debt to assets ratio could be lower (Brown et al., 1992; Henderson & Goodwin, 1992). This finding is consistent with previous empirical evidence (Iatridis & Kilirgiotis, 2012; Missonier-Piera, 2007; Lin & Peasnell, 2000; Brown et al., 1992). The mean of investment opportunities for firms with asset revaluation (0.7687) is lower than it for firms with cost model (1.0656). It denotes that firms with lower investment opportunity are more likely to choose asset revaluation. This finding is consistent with previous empirical evidence (Missonier-Piera, 2007).

Appendix II presents the correlation coefficient between financial performance and firm's decision to apply asset revaluation in the sample. The correlation coefficient used is Spearman Correlation. The results reveal that the correlation between firm's decision to choose asset revaluation (FAR) and LEV, IOS, RIP, and FAI are positively significant, but are negatively significant with RGA and ROE at the variety level, 1%, 5%, and 10%. However, the correlation between FAR and RPL, SIZE, CFO, and LIQ are not significant.

Results reported in Table III, Appendix I and Appendix II are based on univariate tests, suggesting that firms with asset revaluation generally have superior assets value compared to firms with cost model. This finding accepts all hypotheses. The further investigation of this finding is using the multivariate logistic regressions. Dependent variable of model proposed in this study (equation 1) is a binary dummy variable (1 for firms with asset revaluation and 0 for firms with cost model). The explanatory variables include firms financial performance, these are leverage (LEV), investment opportunities (IOS), the proportion of land and building (RIP), the proportion of current assets (RPL), percentage of assets change (RGA), firm size (SIZE), percentage change of operating cash flow (CFO), liquidity ratio (LIQ), profitability (ROE), fixed assets intensity (FAI).

TABLE IV. THE RESULTS OF LOGISTIC REGRESSION

<i>Variable</i>	<i>Expected Sign</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>z-Statistic</i>	<i>P-Value <math>\alpha/2</math></i>
LEV	+	0.7504	0.1956	3.8358	0.0001
IOS	-	-0.3709	0.1010	-3.6724	0.0002
RIP	+	0.5612	0.2354	2.3841	0.0171
RPL	+	-0.0985	0.0545	-1.8076	0.0707
RGA	-	-0.0136	0.0086	-1.5740	0.1155
SIZE	+	0.1096	0.0441	2.4831	0.0130
CFO	-	-0.0225	0.0135	-1.6697	0.0950
LIQ	-	0.0218	0.0084	2.6094	0.0091
ROE	+	-0.0139	0.0101	-1.3802	0.1675
FAI	+	1.2790	0.2819	4.5366	0.0000
C		-3.2264	0.6807	-4.7399	0.0000
Model Chi-Square					8.5176***
% Correctly Classified					76.71**
Sample Size					1112
The Firms with Asset Revaluation					262
The Firms with Cost Model					850

Notes: This table presents the results of logistic regression which is used to examine the effect of firm's characteristics on firm's decisions to choose asset revaluation or stay with cost model. This table shows the value of coefficient, standard error, z – statistic, p–value  $\alpha/2$  (two–tailed). FAR is dependent variable, firm's decision to choose assets revaluation (1) or stay with cost model (0); LEV, IOS, RIP, RPL, RGA, SIZE, CFO, LIQ, ROE, and FAI are independent variables. LEV is total debt – to total assets ratio; IOS is investment opportunity market–to–book ratio, firm market value (market capitalization at year end + financial debt) to firm book value (total assets). RIP is the ratio of book value of land and building to total fixed assets. RPL is the ratio of current assets to total assets. RGA is percentage change of total assets. SIZE is Ln of total assets. CFO is the ratio of the change of cash flow from operation to total fixed assets. LIQ is liquidity ratio (current assets to current liabilities). ROE is return on equity ratio. FAI is fixed assets intention, the ratio of book value of total fixed assets to total assets. \*\*\*, \*\*, and \* statistically significance at the 1, 5 and 10 per cent level (two-tailed), respectively.

