

Revaluation of Fixed Assets and Future Firm Performance:
Determining the Effectiveness of Temporary Tax Cut Policy for
Fixed Assets Revaluation in Indonesia

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Abstract

The purpose of this thesis is to investigate the association between revaluation of fixed assets and future firm performance in Indonesia. This thesis aims to find the answer whether Indonesia's government decision to issue temporary tax cut policy is effective, to the extent it enhances future performance of Indonesian firm. To observe the effect of the fixed assets revaluation on the future firm performance, a multiple regression analysis is employed. Future firm performance operationalized by using the changes in operating income and the changes in operating cash flow for one and two subsequent years. This thesis utilized revaluation of fixed assets data in the year 2015 since the temporary tax cut for fixed assets revaluation was started at that year. The result shows that revaluation of fixed assets by Indonesian firms are significantly positively associated with changes in operating income on one subsequent year after revaluation. This result implied that the benefits of fixed asset revaluations are realized in the subsequent year and motivation of revaluation is mainly related with the effort to disclose the fair value of the fixed assets to the user of financial statements. Meanwhile, revaluation of fixed assets by Indonesian firms having a statistically insignificance negative association to the future operating cash flow after two subsequent years of revaluation. These findings lead to the conclusion that temporary tax cut policy is effective enough to foster the future operating income of the Indonesian firms.

Keywords: Fixed assets revaluation, Future firm performance, Indonesia, Temporary tax cut policy

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1. Introduction

1.1. Background

The convergence of International Financial Reporting Standards (IFRS) and Indonesia Financial Accounting Statements (IFAS) has been gradually started since 2007 (Fitriany et al., 2016). Previously, IFAS mainly adopted the US Generally Accepted Accounting Principle (US GAAP). Along the time of converging efforts to IFRS, IFAS had to comply with all accounting standards and practices in regards to the principles, norms, and values embraced by IFRS (Hamidah et al., 2015). One of the major principles in IFRS is the more extensive use of fair value instead of book value in terms of valuing certain assets and liabilities. Kothari and Barone (2011) argued that the use of fair value will increase the relevance of accounting information in the financial statements, which enhance its usefulness for the contracting purpose with manager, shareholder, lender, and other parties.

One of the emerging issues in Indonesia related to the use of fair value accounting is the revaluation of fixed assets. IFAS 16 has been adjusted to the International Accounting Standard (IAS) 16, which allow companies to value its fixed assets by revaluation model. However, this revaluation model choice is not mandatory, and it gives flexibility to companies for choosing either revaluation model or historical cost model. In Indonesia, only a few companies are willing to use revaluation model, as from 2009-2014, there are only 7 companies on average which use revaluation model for each year (Zakaria, 2015). According to Decree of Minister of Finance (DMF) 79, companies are obliged to pay a 10% tax rate on the amount of company's upward asset revaluation (Kemenkeu 2008). Moreover, the 10% tax must be paid within 12 months. This requirement made many companies hesitant to increase the level of their fixed assets, especially companies with the cash flow problem (Zakaria et al., 2014).

In the effort of recovering from the economic slowdown, Indonesia's government issued the temporary tax cut policy for fixed assets revaluation by issuing DMF 191. This decree temporarily decreases the amount of tax paid by 70% (3%) if companies choose to revalue its asset before the end of 2015, 60% from January 2016 to 30 June 2016 (4%), and 40% (6%) from July 2016 to 31 December 2016. DMF 191 functioned as an incentive for firms to revalue their fixed assets, by minimizing the tax they were obliged to pay. Indonesia's government explicitly stated that the

consideration of tax cut policy was targeting macroeconomic stability and enhancing the growth of Indonesia's economy (Kemenkeu, 2015). In other words, specifically for the firm, government expect that revaluation of fixed assets could increase their performance and consequently affect Indonesia's economy as a whole.

1.2. Research Problem and Motivation

It is known that research toward association of fixed assets revaluations and the future firm performance has been conducted by other researchers. However, there is no definite conclusion whether this revaluation of fixed assets can be either positive or negative for a company's performance. Aboody et al. (1999) concluded that revaluation serves a positive effect on future firm performance in the United Kingdom. Moreover, Jaggi and Tsui (2001) also found that upward asset revaluations by Hong Kong firms are significantly positively associated with the future firm performance. On the other hand, Zhai (2007) concluded that there is no conclusive evidence that upwards asset revaluations by New Zealand firms are associated with future operating performance, as the associations are not statistically significant. Furthermore, Lopes and Walker (2011) also found out that upward revaluations of fixed assets in Brazil are serving the negative effect to future firm performance, stock prices and returns.

In terms of Indonesian firms, Kurniawati (2013) found out that there is a difference in share prices before and after of revaluations of fixed asset by using Wilcoxon test. However, since there is no regression model used in this thesis, it can't be concluded whether there is a significance of the causal relationship between revaluation of fixed asset and future firm performance. Furthermore, this research only use one subsequent year as a proxy of future performance, which could reduce the validity of the research since the assets that revalued are long-term assets, thus the effect of value changes occur over several years. Zakaria (2015) had attempted to find the motives behind the decision to revalue fixed assets and causality effect of revaluation to future firm performance in Indonesia. However, due to the low level of data on revalued firms available up to 2012, he concluded that the sample size was insufficient to run a robust prediction model for the effects of revaluation decision making to firm future performance.

Most of the prior research related to associations of revaluation model and future firm performance were conducted in developed countries such as the United Kingdom, New Zealand, and Hong Kong. And then, the answer whether revaluation of fixed assets could affect positively or negatively is still debatable. Therefore, providing new insight about the impact of fixed assets revaluations to future firm performance in Indonesia is necessary since it will examine the impact of IFRS adoption, especially related with the revaluation of fixed assets, in terms of an emerging country context. Moreover, by knowing the real impact of revaluation of fixed assets to future firm performance, one can determine the effectiveness of temporary tax cut policy by Indonesia's government.

1.3. Research Objectives

This thesis provides insights to the issue of revaluation of fixed assets in Indonesia since only a few research have discussed this topic and previous researchers could not provide sufficient conclusion about the causal effect of the revaluation of fixed assets to firms' future performance in Indonesia. Moreover, more Indonesia's firms are expected to revalue their fixed assets during this period since there is a temporary tax cut policy for revaluation of fixed assets in 2015, therefore sufficient amount of data could be obtained. This thesis aims to find the answer whether Indonesia's government decision to issue temporary tax cut policy is effective, to the extent it enhances future performance of Indonesia's firm. Therefore, this thesis tries to observe the association between revaluations of fixed assets and firms' future performance in Indonesia. The research question is:

What is the effect of implementing the fixed assets revaluation model on Indonesian firms' future performance?

