



Earning Informativeness is Moderating Investment Opportunity, Return on Asset, and Leverage on Prudence Measurement

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Abstract

This study aims to analyze whether earning informativeness can moderate the effect investment opportunity, return on asset, and leverage on the prudence measurement. The method used in this study is a panel regression analysis. The sample used in the study was 500 observations using data from manufacturing companies for the period 2014–2018. The results of the first model show that investment opportunity has a significant positive effect on prudence. Return on asset has a significant positive effect on prudence. Leverage has a significant positive effect on prudence. The results of the second model show earning informativeness strengthens the effect of investment opportunity on prudence. Earning informativeness strengthens the effect of return on asset on prudence. Earning informativeness strengthens the effect of leverage on prudence. The implication of this study that funding decisions made inaccurately will cause fixed costs and subsequently result in a low profitability of a company. High profit quality accurately reflects the company's operational performance.

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Investment opportunity
Return on asset
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1. Introduction

Efficient fund allocation can be created with the capital market. An active capital market in a country will encourage the development of an effective capital market (Rakhmawati and Priyadi (2015). For financial statements in the company that reflect the acquisition of transparency, it will be able to help investors to assess the implications of earnings valuation and its changes (Sunarto, Murwaningsari, & Mayangsari, 2016).

In IFRS, the term caution is related to revenue recognition, which fulfills the provisions in revenue recognition in IFRS (Orthaus, Pelger, Kuhner, & Heilmeier, 2019). In IFRS, the term prudence is related to revenue recognition, which is that income may be recognized even though it is still in the form of potential, as long as it meets the conditions in revenue recognition in IFRS (Orthaus et al., 2019; Yustina, 2013).

Investment opportunity set is the extent or magnitude of the company's opportunities in terms of investment. Keown (2010) reports that when the investment opportunities of companies increase, the dividend payout ratio must decrease. This indicates that there is an inverse relationship between dividend policy and investment opportunities. The purpose of company assets is to generate profits for the company itself. Return on assets ratio can help management and investors see how well a company is able to convert its investment in assets into profits (Nikoomaram, Fard, Roodposhti, Talebnia, & Amini, 2011). Leverage is the level of the

company's ability to use assets that have debt and shares in order to realize the company's goals to optimize the use of company owner's wealth.

The earnings informativeness of income smoothing decreased after the occurrence of the crisis. High institutional ownership also reduces the informativeness of earnings for firms with income smoothing and supports the institutional investors' opportunism hypothesis (Chen, Weng, & Lin, 2017). In discretionary accrual policy, if it provides earnings informativeness, then the policy increases earnings quality (Dechow & Dichev, 2002). Conversely, if the policy does not describe the actual economic profit, then there will be a blurring of profit (Bhattacharya, Daouk, & Welker, 2003).

This research examines manufacturing companies with a five-year research period (2014-2018). The research period began in 2014 because Indonesia already begun to adopt IFRS and implemented it completely in the presentation of public company financial statements. Listed manufacturing companies listed on stock exchanges were chosen as research samples in Indonesia.

The purpose of this study is to test and analyze: (1) whether investment opportunity affects the prudence; (2) whether return on asset affects the prudence; (3) whether leverage affects on the prudence; (4) whether earning informativeness can moderate the effects of investment opportunity on the prudence; (5) whether earning informativeness can moderate the effects of return on asset on the prudence; (6) whether leverage can moderate the effects of earning informativeness on the prudence.

The significance of this paper is to understand prudence measurement as part of financial reporting based on IFRS and ensuring that the financial statements are neutral and unbiased. In this study, use the prudence as a dependent variable because researchers want to investigate whether the presence of cautious prudence underlying the presentation of financial statements. In addition, prudence as a dependent variable is expected to strengthen the presentation of a more neutral and unbiased in the financial statements, so that the cost of capital issued by the company becomes lower.

Theoretical contribution is that research is expected to add to the academic literature by examining the effect of investment opportunity, return on asset, and leverage on prudence with earning informativeness as moderation variable. The contribution of research in the development of science is the contribution of ideas, thoughts, additional information and additional empirical evidence of measurement for prudence as the dependent variable.

2. Literature Review

2.1. Investment Opportunity on Prudence

Wijaya and Sedana (2015) reports that investment opportunities as a combination of real assets with alternative investments in the future that have a positive net present value. The existence of high profits will enable companies to make investments. In accordance with the developed pecking order theory, Rizqia and Sumiati (2013) reports that company managers will utilize profits obtained in advance for investment activities, according to priority scale, and if insufficient profits can used debt from third parties. Based on this discussion, the researcher proposes the following hypothesis:

H₁: Investment opportunity has a positive effect on the prudence.