Table IV represents the results of logistic regression. To assess the feasibility of the logistic regression model used, the logistic regression feasibility test was performed by using Hosmer and Lemeshow's Goodness of Fit Test as measured by Chi-Square values. The results of Hosmer and Lemeshow's Goodness of Fit Test show the value of Chi-Square 8.5176 significant at 1% level. This means that the applied regression model is appropriate to use in subsequent analysis since there is no significant difference between the predicted classification and the observed classification. In other words, the model is able to predict the value of its observations.

The regression results reveal that the coefficient of LEV (0.7504) RIPS (0.5612), SIZE (0.1096), LIQ (0.0218), and FAI (0.2790) is positively significant at level 1%, 5%, and 10%. The coefficient of IOS (0.3709), RPL (0.0985), and CFO (0.0225) is negatively significant at level 1% and 10%. The coefficient of RGA (-0.0136) and ROE (-0.0139) is not significant. The results indicate that bigger firms with higher leverage, higher proportion of land and building, higher liquidity, higher fixed assets intention will perform asset revaluation. As well as, firms with lower investment opportunities, lower proportion of current assets, and lower percentage change of operating cash flow more likely to use asset revaluation. The results are succeeded to support H1, H2, H3, H5, and H6. The results are also succeeded to confirm previous studies (Brown et al., 1992; Cotter & Zimmer, 2003; Lin & Peasnell, 2000; Missonier-Piera, 2007; Cheng & Lin, 2009; Iatridis & Kilirgiotis, 2012) which suggest that one motivation for asset revaluation is financial performance.

## V. CONCLUSION

Firms with higher leverage and lower investment opportunities prior two years, higher relative investment in property e.g. land and building, lower proportion of liquid assets, decreasing cash flow from operation, higher liquidity, and higher fixed assets intention one year before are more likely to use asset revaluation. From the firm size perspective, bigger firms are more likely to choose asset revaluation. However, smaller firms stay with cost model to revalue their fixed assets. As general, this finding has succeeded to support the hypothesis and previous literatures.

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**APPENDIX I. DESCRIPTIVE STATISTICS OF FINANCIAL PERFORMANCE FOR THE FIRMS WITH ASSET REVALUATION AND FIRMS WITH COST MODEL**

	<i>LEV</i>	<i>IOS</i>	<i>RIP</i>	<i>RPL</i>	<i>RGA</i>	<i>SIZE</i>	<i>CFO</i>	<i>LIQ</i>	<i>ROE</i>	<i>FAI</i>
<b>Panel A: Firms with Asset Revaluation</b>										
Mean	0.3274	0.7687	0.4577	0.5063	0.4380	14.4386	(0.4833)	5.7440	1.6808	0.2815
Median	0.2828	0.7444	0.4465	0.4720	0.0907	14.3226	(0.0037)	1.5659	0.1002	0.2390
Maximum	4.8915	5.0545	3.5235	5.8201	82.9407	19.3185	9.5185	238.45	238.45	0.9481
Minimum	0.0000	0.0001	(0.5969)	0.0197	(0.4374)	9.3196	(93.9307)	0.0044	(0.7389)	0.0000
Std. Dev.	0.4254	0.7997	0.3287	0.4882	5.1211	1.6812	6.1946	22.4686	14.8933	0.2408
Observation	262	262	262	262	262	262	262	262	262	262
<b>Panel B: Firms with Cost Model</b>										
Mean	0.2583	1.0656	0.4016	0.5925	0.7939	14.3301	0.2885	3.6803	1.0170	0.2085
Median	0.0000	0.0000	0.3610	0.4891	0.1181	14.3867	0.0201	1.5333	0.1454	0.1274
Maximum	11.8443	27.6050	2.4436	87.0329	426.5827	19.0210	70.9121	360.7456	247.1210	1.9812
Minimum	0.0000	0.0000	-8.4819	0.0006	-0.9515	8.5333	-70.0989	0.0084	-4.2332	0.0000
Std. Dev.	0.6384	2.2790	0.4343	2.9797	14.6723	1.7542	5.8222	16.9277	8.9871	0.2497
Observation	850	850	850	850	850	850	850	850	850	850
<b>Panel C: All sample firms</b>										
Mean	0.2746	0.9956	0.4149	0.5722	0.7101	14.3557	0.1067	4.1665	1.1734	0.2257
Median	0.0002	0.1076	0.3831	0.4849	0.1095	14.3809	0.0114	1.5479	0.1368	0.1570
Maximum	11.8443	27.6050	3.5235	87.0329	426.5827	19.3185	70.9121	360.7456	247.1210	1.9812
Minimum	0.0000	0.0000	-8.4819	0.0006	-0.9515	8.5333	-93.9307	0.0044	-4.2332	0.0000
Std. Dev.	0.5956	2.0335	0.4124	2.6158	13.0650	1.7371	5.9183	18.3940	10.6728	0.2494
Observation	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112