1.4. Thesis Outline

The remainder of the thesis organized as follows. Section 2 describes theoretical framework about assets and fixed assets, followed by the explanation about historical cost model and revaluation model in fixed assets measurement, and then the explanation of the differences between revaluation model in the perspective of accounting and tax for Indonesia context. Section 3 elaborates the review of related literature and hypotheses development. Section 4 explains the research model. Section 5 describes the results and discusses the interpretation of the results.

Section 6 concludes the results, while section 7 describes limitation and possible development for future research.

2. Theoretical Framework

2.1. Assets and Fixed Assets

According to paragraph 4.4 (a) of the *Conceptual Framework*, assets defined as a “resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity” (IASB, 2018, p. 17). Furthermore, the future economic benefit could be considered as potentially contributing to the operating activities of the entity (IASB, 2018). Thus, all assets have one similar characteristic, it has a potential to provide future benefits or services (Weygandt et al., 2015).

Assets generally classified in two big groups: current asset and non-current asset. Moreover, non-current asset is classified into two groups: tangible non-current or intangible non-current assets. The former term usually called as fixed assets or in current standards named as property, plant, and equipment (PPE). There are two criteria to meet in order to categorize an asset as a fixed asset: it is used in normal business operation, rental, administrative of goods and services, and it is intended to be held and used for more than one period (Weygandt et al., 2011). Examples of fixed assets include land, building, structures, and equipment.

If the assets can be recognized as a PPE, paragraph 15 of IAS 16 stated that the initial recognition of PPE must be measured at cost (IASB, 2013). There are three elements of cost which prescribed in IAS 16: (1) Purchase price, (2) directly attributable cost, and (3) initial estimate of demobilization cost.

After having recognized an item of PPE, an entity has a discretion on the measurement basis to be adopted. Paragraph 20 of IAS 16 allows two possible measurement method: the cost model and the revaluation model (IASB, 2009). The choice of model is not applied to an individual asset, but to entire assets within the class of PPE (Picker et al., 2016).

2.1.1. The Cost Model

If a firm chooses to adopt the cost model, a PPE continues to be recorded at its initial cost and some adjustment will be made by using either depreciation expense or impairment losses (Picker et al., 2016). The amount of depreciation that is charged to the assets for each fiscal year reflects the consumption of economic benefits over the period. However, when the recoverable amount of assets is less than its carrying amount, the PPE needs to be impaired to its recoverable amount (IASB, 2013). Under IAS 36, an entity is required to conduct impairment test if it is indicated that the carrying amount exceeds the recoverable amount of an asset (Picker et al, 2016).

2.1.2. The Revaluation Model

Under the revaluation model, PPE will be recorded at its fair value. The fair value is defined as an exit price when selling an asset in an arm-length transaction or orderly transaction (IASB, 2011). IAS 16 does not prescribe how often revaluations should be done, the principle suggests revaluation done periodically in order to minimize the difference between carrying amount and fair value of an asset (Picker et al., 2016). The revaluation model must be applied to the class of assets, but the accounting is recognized for each of individual asset (IASB, 2013).

In case the fair value exceeds the carrying amount of an asset, the entity does what is called upward revaluation. The increase of this carrying amount is recognized in other comprehensive income and accumulated in the equity section of revaluation surplus (IASB, 2013). However, if the increase occurred after the previous revaluation decrease (downward revaluation), this increase recognized as a gain in the profit and loss statements to the extent that it offsets the previous revaluation decrease (IASB, 2013).

In case of downward revaluation, in which fair value of an asset is less than its carrying amount, the decrease is recognized in the profit and loss statements. However, if the decrease occurred after the previous upward revaluation, this decrease recorded as a loss in other comprehensive income to the extent that it offsets the previous revaluation increase (IASB, 2013).

2.2. Fixed assets revaluation in Indonesia: Accounting Perspective

The revised IFAS 16 regarding fixed assets was mainly adopted from IAS No. 16 for Property, Plant, and Equipment. This standard stated that cost model is applied in initial recognition of fixed assets items (DSAK, 2011). Similar to IAS 16, this standard allows discretion for firms to adopt either the cost model or the revaluation model in valuing fixed assets for subsequent measurement (DSAK, 2011). When the revaluation model is adopted, fixed assets which its fair value can be measured reliably must be adjusted at a revalued amount, by measuring its fair value at the date of the revaluation less subsequent accumulated depreciation and subsequent accumulated impairment losses (DSAK, 2011). Other mechanisms of revaluation are similar to IAS 16, in which the revaluation needs to be done periodically and conducted for all assets that belong to the same class.

Most of the publicly listed firms in Indonesia adopt the cost model instead of the revaluation model for measuring their fixed assets. Zakaria (2015) found out that on average, during 2008-2012, only 7 out of 457 firms listed in Indonesia Stock Exchange (IDX) adopt the revaluation model for fixed assets each year. This low level of revalued firms mainly caused by 10% tax imposed for every Indonesian Rupiah (IDR) amount of upward revaluation, which deter the intention of adopting revaluation model, especially to the firms with cash flow problem (Zakaria et al., 2014).

2.3. Fixed assets revaluation in Indonesia: Tax Perspective

In Indonesia, revaluation of fixed assets is not a sole domain of accounting standards board, the government also holds a certain role in regulating revaluation of fixed assets. The basic argument of imposing the tax for fixed asset revaluations is Law No. 36 in the year 2008 about income tax, in which stated that Minister of Finance has authority to regulate assets revaluation if there is a discrepancy between cost and revenue which caused by changes in the fair value (*Pajak Penghasilan* act of 2008). Thus, Minister of Finance issued DMF 79 which regulate fixed assets revaluation for the tax purpose.

DMF 79 in 2008 stated that only resident taxpayer and permanent establishment, exclude firms that issued financial statements in foreign currency, which allowed to execute fixed assets revaluation for the tax purpose. Moreover, the revaluation activity must be supervised by the appraiser who is licensed by the government. The revaluation of fixed assets only can be done

after 5 years of the last revaluation. Furthermore, the difference between fair value and book value of fixed assets will be considered as gain or loss. If the fair value is higher than the book value of fixed assets, the income tax of 10% will be imposed on every IDR of differences (Kemenkeu, 2008).

In 2015, Minister of Finance issued new law regarding fixed assets revaluation, which is DMF 191. This decree brought changes in regards to the requirements of revaluation and the tax imposed. DMF 191 allows firms which their financial statements issued in the foreign currency to do fixed asset revaluation for the tax purpose. Moreover, there is temporary tax cut which decrease temporarily the amount of tax paid by 70% (3%) if companies choose to revalue its asset before the end of 2015, 60% from January 2016 to 30 June 2016 (4%), and 40% (6%) from July 2016 to 31 December 2016 (Kemenkeu, 2015).

