PRUDENCE MEASUREMENT IS MODERATING EARNING OPACITY, INFORMATION ASYMMETRY, AND EARNING INFORMATIVENESS ON COST OF CAPITAL THREE-FACTORS MODEL

by Melinda Malau

PRUDENCE MEASUREMENT IS MODERATING EARNING OPACITY, INFORMATION ASYMMETRY, AND EARNING INFORMATIVENESS ON COST OF CAPITAL THREE-FACTORS MODEL

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ABSTRACT

This study aims to examine and analyze whether earning opacity affects the cost of capital, information asymmetry affects the cost of capital, earning informativeness affects the cost of capital, prudence can moderate the effect of earning opacity on the cost of capital, prudence can moderate the effect of information asymmetry on the cost of capital, and prudence can moderate the effect of earning informativeness on the cost of capital. The method used in this study is a panel regression analysis. The sample used in the study was 900 observations using data from manufacturing companies for the period 2014-2018. This research model uses a new calculation formula for prudence. New measurement refers to the bias formula. This study consisted of five models. The results of the first model until the fifth model show that earning opacity (which is proxied by earning aggressiveness) and information asymmetry have a significant positive effect on the cost of capital. Earning informativeness has a significant negative effect on the cost of capital. Prudence weakens the effect of earnings opacity on the cost of capital. The results of the second model until the fourth model show that prudence weakens the effect of information asymmetry on the cost of capital and prudence strengthens the effect of earnings informativeness on the cost of capital. The implications of this research are the high risk will increases the cost of capital and the information asymmetry increases the risk of the company. Earning informativeness will reduce the level of risk of the company. Low risk will reduce the cost of capital. Earning quality and care funding decisions will reduce risk, so that the company's cost of capital becomes optimal.

Keywords: Cost of Capital, Earning Opacity, Information Asymmetry, Earning Informativeness, Prudence

INTRODUCTION

Companies that face competitive situations always try to maintain the continuity of their business by increasing capital. One alternative is to become a public company with the aim of obtaining additional funding from investors and creditors whenever the company needs it (Barth *et al*, 2013). The capital market can encourage the creation of efficient fund allocations (Rakhmawati dan Priyadi, 2015).

Bhattacharya *et al*. (2003) state that the obscurity of earning (earning opacity) as a distribution of corporate earnings reports that fail to provide information about the distribution of economic profits that are true, but not measurable. Earning opacity in

this study is measured by the earning aggressiveness. In reducing information asymmetry that occurs, it is better if the company's financial statements in a country reflect earning transparency can help investors to assess the implications of the valuation of profits and changes (Sunarto *et al.*, 2016; Francis *et al.* 2004; Barth *et al.*, 2013). Earning informativeness is defined as the amount of information on future earnings or cash flows including the period of current stock returns (Zarowin, 2002). With accurate earning informativeness, it is expected that the company will be able to control the company's optimal cost of capital.

IFRS introduces a new term known as prudence as a substitute for conservatism. In IFRS, the term prudence is related to the recognition of income, e.g. income can be recognized even though it is still in the form of potential, in so far as it fulfills the provisions in recognition of income in IFRS (Orthaus et al., 2017; Yustina, 2013).

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 and the Philippines. The country of Indonesia is a research sample because it is the domicile of the researcher, while other countries, e.g. the Philippines, are chosen because per capita Gross Domestic Product is quite high in thousands of US dollars in Southeast Asia in 2018.

The purpose of this study is to test and analyze: (1) whether earning opacity affects the cost of capital; (2) whether information asymmetry affects the cost of capital; (3) whether earning informativeness affects on the cost of capital; (4) whether prudence can moderate the effects of earning opacity on the cost of capital; (5) whether prudence can moderate the effect of information asymmetry on the cost of capital; (6) whether prudence can moderate the effects of earning informativeness on the cost of capital.

The significance of this study is to make a new measurement of prudence by referring to the bias formula (Heckman, 1979). The aim is to analyze whether a company has considered and implemented prudence in presenting financial reporting based on IFRS and ensuring that the financial statements are neutral and unbiased. Prudence as a moderating variable in this study. In this study, use the prudence as a moderation variable because researchers want to investigate whether the presence of cautious prudence underlying the presentation of financial statements can strengthen or weaken the influence of earning opacity, information asymmetry and earning informativeness on the cost of capital. In addition, prudence as a moderating 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.