Notes: FAR is dependent variable, firms decision to choose assets revaluation (1) or stay with cost model (0); LEV is total debt – to total assets ratio; IOS is investment opportunity market–to–book ratio, firm market value (market capitalization at year end + financial debt) to firm book value (total assets). RIP is the ratio of book value of land and building to total fixed assets. RPL is the ratio of current assets to total assets. RGA is percentage change of total assets. SIZE is Ln of total assets. CFO is the ratio of the change of cash flow from operation to total fixed assets. LIQ is liquidity ratio (current assets to current liabilities). ROE is return on equity ratio. FAI is fixed assets intention, the ratio of book value of total fixed assets to total assets. \*\*\*, \*\*, and \* statistically significance at the 1, 5 and 10 per cent level (two-tailed), respectively.

**APPENDIX II. CORRELATION COEFFICIENT BETWEEN FIRMS CHARACTERISTICS AND THE FIRMS DECISION**

	<i>FAR</i>	<i>LEV</i>	<i>IOS</i>	<i>RIP</i>	<i>RPL</i>	<i>RGA</i>	<i>SIZE</i>	<i>CFO</i>	<i>LIQ</i>	<i>ROE</i>	<i>FAI</i>
LEV	0.171274	1									
IOS	0.0606**	0.8684***	1								
RIP	0.0726**	-0.01199	0.000101	1							
RPL	-0.02179	-0.0412	-0.0498*	0.009576	1						
RGA	-0.0822**	-0.1855***	-0.1705***	0.018906	0.019561	1					
SIZE	0.004938	0.0971**	0.1272***	-0.1320***	-0.1814***	0.2597***	1				
CFO	-0.04417	-0.03623	-0.03158	0.013541	0.049188	0.1207***	0.022897	1			
LIQ	0.015064	-0.1772***	-0.02407	0.0861**	0.4739***	0.016539	-0.0995***	0.0265137	1		
ROE	-0.0659**	0.2643***	0.3387***	-0.00328	0.1769***	0.1363***	0.1573***	0.0540**	0.1699***	1	
FAI	0.1728***	0.4155***	0.3903***	-0.0571*	-0.2528***	-0.1099***	0.033694	-0.036775	-0.1996***	0.0536*	1

Notes: This table presents spearman correlations of the variables applied in this study over the sample period of 2012–2015; FAR is dependent variable, firms decision to choose assets revaluation (1) or stay with cost model (0); LEV, IOS, RIP, RPL, RGA, SIZE, CFO, LIQ, ROE, and FAI are independent variables. LEV is total debt – to total assets ratio; IOS is investment opportunity market–to–book ratio, firm market value (market capitalization at year end + financial debt) to firm book value (total assets). RIP is the ratio of book value of land and building to total fixed assets. RPL is the ratio of current assets to total assets. RGA is percentage change of total assets. SIZE is Ln of total assets. CFO is the ratio of the change of cash flow from operation to total fixed assets. LIQ is liquidity ratio (current assets to current liabilities). ROE is return on equity ratio. FAI is fixed assets intention, the ratio of book value of total fixed assets to total assets. \*\*\*, \*\*, and \* statistically significance at the 1, 5 and 10 per cent level (two-tailed), respectively.