3. Literature Review and Hypothesis Development

There are several factors that conceptually bridge the association between revaluation of fixed assets and future firm performance. This section explains the benefits of fixed assets revaluations in the perspective of fair value in general, reducing debt contracting which lead to more borrowing capacity, and giving a positive signal about the future performance of the firm. Moreover, previous studies about the association between fixed assets revaluations and future firm performance are also described. The hypotheses will be developed by drawing a preliminary conclusion from the previous research which relate to the fixed assets revaluation and its effect on future firm performance.

3.1. General Advantages of Fair Value

The revaluation model is established on the principle of fair value accounting. Recently, a lot of scholars support the concept of fair value accounting. Landsman (2007) concluded that disclosing fair value is more informative to the investor, but the level of information content depends on the reliability of fair value. Such result is supported by Danbolt and Rees (2008) which concluded that the use of fair value accounting will produce more value relevant number than historical cost in a consistent manner. Aboody et al. (1999) argued that disclosing fair value will reveal private information on asset value. This argument aligned with Muller et al (2011), by observing at the

investment properties of European firms, they found that the mandatory requirement of using fair value for long-lived tangible assets resulted in the reduction of information asymmetry, in which reflected in a significant decrease of bid-ask spreads for firms that decide to shift from historical cost to fair value.

Fair value accounting not only affects the way number presented in financial statements, but it also affects management response to the economic environment surrounding their business. Managers will have to realize that they deal with the open economic system, in which the firms will be exposed by the market risk, thus they should find another way to secure the value of their assets (Barlev and Haddad, 2003). With respect to the revaluation model, managers will take a closer look at the fair value of their fixed assets. Managers can realize that the fixed assets become uncompetitive, even though it is still in good condition, by looking at the fair value of their assets.

In conclusion, fair value is confirmed to be more useful and relevant to the user of financial statements. The usefulness of the accounting number will result in better financing and/or investing decision. This argument confirmed by Evans et al. (2014) which concluded that unrealized fair value gains and losses component have predictive ability to forecast future income and cash flows.

3.2. Reduced Debt Contracting Cost

Most firms use debt as its main source of financing (Shivakumar, 2013). In 2006, almost 95% of capital raised by the US firms was in the form of debt (Armstrong et al., 2010). Thus, debt plays a crucial role in providing capital for the firms. In the perspective of positive accounting theory, firms that almost breach debt covenant limit are encouraged to use accounting methods which allows them to evade debt covenant restriction (Watts and Zimmerman, 1986)

Violation of debt contract resulted in more constraints in the form of more debt covenants to be imposed, in which can limit the financing and investment opportunity of the firms (Beneish and Press, 1995). Some researchers concluded that the use of revaluation model will reduce debt contracting cost of the firms. Easton et al. (1993) found out that primary reason to adopt fixed assets revaluations model is the need to lower the leverage ratio. Fixed assets revaluation increases the book value of the total assets, therefore, it eases firm's effort for adhering to debt covenant

restriction (Brown et.al, 1992; Choi et al., 2013). Moreover, fixed assets revaluation allows the firm to increase its borrowing capacity by having more collateral values when having secured debts, the firm can benefit from fixed assets revaluation especially in the time of declining cash flow (Cotter and Zimmer, 1995).

Furthermore, Whittred and Chan (1992) concluded that adoption of fixed assets revaluations is an inexpensive instrument in order to prevent undersupply of investment which caused by debt covenant restrictions. As a result of fixed assets revaluation, firms will look more attractive in the sight of lenders, thus it increases the borrowing capacity in order to expand their business operation.

3.3. Signaling Better Future Performance

Some private information of the firms is not known to the public, in which resulted in information asymmetry (Conelly et al., 2011). Signaling theory concerned on how to reduce information asymmetry by giving more signal to the others (Morris, 1987). With respect to the firm's decision in signaling information to others, they would choose accounting methods that convey prediction about the future cash flow of the firms (Holthausen and Leftwich, 1983; Louis and Robinson, 2005; Badertscher et al., 2012).

Applying fixed assets revaluation increase the asset base and increase the depreciation expense, thus it reduces the current Return on Assets (ROA) and decreases the current earnings. Such situation needs to be compensated by better future performance. Some researchers pointed out that firms try to give a positive signal about the future performance by conducting asset revaluation. Lin and Peasnell (2000) and Barlev et al. (2007) estimated firms that have prospective better future performance are more willing to revalue, but those that anticipate poor future performance are more hesitant to revalue their fixed assets. Moreover, Jaggi and Tsui (2001) and Chainirun and Narktabtee (2009) found out that firms are willing to conduct fixed assets revaluation for signaling their opportunity in expanding their scale of business and the improvement in liquidity.

3.4. Prior Research about Impact of Fixed Assets Revaluation

There have been researchers who try to observe the association between decisions to choose fixed assets to the future firm performance. By observing UK firms data from 1983-1995, Aboody et al.

(1999) found out that there is a significant positive relationship between fixed assets revaluations and future firm performance, which measured by changes in operating income and operating cash flow for one, two, and three subsequent years. Using a similar research design with Aboody et al. (1999), by observing Hong Kong firms, Jaggi and Tsui (2001) found out that the association between upward fixed assets revaluations and future firm operating income is significantly positive. They concluded that fixed asset revaluation arises from the motive of conveying fair value to the user of financial statements (Jaggi and Tsui, 2001). Aligned with the previous two results, Zhai (2007) also concluded that decision to adopt revaluation model for fixed assets is positively affect the future operating income of New Zealand firms, despite the relationship is insignificance.

On the other hand, contrary with the result of most research in this topic, Lopes and Walker (2012) found out that fixed assets revaluation shows negative association on the future firm operating performance, which measured by changes in operating income for one, two, and three subsequent years. This negative effect caused by opportunistic motivation from indebtedness and illiquidity, which also amplified by negative association between Brazilian Corporate Governance Index (BCGI) score and the choice to revalue the fixed assets (Lopes and Walker, 2012).

Overall, most of the past research concluded that there is a positive effect of the revaluation of fixed assets to the future firm operating income (Aboody et al., 1999; Jaggi and Tsui, 2001; Zhai, 2007). Only Lopes and Walker (2012) concluded that there is a negative relationship between fixed assets revaluations and future firm operating income, which was arguably caused by the revaluers which engaged in opportunistic action and having a low score of BCGI index. However, Siregar and Utama (2008) mentioned that discretionary accruals of Indonesia's firms tend to be for the purpose of efficient contracting, not for the opportunistic purpose, which implied good corporate governance practice among Indonesia's firms. Moreover, Wahyudin and Solikhah (2017) found out that the quality of corporate governance perception index (CGPI) of Indonesia's firms are progressing positively each year. Thus, one can assume that weak corporate governance is not an issue in this case.