LITERATURE REVIEW

Earning Opacity and Cost of Capital

Earning opacity in this study is proxied by the earning aggressiveness. Sunarto *et al.* (2016) concluded that earning aggressiveness has a positive effect on the cost of equity. The results of the study also show the earning aggressiveness affects investors in making decisions. Mendes-Da-Silva *et al.* (2014) use the least-squares regression equation. The result is that a more aggressive company average shows higher capital

costs and is supported by a lack of research on various ways to estimate the cost of capital and their relationship with disclosures through company sites, especially when considering developing countries such as Brazil. In research Sunarto (2010) dan Bhattacharya *et al.* (2003) stated that the earning aggressiveness would lead to the obscurity of profits. The earnings report presented leads to more recorded profits so that accounting profits do not reflect the economic performance of a company. Based on this discussion, the researcher proposes the following hypothesis:

H₁: Earning aggressiveness has a positive effect on the cost of capital.

Information Asymmetry on Cost of Capital

Francis *et al.* (2004) concluded that there was a negative influence on the measurement between the cost of equity and earning transparency. Companies that develop earning transparency will be associated with a lower cost of capital because transparency will reduce risks arising from information asymmetry and at the same time reduce the cost of capital. Sunarto *et al.* (2016) conclude that information asymmetry reduces earning transparency which negatively affects the cost of equity. Companies that develop earning transparency will be associated with lower equity costs because transparency will reduce risks arising from information asymmetry and at the same time reduce the cost of equity. Based on this discussion, the researcher proposes the following hypothesis:

H₂: Information asymmetry has a positive effect on the cost of capital.

Earnings Informativeness on Cost of Capital

In research Firth, *et al.* (2006) extended his previous research empirically by examining how the ownership structure and board structure influenced the profitability of public companies in China. Research conducted by Dechow *et al.* (1995) shows that accruals respond positively to earning informativeness. Companies that report earnings are expected to be able to utilize earnings informativeness through discretionary accruals to reduce the cost of equity. This study evaluates the ability of alternative models to detect earnings management. The research findings are a modified version of the model developed from the study Jones (1991) is the most powerful test on earnings management. Barth *et al.* (2013) state that there is a positive relationship between earning transparency and cost of capital. Based on this explanation, the researcher proposes the research hypothesis as follows:

H₃: Earning Informativeness has a negative effect on the cost of capital.

Prudence Weakens the Effect of Earning Aggressiveness on Cost of Capital

Based on the literature of previous studies, there are no studies using prudence as a variable. Research that examines prudence is only theoretical and qualitative. The quasi variable moderating in this research is prudence. Kirschenheiter dan Ramakrishnan (2009) examines how conservative accounting might be demanded by decision makers based on the characteristics of those decision makers. The findings indicate that decision maker who adheres to the precautionary principle would prefer a conservative accounting system compared to a liberal accounting system. The argument as a researcher, prudence assesses what management should do and must be considered in making decisions. Increased prudence will reduce company risk and reduce capital costs. Riahi-Belkaoui dan Alnajjar (2006) states that earning opacity (proxied by earning aggressiveness) has a negative effect on the level of economic freedom and quality of life and has a positive effect on legal regulations, economic growth and the level of corruption. High earning opacity will increase the cost of capital (Zuhrohtun

dan Baridwan, 2015). Based on this explanation, the researcher proposes the research hypothesis as follows:

H4: Prudence weakens the effect of the earning aggressiveness on the cost of capital.

Prudence Weakens the Effects of Information Asymmetry on Cost of Capital

Nugent *et al.* (2017) concluded that the annual cost of intangible assets found obstacles to discretion to apply the system of prudential principles and fundamental accounting conservatism. Trading volume theory is based on the assumption that market agents revise potential demand prices and trading partners. Shroff *et al.* (2013) conclude that the timeliness of asymmetry is related to when information is conveyed through economic activity or the shock recorded in the accounting earnings period is earlier when conveying information that is not good, then if conveying good information. Based on this explanation, the researcher proposes the research hypothesis as follows:

H5: Prudence weakens the influence of information asymmetry on the cost of capital.