2.2. Return on Asset on Prudence

Return on assets has a positive and significant effect on firm value. The greater the company's financial performance, the greater the company's value (Wulandari, Rinofah, & Mujino, 2020). The rate of return on assets is measured by net income divided by total company assets (Nikoomaram et al., 2011). The positive return on assets (ROA) shows that of the total assets used for the company's operations are able to provide profits for the company. Conversely, if ROA is negative, it shows that the total assets used do not provide profit or loss. Based on this discussion, the researcher proposes the following hypothesis:

H₂: Return on asset has a positive effect on the prudence.

2.3. Leverage on Prudence

Companies engaged in the financial services industry rely on service and process innovation in their business fields to gain competitive advantage and remain attractive to customers by controlling the level of debt ratio (Mizgier, Kocsis, & Wagner, 2018). The cost of equity capital companies that increase will be in line with the level of debt ratio that increases. The level of debt ratio has a significant positive effect on the cost of equity capital. Ben-Nasr, Boubaker, and Rouatbi (2015) concluded that leverage negatively affects the cost of equity. This is because financial leverage increases the cost of equity. Based on this explanation, the researcher proposes the research hypothesis as follows:

H₃: Leverage has a positive effect on the prudence.

2.4. Earning Informativeness Weakens the Effect of Investment Opportunity on Prudence

Safdar and Yan (2016) reports that a relationship between information risk and capital costs in China and provide a further view of how investors assess information risk. Blaylock, Gaertner, and Shevlin (2017) reports that the decrease in earnings informativeness was more influential for equity holders than debt holders

because of differences in the yield structure between debt and equity investment, so that an increase in book-tax compliance caused an increase in firm confidence in debt capital. Based on this explanation, the researcher proposes the research hypothesis as follows:

H₄: Earning Informativeness Weakens the Effect of Investment Opportunity on Prudence.

2.5. Earning Informativeness Weakens the Effect of Return on Asset on Prudence

Mukti (2018) reports that the audit committee characteristics that are proxied by the audit committee members who have legal competence, finance accounting competence and total audit committee showed mixed results. Audit committee with legal competence and the total number of audit committee members can increase earnings informativeness. Suhányiová, Suhányi, Mokrišová, and Horváthová (2015) reports that the main principle of accounting is reflected in the right and fair treatment of transactions that occur in the company. Presentation of fair financial statements is ensured through prudence. Prudence on the balance sheet and company by taking into account the risks and losses that are expected to be related to assets and liabilities. Based on this explanation, the researcher proposes the research hypothesis as follows:

H₅: Earning Informativeness Weakens the Effect of Return on Asset on Prudence.

2.6. Earning Informativeness Weakens the Effect of Leverage on Prudence

Yustina (2013) reports that IFRS introduced a new term called prudence. Prudence is revenue that recognized even though it is still in the form of potential, in so far as it meets the provisions of recognition of income in IFRS. Malau, Murwaningsari, and Mayangsari (2020) reports that earning informativeness has a significant negative effect on the cost of capital. Low risk will reduce the cost of capital. This indicates that the earning informativeness will reduce the level of risk of the company.

H₆: Earning Informativeness Weakens the Effect of Leverage on Prudence.

3. Methods

3.1. Design

Based on the problems in this study, the type of research used is the hypothesis testing of the influence of investment opportunity, return on asset, and leverage on the prudence with earning informativeness as a moderating variable in manufacturing companies in Indonesia. The time period used in this study was five years from the period 2014–2018. The unit of analysis used in this study uses audited and listed financial statements of manufacturing companies in Indonesia and has company websites, individual stock exchange websites and other supporting websites.

3.2. Variables

3.2.1. Dependent Variable: Prudence

The prudence measurement applies the Bias Formula (Heckman, 1979) and uses the *Modified Jones* model (Dechow, Sloan, & Sweeney, 1995).

$$AC_{i,t} / TA_{i,t-1} = b_0(1 / TA_{i,t-1}) + b_1(\Delta SALES_{i,t} - \Delta AR_{i,t} / TA_{i,t-1}) + b_2(PPE_{i,t} / TA_{i,t-1}) + \epsilon_{i,t}$$

Then choose from the determination of the value of Prudence-Score or P-Score. The P-Score value is calculated by depreciation expense plus other comprehensive income divided by total assets. After that make probit regression and then the value of β₁ obtained dengan persamaan sebagai berikut:

1	=	lambda = bias
β ₁		

3.2.2. Independent Variables

Some of the independent variables to be tested to find out the relationship with the dependent variable in this study are as follows:

3.2.2.1. Investment Opportunity

Investment opportunities are calculated from market value divided by book value of equity (Myers, 1977).