Therefore, by deducing a preliminary conclusion from prior research about the effect of fixed assets revaluation on the future operating income, it can be hypothesized that:

H1: The revaluation of fixed assets are positively associated with the future operating income of
Indonesian firms

In assessing the future operating performance of the firm, some previous studies also use operating cash flow as another proxy variable for future operating performance (Aboody et al., 1999; Zhai, 2007; Alaadwan and Saaydah, 2015). Moreover, all previous studies have the same result in which the revaluation of fixed assets positively affects the future operating cash flow of the firms, which measured by one, two, and three subsequent years (Aboody et al., 1999; Zhai, 2007; Alaadwan and Saaydah, 2015). These findings supported by Bandyopadhyay et al. (2017) which concluded that investment property revaluation of Canadian firms is positively related to future cumulative cash flow.

Therefore, by deducing a preliminary conclusion from prior research about the effect of fixed assets revaluations on the future operating cash flow, it can be hypothesized that:

H2: The revaluation of fixed assets are positively associated with the future operating cash flow
of Indonesian firms

4. Research Design

4.1. Data

In order to observe the effect of the revaluation of fixed assets to the future firm performance, a multiple regression analysis is employed. The research question examines whether revaluation of fixed assets shows association to the future performance of Indonesian firms. The term Indonesian firms refer to the firms that are listed in the Indonesia Stock Exchange (IDX). This thesis utilized revaluation of fixed assets data in the year 2015 since the temporary tax cut for fixed assets revaluation was started at that year.

Revalued fixed assets are classified as long-term assets, thus the effect of changes in performance could occur for more than one year (Aboody et al., 1999). Therefore, this research focused on operating performance of firms over several years after revaluation happened. However, lack of availability of subsequent data limits the observation to two future years (2016 and 2017). Then, financial institutions will be excluded from the dataset since its assets composition are different (Aboody et al., 1999); Jaggi and Tsui, 2001); Zhai, 2007; Lopes and Walker, 2012). The amount of upward revaluation was collected from each annual report of the firms and other variables were collected from the Bloomberg terminal.

The samples of this thesis are publicly listed firms in the IDX. Only publicly listed firms which have issued the annual report from 2015-2017 that were included in the samples. Also, only the firms which have recognized the net increase in the revaluation of fixed assets in 2015 that were included in the samples. Even though some firms have paid tax for fixed assets revaluation in 2015, however, some of them have not recognized it in the financial statements yet. It happens since the approval of revaluation of fixed assets by the tax authority occur after the ending of the fiscal year of 2015.

After having observed publicly listed firms in the IDX, there are 30 firms which have recognized the net increase in the revaluation of fixed assets in 2015. Austin and Steyerberg (2015) concluded that two subject per variable is enough for creating an accurate estimation of standard error. This thesis employed 5 variables for each model, which means 30 samples are more than enough in order to establish valid coefficient regression for the regression analysis.

4.2. Methodology

Most of the research in this topic mainly used the panel data analysis, in which it observes the number of firms in the certain time period (Aboody et al., 1999); Jaggi and Tsui, 2001); Zhai, 2007; Lopes and Walker, 2012). However, before the temporary tax cut policy was issued, only a few Indonesian firms chose the revaluation model over the cost model for valuing the fixed assets. Moreover, this thesis focus only on the year 2015 in order to get one and two year subsequent performance of the firm. More firms also revalue its fixed assets in the year 2015 (30 firms) since the highest tax cut was provided at that year. Thus, creating a cross-sectional model is still deemed to be appropriate for capturing the effect of the revaluation of fixed assets to the future firm performance on one point in time (one and two subsequent years).

To answer all hypotheses, two separate models were established. STATA statistical software was used for running all models. The proxy for future operating performance will be the change in operating income and change in operating cash flow. Barber and Lyon (1996) concluded that that operating income is appropriate variable for measuring future operating performance, since it is clean measure in which not affected by any special items in the income statement. Moreover, operating cash flow also used as performance measure since the success of firms mainly related to the ability to generate net cash receipts (Dechow, 1994).

4.2.1 Operating Performance Test

The research design for operating performance test focused on whether upward fixed assets revaluation explains the changes in Indonesia's future firm performance. In order to examine the first hypotheses, a model which adopted from the previous model of Aboody et al. (1999), Jaggi and Tsui (2001), and Lopes and Walker (2012) was constructed. This model examined how the upward revaluation of fixed assets affecting future operating income of the firms which revalued their assets:

$$\Delta OPIN_{15+\tau,i} = \alpha + \beta_1 REV_i + \beta_2 OPIN_i + \beta_3 PTB_i + \beta_4 ASSETS_i + \beta_5 REV.D/E_i + \varepsilon_i \quad (1)$$

$$\tau = 1, 2$$

Eq. (1) is separately estimated from changes in operating income over each of the two horizons. $\Delta OPIN_{15+\tau,i}$ is the operating income of firm in 2015 + τ minus operating income in 2015. Depreciation and amortization expense will be excluded because asset revaluations affect these amounts (Aboody et al., 1999). Thus, relation between revaluation and operating income will be diminished. REV_i is the amount of upward revaluation in 2015 as a result of revaluing fixed assets, in which become the main explanatory variable for this thesis. $OPIN_i$ is the change in operating income from 2014 to 2015, this variable control the time-series properties of earnings that can affect future operating income (Aboody et al., 1999). PTB_{it} is the price-to-book ratio based on the book value of equity excluding the amount of upward revaluation, this variable controls for the potential effect of risk and growth on future operating income (Fama and French, 1992). $ASSETS_i$ is the logarithm of total assets, which exclude the amount of upward revaluation, this variable controls for size effect of the firms (Aboody et al., 1999). $REV.D/E_i$ is the interaction between the amount of revaluation and leverage, which captures the impact of leverage on the relation between the amount of upward revaluation and future firm performance (Lopes and Walker, 2012). In order to make data more comparable among firms, $\Delta OPIN_{15+\tau,i}$, REV_i , and $OPIN_i$ were deflated by the market value of equity at the beginning of 2015 (Aboody et al., 1999; Jaggi and Tsui, 2001; Zhai, 2007; Lopes and Walker, 2012).

In examining the second hypothesis, a model which adopted from the previous model of Aboody et al. (1999) was constructed:

$$\Delta CF_{15+\tau,i} = \beta_0 + \beta_1 REV_i + \beta_2 \Delta CF_i + \beta_3 PTB_i + \beta_4 ASSETS_i + \beta_5 \Delta WC_i + \varepsilon_i \quad (2)$$

$$\tau = 1, 2$$

Eq. (2) is separately estimated from changes in operating cash flow over each of the two horizons. $\Delta CF_{15+\tau,i}$ is operating cash flow of firm in 2015 + τ minus operating cash flow in 2015. ΔCF_i is the change in operating cash flow from 2014 to 2015. ΔWC_i is the change in working capital from 2014 to 2015. Lagged working capital was included since Dechow (1994) found out that there is a significant association between operating cash flow and lagged working capital. $\Delta CF_{15+\tau,i}$, ΔCF_i , and ΔWC_i also were deflated by the market value of equity at the beginning of 2015, since the differences in firm size will result in different scales in cash flow from operation (Aboody et al., 1999; Zhai, 2007).