Prudence Strengthens the Effect of Earning Informativeness on Cost of Capital

Yustina (2013) stated 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. Tucker dan Zarowin (2006) stated that the profitability informativeness will reduce the cost of capital because investors will consider the risks that can be reduced. Earning Informativeness in financial statements will provide optimal information. Prudence in the presentation of financial statements makes the numbers more neutral and unbiased. Suhányiová *et al.* (2015) concluded 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.

H6: Prudence strengthens the effect of earning informativeness on the cost of capital.

METHODS

Design

Based on the problems in this study, the type of research used is the hypothesis testing of the influence of earning opacity (proxied by earning aggressiveness), information asymmetry and earning informativeness on the cost of capital with prudence as a moderating variable in manufacturing companies in Indonesia and the Philippines. 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 the Philippines and has company websites, individual stock exchange websites and other supporting websites.

Variables
Dependent Variable: Cost of Capital

The main test of the measurement of the cost of capital in this study uses a three-factor model. Testing is done in order to obtain an efficient and optimal cost of capital. A three-factor model of Fama dan French (1992) consists of market risk (Capital Asset

Pricing Model/CAPM) with two factors, e.g. the size of the company (market capitalization) and comparison of book value to the market value of the company's equity. Fama dan French (1992) also stated about the book to market ratio. This ratio is calculated by comparing the book value of the company with the stock market value, which is high or low. This study does not use a negative value ratio. This study calculates the estimated cost of capital for year t with the following equation:

$$CoC_{i,t} = R_{f,t} + \beta_{im} \times (R_M - R_f)_t + \beta_{SMB,i,t} \times SMB_t + \beta_{HML,i,t} \times HML_t \quad \text{................................(1)}$$

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:

Earning Aggressiveness

The calculation for earning aggressiveness (Bhattacharya *et al*., 2003) is measured in the following stages.

Stage 1:

$$Y = \alpha + \beta_1 \frac{\Delta CA_{kt}}{TA_{kt-1}} + \beta_2 \frac{\Delta CL_{kt}}{TA_{kt-1}} + \beta_3 \frac{\Delta Cash_{kt}}{TA_{kt-1}} + \beta_4 \frac{\Delta STD_{kt}}{TA_{kt-1}} + \beta_5 \frac{\Delta DEP_{kt}}{TA_{kt-1}} + \beta_6 \frac{\Delta TP_{kt}}{TA_{kt-1}} + \varepsilon \quad \text{............(2)}$$

Stage 2:

The error value obtained is earning aggressiveness. Firstly, the error value is absolute.

Information Asymmetry

The measurement of information asymmetry in this study was measured based on the bid-ask spread (Callahan *et al*., 1997). Machdar *et al*. (2017) dan Rachmawati (2010) also examine information asymmetry by measuring the bid-ask spread. The equation of the bid-ask spread formula is as follows:

$$BAS = \frac{\sum (Ask_{it} - Bid_{it})}{\sum (Ask_{it} + Bid_{it}) / 2} \quad \text{...(3)}$$

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 dan Dichev (2002) and Jones (1991) with the following equation:

$$\Delta WC_t = a + b_1 CFO_{t-1} + b_2 CFO_t + b_3 CFO_{t+1} + b_4 \Delta Sales_t + b_5 PPE_t + e_t \quad \text{................................(4)}$$

Moderating Variable: *Prudence*

The new prudence measurement in this study applies the Bias Formula Heckman (1979) by making the measurement step into two stages as follows:

Stage 1: To make OLS Regression using the *Modified Jones* model (Dechow *et al*., 1995).

$$AC_{i,t}/TA_{i,t-1} = b_0(1/TA_{i,t-1}) + b_1(\Delta SALES_{i,t} - \Delta AR_{i,t}/TA_{i,t-1}) + b_2(PPE_{i,t}/TA_{i,t-1}) + \varepsilon_{i,t} \quad \text{..............(5)}$$

From the regression equation (6) this error value is taken as a discretionary accrual (DACC). The Modified Jones model (Dechow *et al*., 1995) is used in this equation because it has been tested in various previous literature and robustness.