3.2.2.2. Return on Asset

The rate of return on assets is measured by net income divided by total company assets (Ahmed, Billings, Morton, & Stanford-Harris, 2002; Francis, Nanda, & Olsson, 2008; Nikoomaram et al., 2011).

3.2.2.3. Moderating Variable: Earning Informativeness

To measure earning informativeness, this study refers to McNichols (2002). The measurements use discretionary accruals. The McNichols model is a modification of the Dechow and Dichev (2002) and Jones (1991) with the following equation:

$$\Delta WC_t = a + b_1 CFO_{t-1} + b_2 CFO_t + b_3 CFO_{t+1} + b_4 \Delta Sales_t + b_5 PPE_t + e_t$$

3.3. Research Model

In this study, the first model is to examine the effect of investment opportunity, return on asset, and leverage on prudence with samples of manufacturing companies in Indonesia. **The second model** is to examine the effect of investment opportunity, return on asset, and leverage on prudence with earnings informativeness as moderation variable.

$$PRU_{it} = \beta_0 + \beta_1 INVEST_{it} + \beta_2 ROA_{it} + \beta_3 LEV_{it} + \varepsilon_{it}$$

$$PRU_{it} = \beta_0 + \beta_1 INVEST_{it} + \beta_2 ROA_{it} + \beta_3 LEV_{it} + \beta_4 INF_{it} + \beta_5 (INVEST * INF)_{it} + \beta_6 (ROA * INF)_{it} + \beta_7 (LEV * INF)_{it} + \varepsilon_{it}$$

4. RESULT

4.1. Descriptive Statistics

In this study conducted a descriptive statistical analysis with the aim to determine the distribution of data in the form of central tendency and data dispersion. Results of descriptive statistical analysis of research variables are presented in Table 1.

Table-1. Descriptive statistic.

	N	Minimum	Maximum	Mean	Std. Deviation
Dependent variable:					
PRU	500	-9.3007	9.9009	3.7619	1.0622
Independent variable:					
INVEST	500	-2.1421	1.8593	-0.2395	0.6412
ROA	500	-0.6128	0.7183	0.0491	0.1548
LEV	500	-0.6811	2.0715	0.5781	0.4506
Moderating Variable:					
INF	500	-2.3577	1.7413	-0.3499	0.7402

Note: This table represents the descriptive statistics of each research variable. The purpose of this table is to provide an overview of the conditions of central tendency and dispersion of the data used in estimating the research model. The dependent variable is PRU. Independent variables are INVEST, ROA, LEV, and interactions between INVEST, ROA, LEV, and INF. The moderating variable is INF.

Based on the data in Table 1, the variable earning informativeness (INF) has the lowest value of -2.3577 and the highest value of 1.7413. The variable prudence (PRU) has the lowest value of -9.3007 and the highest value of 9.9009. The prudence indicating the costs that need to be spent by the company regarding the risk of the company. The purpose of companies to obtain the efficient and optimal prudence. The prudence has a smaller standard deviation value compared to the average value. This shows that the prudence variable (PRU) of sample companies has a fairly low variation of these variables.

4.2. Results of the First Model Hypothesis Testing

This first model test is a regression test which is conducted to see the effect of earning aggressiveness, information asymmetry, and earning informativeness on the cost of capital. Calculation of cost of capital uses a three-factor model. The results of the first hypothesis research test model are presented in Table 2.

Table-2. First model test result.

$PRU_{it} = \beta_0 + \beta_1 INVEST_{it} + \beta_2 ROA_{it} + \beta_3 LEV_{it} + \varepsilon_{it}$					
Variable	Prediction	Coefficient	P-Value	Statistics Collinearity	
				Tolerance	VIF
Constanta		2.4966	0.0000	--	--
INVEST	+	0.5451	0.0317**)	0.9761	1.0245
ROA	+	0.0084	0.0003***)	0.9314	1.0737
LEV	+	0.2976	0.0309**)	0.9403	1.0635
Normality Test		0.9901			
Durbin-Watson Stat		1.7987			
Glejser Test		0.2731			
Adjusted R ²		0.5358			
Prob (F- Statistics)		0.0000***)			
Total Observation		500			

Note: *** Significant at the level of 1%; ** Significant at the level of 5%; * Significant at the level of 10%. This table represents the descriptive statistics of each research variable. The purpose of this table is to provide an overview of the conditions of central tendency and dispersion of the data used in estimating the research model. The dependent variable is PRU. Independent variables are INVEST, ROA, LEV, and interactions between INVEST, ROA, LEV, and INF. The moderating variable is INF.