As elaborated above, this thesis focused on operating performance of firms over several years after revaluation happened. However, lack of availability of subsequent data limits the observation to two future years (2016 and 2017). Therefore, there were four regression models established in this thesis, in which consist of two regression models for each dependent variable.

4.2.2. Classical Assumptions

Before performing the regression model, there are some assumptions that need to be satisfied in order to get unbiased estimator (Wooldridge, 2013). It is assumed that this model is linear in parameter and also has zero conditional mean. Moreover, several tests are established, which adopted from Wooldridge (2013) and STATA statistical software is used for conducting the tests.

4.2.2.1. Normality

In order to conduct the parametric test, the residual of the model should be normally distributed (Ghasemi and Zahediasl, 2015). Shapiro-Wilk test was conducted to determine whether the residuals of the model are normally distributed or not. The null hypothesis was a normal distribution of residuals. Thus, if the z-value was less than 0.05, then the null hypothesis of a normality was rejected and the residual of the model was assumed to be not normally distributed.

4.2.2.2. Homoscedasticity

Homoscedasticity means that the variance of unobserved error must be constant across the different value of the independent variable, otherwise, heteroscedasticity is present. (Wooldridge, 2013). Violation of this assumption will lead to bias in standard error (Breusch and Pagan, 1979). In order to detect heteroscedasticity, Breusch-Pagan test was employed. The null hypothesis was a constant variance of unobserved error. If the p-value was below 0.05, then the null hypothesis of homoscedasticity was rejected and heteroscedasticity was assumed to be present.

4.2.2.3. Multicollinearity

Multicollinearity occurred when two or more independent variables within regression model are highly correlated to each other, which resulted in large variance regression estimator (Wooldridge, 2013). In order to detect multicollinearity, Variance Inflation Factor (VIF) test was conducted. The rule of thumb was that the variable suffers from multicollinearity if it had VIF more than 10.

5. Result

5.1. Descriptive Statistics

Table 1. Descriptive statistics for 30 firms with upward revaluation of fixed assets in 2015

Variable	N	Mean	Std. Dev.	Min	Max	Median
Dependent Variables						
$\Delta OPIN_{16}$	30	0.0345	0.2041	-0.6399	0.3619	0.0630
$\Delta OPIN_{17}$	30	0.0782	0.3290	-1.1425	0.6481	0.1458
ΔCFI_{16}	30	0.0225	0.5238	-1.7772	1.7912	0.0412
ΔCFI_{17}	30	-0.0309	0.4524	-1.3110	1.0642	0.0345
Independent Variables						
REV	30	0.4278	0.6279	0.0197	2.4513	0.1316
$\Delta OPIN$	30	0.0029	0.1871	-0.4455	0.4554	-0.0145
PTB	30	1.3558	1.2338	-0.6400	5.3122	0.9653
ASSETS	30	12.4991	0.7272	10.9686	13.658	12.5346
REVDE	30	0.3138	0.8525	-2.6854	2.6861	0.1026
ΔCF	30	-0.0672	0.5717	-2.8523	0.7824	-0.0128
ΔWC	30	6.25645	19.5963	-0.5667	102.9509	0.1550

$\Delta OPIN_{15+\tau,i}$ ($\Delta CF_{15+\tau,i}$) is the operating income (cash flow) of firm i in year 2015 + τ minus operating income (cash flow) in the year 2015. REV_i is the amount of upward revaluation in the year 2015 as a result of revaluing fixed assets. $OPIN_i$ (ΔCF_i) is the change in operating income (cash flow) from the year 2014 to the year 2015. PTB_{it} is the price-to-book ratio based on the book value of equity excluding the amount of upward revaluation. $ASSETS_i$ is the logarithm of total assets, which exclude amount of upward revaluation. $REV.D/E_i$ is the interaction between the amount of revaluation and leverage. ΔWC_i is the change in working capital from year 2014 to year 2015. $\Delta OPIN_{15+\tau,i}$, REV_i , $OPIN_i$, $\Delta CF_{15+\tau,i}$, ΔCF_i , and ΔWC_i will be deflated by the market value of equity at the beginning of the year 2015.

Table 1 exhibits a summary of descriptive statistics for all regression variables. It can be seen that the amount of upward revaluation is economically material since the average of the upward revaluation is around 43% of market value of the equity. Table 1 also shows that the mean of the price-to-book ratio is around 1.3558, even though the median is only around 0.9653, which means there is an indication of an unrealized asset. In line with the explanation in the introduction of this thesis, it can be seen that revalued firms also suffer from the global economic downturn, in which the average and median of operating income growth in 2015 is only 0.009% and -1.45% of market

value of equity respectively. However, there is a sign of recovery in 2016 and 2017, in which the average operating income growth is around 3.45% and 7.82% of market value of equity respectively. Moreover, there is an inconsistent movement of the average operating cash flow among revalued firms, in which it grows positively in 2016 by around 2.25% of market value of equity, but it is declining by 3.09% in 2017

5.2. Regression Statistics

5.2.1 Regression Statistics for Future Operating Income

Multiple regression models with changes in operating income in 2016 and 2017 as dependent variables and the amount of upward revaluation as main independent variable were established in order to examine the hypothesis 1. However, before interpreting the result of regression analysis, one should perform some test in order to conduct valid regression result.

Firstly, after performing regression statistics and examining the standardized residual for both models, three observations for the first model and one observation for the second model were deleted from the sample. Furthermore, both models were re-estimated without the outliers.

Then, Shapiro-Wilk test was employed in order to examine whether residuals of both models were normally distributed or not. It is found out in table 4 and table 5 that z-value of both models are 0.14575 and 0.17268, which means null hypothesis of normal distribution could not be rejected (significance value of <0.05) and residual of both models were normally distributed. Moreover, by looking at the p-p plot in figure 1, it can be seen that the residuals seem to be fitted in the linear line, with only a few slight deviations.

Furthermore, Breusch-Pagan test also employed to determine whether both models could violate the homoscedasticity assumptions. It is found out in table 6 and table 7 that the chi-square value of both models are 0.4091 and 0.8054. Since the null hypothesis of this test is the model has no heteroscedasticity, from the result above, the null hypothesis could not be rejected and it is concluded that both models were free from heteroscedasticity.

Lastly, VIF test employed in order to determine the occurrence of multicollinearity within both models. As observed in table 8 and table 9, the mean VIF for both models are 1.54 and 1.51. Moreover, there were no variables which exceed the rule of thumb of tolerable VIF value (10). Thus, no variables need to be removed since there was no sign of multicollinearity.