Stage 2:

The measurements choose from the determination of the value of Prudence-Score or P-Score. Prudence score determination is based on the concept of caution. The P-Score value is calculated by the following equation.

P-Score Value=	Depreciation Expense + Other Comprehensive Income (OCI)
	Total Assets

$$.............................(6)$$

Stage 3: Make Probit Regression

Y =	$\alpha + \beta_1 P\text{-}Score + \varepsilon$

$$...(7)$$

Stage 4:

Based on Heckman (1979), the value of β1 obtained is included in the equation as follows:

1	=	lambda = bias
β_1		

$$...(8)$$

Control Variable

Control variables included in this research model function to increase the R-square value so that the model becomes more robust (Francis *et al*., 2004; Desai *et al*., 2004). Control variables that will be tested to know the relationship with the dependent variable based on the research models are size, age, leverage, investment opportunity, return on asset, dummy.

Research Model

In this study, a joint test was conducted between two countries (Indonesia and the Philippines) without prior moderation, a joint test between two countries (Indonesia and the Philippines) with moderation, then testing each country. The following are detailed research equation models based on research hypotheses. **The first model** is to examine the influence of earning opacity (proxied by earning aggressiveness), information asymmetry and earning informativeness on capital costs with samples of manufacturing companies in Indonesia and the Philippines (equation 9). **The second model** is to examine the influence of earning opacity (proxied by earning aggressiveness), information asymmetry and earning informativeness on the cost of capital with prudence as a moderating variable and a sample of manufacturing companies in Indonesia and the Philippines (equation 10). **The third model** is examining the influence of earning opacity (proxied by earning aggressiveness), information asymmetry and earning informativeness on the cost of capital with prudence as moderating variables and samples of manufacturing firms only in Indonesia (equation 11). The **fourth model** is to examine the effect of earning opacity (proxied by earning aggressiveness), information asymmetry and earning informativeness on the cost of capital with prudence as a moderating variable and a sample of manufacturing companies in the Philippines (equation 12).

$$CoC_{it} = \beta_0 + \beta_1 AGGRESS_{it} + \beta_2 AI_{it} + \beta_3 INF_{it} + \beta_4 SIZE_{it} + \beta_5 AGE_{it} + \beta_6 LEV_{it} + \beta_7 INVEST_{it} + \beta_8 ROA_{it} + \beta_9 DUMMY_{it} + \varepsilon_{it}$$

$$.............(9)$$

$$CoC_{it} = \beta_0 + \beta_1 AGGRESS_{it} + \beta_2 AI_{it} + \beta_3 INF_{it} + \beta_4 PRU_{it} + \beta_5 (AGGRESS*PRU)_{it} + \beta_6 (AI*PRU)_{it} + \beta_7 (INF*PRU)_{it} + \beta_8 SIZE_{it} + \beta_9 AGE_{it} + \beta_{10} LEV_{it} + \beta_{11} INVEST_{it} + \beta_{12} ROA_{it} + \beta_{13} DUMMY_{it} + \varepsilon_{it}$$

$$.............(10)$$

$$CoC_{it} = \beta_0 + \beta_1 AGGRESS_{it} + \beta_2 AI_{it} + \beta_3 INF_{it} + \beta_4 PRU_{it} + \beta_5 (AGGRESS*PRU)_{it} + \beta_6 (AI*PRU)_{it} + \beta_7 (INF*PRU)_{it} + \beta_8 SIZE_{it} + \beta_9 AGE_{it} + \beta_{10} LEV_{it} + \beta_{11} INVEST_{it} + \beta_{12} ROA_{it} + \varepsilon_{it}$$