4.3. Results of Testing the Second Model of Hypothesis

This second model test is a regression test conducted to see the effect of investment opportunity, return on asset, and leverage on the prudence with earning informativeness as moderating variable. This model can be seen in Table 3.

Table-3. Second model test result.

$PRU_{it} = \beta_0 + \beta_1 INVEST_{it} + \beta_2 ROA_{it} + \beta_3 LEV_{it} + \beta_4 INF_{it} + \beta_5 (INVEST * INF)_{it} + \beta_6 (ROA * INF)_{it} + \beta_7 (LEV * INF)_{it} + \varepsilon_{it}$					
Variable	Prediction	Coefficient	P-Value	Statistics Collinearity	
				Tolerance	VIF
Constanta		0.2263	0.0000	--	--
INVEST	+	0.5219	0.0085***)	0.7046	1.4192
ROA	+	0.2462	0.0945*)	0.8050	1.2422
LEV	+	0.1249	0.0782*)	0.8080	1.2376
INF	+	0.6309	0.0073***)	0.8661	1.1546
INVEST_INF	+	0.3803	0.0210**)	0.6508	1.5366
ROA_INF	+	0.4307	0.0165**)	0.7786	1.2844
LEV_INF	+	0.4941	0.0318**)	0.3597	2.7801
Normality Test		0.9912			
Durbin-Watson Stat		1.8225			
Glejser Test		0.0127			
Adjusted R ²		0.7168			
Prob (F- Statistics)		0.0000***)			
Total Observation		500			

Note: *** Significant at the level of 1%; ** Significant at the level of 5%; * Significant at the level of 10%.

This table represents the descriptive statistics of each research variable. The purpose of this table is to provide an overview of the conditions of central tendency and dispersion of the data used in estimating the research model. The dependent variable is PRU. Independent variables are INVEST, ROA, LEV, and interactions between INVEST, ROA, LEV, and INF. The moderating variable is INF.

5. Discussion

Based on the results of testing the entire model in Table 2 and Table 3 can be explained as follows. The result of testing the first model and second model with a sample of manufacturing companies Indonesia is all independent variables significantly influence the prudence, but the second model has a higher adjusted R² value compared to the first model. This is due to the magnitude of the influence of earning informativeness which is able to moderate investment opportunity, return on asset, and leverage on the prudence. Earning informativeness is more powerful because of prudence that is applied so that profits become more qualified, lower cost of capital, and lower risk. The second model test result are better than the first model. So, from the overview of the two models found in Table 2 and Table 3 it states that earning informativeness as a moderating variable has a very strong influence.

6. Conclusion

This study aims to examine the effect of investment opportunity, return on asset, leverage and leverage on the prudence on the prudence by using earning informativeness as a moderating variable. Investment opportunity has a positive significant effect on the prudence. This indicates that earning informativeness can moderate investment opportunity on the prudence that affect company performance and decrease the risk of the company. Return on asset has a significant positive effect on the prudence. This indicates that return on asset able to give information about risk of the company. Leverage has a significant positive effect on the prudence. This indicates that the earning informativeness as moderating variable will reduce the level of risk of the company. Low risk will increase the prudence.

The combined test results (first model and second model) prove that earning informativeness strengthens the effect of investment opportunity on the prudence. This happens because of the obscurity of profits for investors so that it is not balanced in trade and the economy which affects the prudence. The test results state that earning informativeness strengthens the effect of return on asset on the prudence. This indicates that the earning informativeness of management related to information influences the role of return on asset on the prudence. The application of prudence policies carried out by the company management in accordance with accounting standards, so that earning informativeness able to moderate leverage on the prudence.

This study provides theoretical implications that investment opportunities, return on assets, and leverage have a significant positive effect on prudence with earnings information as a moderating variable. The results of this study support the agency theory and signaling theory that funding decisions made inaccurately will cause fixed costs and subsequently result in a low profitability of a company. High profit quality accurately reflects the company's operational performance.

The limitations of the existing research are useful to be considered for future research. The limitation in question is that the results of this study cannot be generalized to all countries. The results of the study only apply to non-financial publicly traded companies and are domiciled in the country of Indonesia.

Suggestions for further research are as follows: (1) Extending company samples based on industry categories. In this study using only manufacturing companies. Future studies can use company samples for all industry categories, except the financial industry because of their different characteristics; (2) Consider other new measurements as moderating variables. This study uses earning informativeness and calculates formula as a moderating variable; (3) Add more research samples from ASEAN countries. This research is limited to Indonesia. Further research can add other ASEAN countries, e.g. Singapore, Malaysia and Thailand which can be used as research samples. By using a sample of other ASEAN countries, further research is expected to be broader and more comprehensive.

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