Table 2. Summary Regression Statistics on Future Operating Income as a Dependent Variable

Independent Variable	Prediction	One Year Ahead		Two Years Ahead	
		Coeff	t-stat	Coeff	t-stat
REV	+	0.122	2.58	0.0465	0.57
$\Delta OPIN$?	-0.0096	0.09	-0.6100	3.17
PTB	?	-0.0118	0.51	-0.0805	2.63
ASSETS	?	0.0520	1.69	-0.0452	0.87
REVDE	?	-0.0192	0.57	0.0233	0.41
N		27		29	
Adjusted R ²		0.1618		0.3936	

$\Delta OPIN_{15+\tau,i}$ is the operating income (cash flow) of firm i in year $2015 + \tau$ minus operating income in the year 2015. REV_i is the amount of upward revaluation in the year 2015 as a result of revaluing fixed assets. $OPIN_i$ is the change in operating income (cash flow) from the year 2014 to the year 2015. PTB_{it} is the price-to-book ratio based on the book value of equity excluding the amount of upward revaluation. $ASSETS_i$ is the logarithm of total assets, which exclude amount of upward revaluation. $REV.D/E_i$ is the interaction between the amount of revaluation and leverage. $\Delta OPIN_{15+\tau,i}$, REV_i , and $OPIN_i$ will be deflated by the market value of equity at the beginning of the year 2015.

Table 2 presents summary regression statistics from eq (1) which tried to examine the association between the upward revaluation of fixed assets and future operating income over one and two subsequent years. The result shows that REV is statistically significant (5% significance level) in one year ahead and consistently positive to the future operating income over one and two subsequent years. Interestingly, this result implied the benefit of revaluation of fixed assets has utilized by the Indonesian firms in a relatively short-term period (one year). It can be argued that that the Indonesian government (mainly represented by tax authority) actively publicize the fixed assets revaluation during that period (2015-2016), in which helps the other stakeholders to be aware of the importance of fixed assets revaluations for enhancing the performance of the firms. Thus, it helps the revalued firms for signaling better performance in the future. Furthermore, this positive association implies that the main motivation of fixed assets revaluation is disclosing the fair value of fixed assets.

The adjusted R-squared for one and two years' time horizons are 0.1618 and 0.3936 respectively. There is no specific agreement to consider the acceptable level of adjusted R-squared. However, it can be seen that previous research of Aboody et al. (1999), Jaggi and Tsui (2001), and Lopes and Walker (2012) have the adjusted R-squared ranging from 4% to 49.2% and their results are

considered good for concluding the explanatory power of revaluation of fixed assets to the future operating income. Thus, it can be concluded that this regression model still considered to be valid for observing the effect of fixed assets revaluation on the future operating income of the firms.

In regards to the control variables, change in the operating income in 2015 is negatively associated with future operating income, and is statistically significant after two subsequent years. This negative association can be interpreted as a sign of recovery within revalued firms after having negative changes in operating income in 2015. Moreover, the logarithm of total assets is positively associated with future operating income and statistically insignificant over a two-year horizon. The price-to-book ratio and the interaction term between upward revaluation amount and debt-equity ratio are having an inconsistent association to future operating income over a two-year horizon. Thus, it cannot be concluded whether there is an association between the leverage and revaluation amount to the future operating income.

Overall, having a similar result with Aboody et al. (1999) and Jaggi and Tsui (2001), this result indicates that disclosing the fair value of fixed assets becomes the main motivation of fixed assets revaluation, in which can be useful to enhance and predict future performance of the firms. Furthermore, it can be concluded that the revaluation of fixed assets is positively associated with the future operating income. Thus, hypothesis 1 is accepted. This result also implied that the temporary tax cut policy issued by the Indonesian government is effective enough for enhancing the future performance of the Indonesian firms in terms of operating income.

5.2.2. Regression Statistics for Future Operating Cash Flow

Multiple regression models with changes in operating cash flow in 2016 and 2017 as dependent variables and the amount of upward revaluation as main independent variable are established in order to answer hypothesis 2. However, before interpreting the result of regression analysis, one should perform several tests in order to conduct valid regression result.

Firstly, after performing regression statistics and examining the standardized residual for both models, one observation from the first model and five observations from the second model were deleted from the sample. Moreover, both models were re-estimated without the outliers.

Then, Shapiro-Wilk test was employed in order to examine whether residuals of both models were normally distributed or not. It is found in table 10 and table 11 that z-value of both models are

0.10887 and 0.67909, which means null hypothesis of normal distribution could not be rejected (significance value of <0.05) and residual of both models were normally distributed. Looking at the p-p plot in figure 3 and figure 4, it can be seen that the residuals seem to be fitted in the linear line, with only a few slight deviations.

Then, Breusch-Pagan test also employed to determine whether both models could violate the homoscedasticity assumptions. It is found in table 12 and table 13 that the chi-square value of both models are 0.1002 and 0.9862. Since the null hypothesis of this test was the model has no heteroscedasticity, from the result above, the null hypothesis could not be rejected and it is concluded that both models were free from heteroscedasticity.

Lastly, VIF test was employed in order to determine the occurrence of multicollinearity within both models. As observed in table 14 and table 15, the mean VIF for both models are 1.25 and 1.56. Moreover, there were no variables which exceed the rule of thumb of tolerable VIF value (10). Thus, no variables need to be removed since there was no sign of multicollinearity.

Table 3. Summary Regression Statistics on Future Operating Cash Flow as a Dependent Variable

Independent Variable	Prediction	One Year Ahead		Two Years Ahead	
		Coeff	t-stat	Coeff	t-stat
REV	+	0.0288	0.34	-0.0681	-0.42
ΔCF	?	-0.0591	-7.13	-1.2700	-6.61
PTB	?	-0.0067	-0.17	-0.0183	-0.58
ASSETS	?	-0.0457	-0.63	-0.0170	-0.22
ΔWC	?	0.0003	0.11	0.0025	0.19
N		29		25	
Adjusted R ²		0.6273		0.6384	

$\Delta CF_{15+\tau,i}$ is the operating income (cash flow) of firm i in year $2015 + \tau$ minus cash flow in the year 2015. REV_i is the amount of upward revaluation in the year 2015 as a result of revaluing fixed assets. $OPIN_i$ (ΔCF_i) is the change in cash flow from the year 2014 to the year 2015. PTB_{it} is the price-to-book ratio based on the book value of equity excluding the amount of upward revaluation. $ASSETS_i$ is the logarithm of total assets, which exclude amount of upward revaluation. $\Delta CF_{15+\tau,i}$, REV_i , ΔCF_i , and ΔWC_i will be deflated by the market value of equity at the beginning of the year 2015.

Table 3 presents summary regression statistics from eq (2) which tried to examine the association between the upward revaluation of fixed assets and future operating cash flow over one and two

subsequent years. The adjusted R-squared for one and two years' time horizons are 62.73% and 63.84 respectively, which show good enough explanatory power of the independent variables over the dependent variable. The regression statistics result implied that there is a positive association between upward revaluation of fixed assets and future operating cash flow in one subsequent year with statistically insignificant relationship. However, in contrary with the previous studies of Aboody et al. (1999) and Zhai (2007), revaluation of fixed assets by Indonesian firms having a statistically insignificant negative association to the future operating cash flow after two subsequent years of revaluation. One can argue that this result caused by the tax imposed by the Indonesian tax authority for every rupiah amount of revaluation of fixed assets. Moreover, according to the law which governs the temporary tax cut for revaluation of fixed assets, the tax rate will return to initial rate (10%) in 2017. Since the firms have decided to choose revaluation, they have to do it periodically (as prescribed in IAS 16), thus in case of next upward revaluation of fixed assets in the future, they will bear higher tax rate, assuming the current expectation of no tax rate adjustment in the future. As a result, this will erode the operating cash flow of the revalued firms, which can be amplified if the amount of upward revaluation is relatively material to the amount of the equity (like in 2015, which is around 42% of market capital). It can be argued that negative effect of the revaluation of fixed assets to the operating cash flow of the Indonesian firms is logically right. This negative effect presumably caused by the distinctive national policy, which in this case is the tax imposed by the Indonesian tax authority.

In regards to the control variable, change in operating cash flow in 2015 is negatively affect the changes in operating cash flow over one and two subsequent years with a statistically significance relationship. One can argue that this finding explains the turn-around of revalued firms after having bad performance in 2015 since the mean of change in operating cash flow in 2015 is negative. Price-to-book ratio and logarithm of total assets are negatively associated with future operating cash flow with an insignificant relationship. Lastly, change in working capital in 2015 is positively associated with the future operating cash flow, despite statistically insignificant over two years horizon.

Overall, it can be concluded that hypothesis 2 is rejected, the revaluation of fixed assets doesn't positively affect the future operating cash flow of the Indonesian firms. One cannot make strong conclusion since the result is inconsistent and statistically insignificant over one and two

subsequent years. Specifically for the negative association which contradictive with others research, this negative association arguably caused by the inherent attributes of temporary tax cut policy, in which the tax rate will go back to normal after the tax cut period is ended.

6. Conclusion

This thesis examines whether the temporary tax cut policy for fixed assets revaluation is effective enough to enhance the future performance of the Indonesian firms by testing the association between fixed assets revaluation with changes in operating income and change in operating cash flow. It is found that revaluation of fixed assets by Indonesian firms are significantly positively associated with changes in operating income on one subsequent year after revaluation. These results show that the benefits of fixed asset revaluations are realized in subsequent year and motivation of revaluation is mainly related with the effort to disclose the fair value of the fixed assets to the user of financial statements. Moreover, there is no strong evidence in regards to the relation of leverage motivation and future operating performance since the relationship is insignificance.

In contrary with the previous research of Aboody et al. (1999) and Jaggi and Tsui (2001), it is found that revaluation of fixed assets by Indonesian firms is negatively associated with the change in operating cash flow on two subsequent years after revaluation. Although the relationship is statistically insignificance, one can argue that this negative effect resulted from the tax obligation to firms for every amount of upward revaluation, which amplified by the expiration period of temporary tax cut policy at the end of 2016. In case if the firms execute an upward revaluation in 2017, the firms have to bear higher tax rate of 10% compared to 2015 which only 3%.

Overall, one can conclude that the temporary tax cut policy of revaluation of fixed assets by Indonesian government is able to achieve some part of its goal by fostering the future operating income of the Indonesian firms.

6.1. Practical Implications

The result of thesis implied several practical implications for the firms and other stakeholders. Firstly, the findings of this thesis can serve as an encouragement of the Indonesian firms to adopt revaluation model. Previously, most Indonesian firms are hesitant to revalue its fixed assets since they have to bear higher cost which related to depreciation, tax, and appraisal cost. However, the

result of analysis implied that the benefit of revaluation of fixed assets (enhancing future performance) can exceed the costs that need to be bear by the firms.

Secondly, in terms of government perspective, the increase in future performance of the firms will consequently affect positively to the economy as a whole, especially related to the increase of tax paid by the firms. However, Indonesian government should realize that the significant growing number of the firms who adopt revaluation model should be balanced with the growing number of licensed appraisals, otherwise it will take longer time for the firms to complete the process of fixed assets revaluations. Moreover, as shown in the findings of future cash flow assessment, the Indonesian tax authority should consider permanently decrease the tax rate for fixed assets revaluation, otherwise the firms with cash flow problem will be hesitant to revalue its fixed assets. This cash flow problem also one of the main cause of a low number of firms that adopt revaluation model (Zakaria, 2015).

6.2. Theoretical Implications

To the best of writer's knowledge, this is the first research which examines the effect of fixed assets revaluation in Indonesia, therefore, this thesis shed light on the impact of fixed assets revaluation to the future performance of the Indonesian firms. Moreover, this thesis provides input to the debate on whether fixed assets revaluation affects positively or negatively to the future performance of the firms. Lastly, by using the Indonesian firms' data, this thesis also provides new insight into the adoption of IFRS in the emerging country context, especially related to the fixed assets measurement.

6.3. Limitations

This thesis has several limitations. Firstly, due to a time constraint and a low number of revalued firms before 2015, the author decided to use a cross-section regression analysis which specifically focused on the firms who adopt revaluation model in 2015. One can argue that a panel data regression analysis will provide stronger evidence in order to capture the effect of fixed assets revaluation. Moreover, unlike any other previous research that covered three subsequent years after revaluation for examining future performance, this thesis only use two subsequent years after revaluation. This limitation ensues because 2018 fiscal year has not ended yet up until this research was conducted, which made this thesis only can cover firms' data up until 2017 fiscal year. Furthermore, the findings reveal that upward revaluation tax paid by the firms has a probability to affect the cash flow of the firms, in which the current model has not incorporated it yet.

6.4. Recommendations for Future Research

The limitations of this thesis can provide further room for improvement to future research. Firstly, future research can use three subsequent years after revaluation in order to get stronger evidence related to the effect of fixed assets revaluation on the future performance. Moreover, since it is expected that the number of firms that adopt revaluation model will increase gradually over the year, thus one can use panel data regression analysis in order to get more accurate inference of parameter in the model. Lastly, future research should incorporate the upward revaluation tax in the model, thus one can confirm whether it is true that the tax paid can result in a negative effect for the future firm performance, especially related to the operating cash flow.

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Appendix A: Information about the Regression Model with “Operating Income” as Dependent Variable

Table 4. Result of Shapiro-Wilk Test for One Year Ahead Operating Income as Dependent Variable

Variable	Obs	W	V	Z	Prob>z
r	27	0.94316	1.671	1.055	0.14575

Table 5. Result of Shapiro-Wilk Test for Two Year Ahead Operating Income as Dependent Variable

Variable	Obs	W	V	Z	Prob>z
r	29	0.94903	1.580	0.944	0.17268

Table 6. Result of Breusch-Pagan test for One Year Ahead Operating Income as Dependent Variable

chi2(1)	0.68
Prob > chi2	0.4091

Table 7. Result of Breusch-Pagan test for Two Year Ahead Operating Income as Dependent Variable

chi2(1)	0.06
Prob > chi2	0.8054

Table 8. Result of VIF test for One Year Ahead Operating Income as Dependent Variable

Variable	VIF	1/VIF
REV	2.16	0.463183
ΔOPIN	2.00	0.499677
PTB	1.23	0.813042
ASSETS	1.23	0.815985
REVDE	1.08	0.922241
Mean VIF	1.54	

Table 9. Result of VIF test for Two Year Ahead Operating Income as Dependent Variable

Variable	VIF	1/VIF
REV	2.16	0.463183
Δ OPIN	1.08	0.499677
PTB	1.20	0.813042
ASSETS	1.18	0.815985
REVDE	1.95	0.922241
Mean VIF	1.51	

Figure 1. Normal P-P Plot for One Year Ahead Operating Income as Dependent Variable

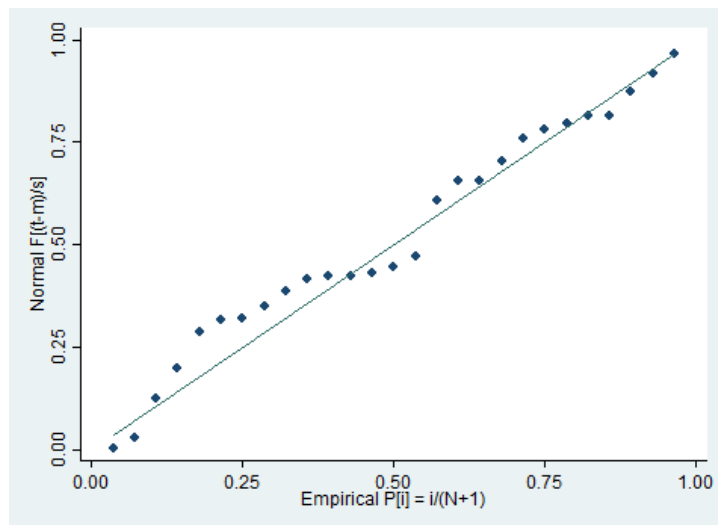
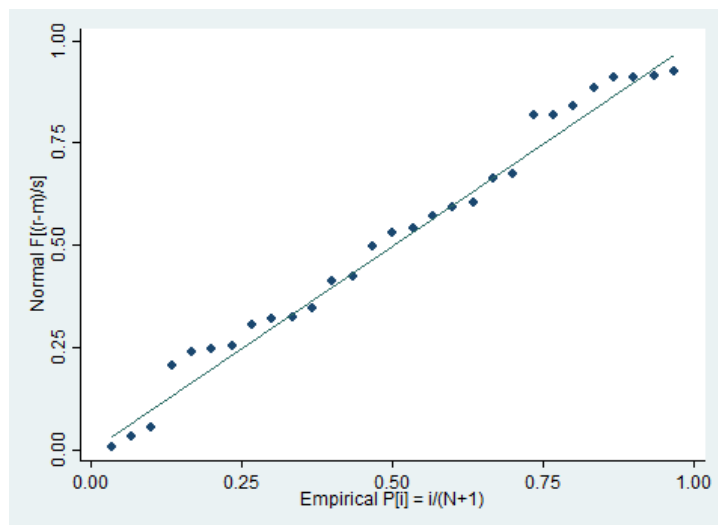


Figure 2. Normal P-P Plot for Two Year Ahead Operating Income as Dependent Variable



Appendix B: Information about the Regression Model with “Operating Cash Flow” as Dependent Variable

Table 10. Result of Shapiro-Wilk Test for One Year Ahead Operating Cash Flow as Dependent Variable

Variable	Obs	W	V	Z	Prob>z
r	29	0.94316	1.817	1.233	0.10887

Table 11. Result of Shapiro-Wilk Test for Two Year Ahead Operating Cash Flow as Dependent Variable

Variable	Obs	W	V	Z	Prob>z
R	25	0.97134	0.796	-0.465	0.67909

Table 12. Result of Breusch-Pagan test for One Year Ahead Operating Cash Flow as Dependent Variable

chi2(1)	2.70
Prob > chi2	0.1002

Table 13. Result of Breusch-Pagan test for Two Year Ahead Operating Cash Flow as Dependent Variable

chi2(1)	0.00
Prob > chi2	0.9862

Table 14. Result of VIF test for One Year Ahead Operating Cash Flow as Dependent Variable

Variable	VIF	1/VIF
REV	1.53	0.654556
ΔOPIN	1.30	0.768877
PTB	1.29	0.775143
ASSETS	1.09	0.920707
REVDE	1.06	0.942724
Mean VIF	1.25	

Table 15. Result of VIF test for Two Year Ahead Operating Cash Flow as Dependent Variable

Variable	VIF	1/VIF
REV	1.92	0.520222
Δ OPIN	1.84	0.543326
PTB	1.66	0.603690
ASSETS	1.26	0.790764
REVDE	1.10	0.906869
Mean VIF	1.56	

Figure 3. Normal P-P Plot for One Year Ahead Operating Cash Flow as Dependent Variable

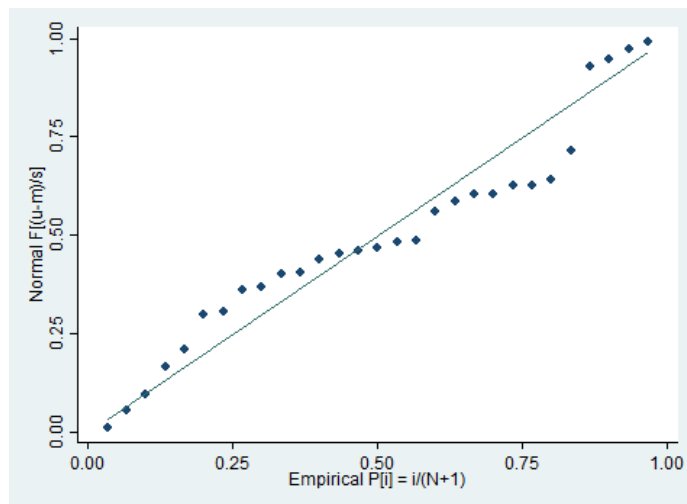


Figure 4. Normal P-P Plot for One Year Ahead Operating Cash Flow as Dependent Variable