$$.............(11)$$

$$CoC_{it} = \beta_0 + \beta_1 AGGRESS_{it} + \beta_2 AI_{it} + \beta_3 INF_{it} + \beta_4 PRU_{it} + \beta_5 (AGGRESS*PRU)_{it} + \beta_6 (AI*PRU)_{it} + \beta_7 (INF*PRU)_{it} + \beta_8 SIZE_{it} + \beta_9 AGE_{it} + \beta_{10} LEV_{it} + \beta_{11} INVEST_{it} + \beta_{12} ROA_{it} + \varepsilon_{it}$$

$$.............(12)$$

Sensitivity Analysis

Fama dan French (1992) examined the stock pricing model by combining the Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Theory (APT). This combination forms a three-factor model in calculating the expected stock return. The three factors are the market (CAPM), company size and comparison of book value to market value (APT). In this study, to calculate the sensitivity test (fifth model) using CAPM. Market risk is used by stock beta as an indicator (Fama dan French, 1992; Murwaningsari, 2012). The sensitivity test calculation is as follows:

$$CoC_{i,t} = R_{f,t} + \beta_{RM} RF_{j,t} \times (R_M - R_f)_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(13)$$

RESULTS

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:					
CoC with a three-factors model	900	0.21680	0.60820	0.18366	0.12689
CoC with CAPM*)	900	0.00090	0.35090	0.08465	0.05112
Independent variable:					
AGGRESS	900	-0.26480	0.83970	0.08262	0.13424
AI	900	-0.24510	0.63110	0.05242	0.08256
INF	900	-2.35770	1.74130	-0.22274	0.72707
Moderating Variable:					
PRU	900	-18.76173	105.2632	3.79447	10.25670
Control Variable:					
SIZE	900	3.29470	12.8716	8.06056	1.76997
AGE	900	-17.95330	104.9088	44.03956	23.22814
LEV	900	-1.07290	2.07150	0.49568	0.47746
INVEST	900	-2.14210	3.61360	0.41185	0.95495
ROA	900	-0.61280	0.74190	0.05549	0.15963
*) sensitivity test					

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 CoC with a three-factor model and CAPM. Independent variables are AGGRESS, AI, INF, and interactions between AGGRESS, AI, INF, and PRU. The moderating variable is PRU. Control variables are SIZE, AGE, LEV, INVEST, ROA, and DUMMY.

Based on the data in Table 1, the variable cost of capital (CoC) with a three-factor model has the lowest value of 0.21680 and the highest value of 0.60820. The variable cost of capital (CoC) using CAPM has the lowest value of 0.00090 and the highest value is 0.35090. The cost of capital is positive, 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 cost of capital. The cost of capital (CoC) has a smaller standard deviation value compared to the average value. This shows that the cost of the capital variable (CoC) of sample companies has a fairly low variation of these variables.

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

$$CoC_{it} = \beta_0 + \beta_1 AGGRESS_{it} + \beta_2 AI_{it} + \beta_3 INF_{it} + \beta_4 SIZE_{it} + B_5 AGE_{it} + B_6 LEV_{it} + B_7 INVEST_{it} + B_8 ROA_{it} + \beta_9 DUMMY_{it} + \varepsilon_{it}$$

Variable	Prediction	Coefficient	P-Value	Statistics Collinearity	
				Tolerance	VIF
Constanta		0.2416	0.0000	--	--
AGGRESS	+	0.2775	0.0000***	0.7213	1.3863
AI	+	0.4641	0.0000***	0.6790	1.4727
INF	-	-0.0309	0.0000***	0.7131	1.4023
SIZE	-	-0.0124	0.0000***	0.6133	1.6304
AGE	-	-0.0005	0.0000***	0.8938	1.1188
LEV	+	0.0073	0.2067	0.9416	1.0620
INVEST	+	0.0009	0.8297	0.4082	2.4498
ROA	-	-0.0796	0.0000***	0.8247	1.2126
DUMMY	+	0.0207	0.0240**	0.3452	2.8972
Normality Test		0.9907			
Durbin-Watson Stat		1.7990			
Glejser Test		0.2755			
Adjusted R^2		0.6016			
Prob (F- Statistics)		0.0000***			
Total Observation		900			

*** Significant at the level of 1%; ** Significant at the level of 5%; * Significant at the level of 10%.
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 CoC. The independent variables are AGGRESS, AI, INF. Control variables are SIZE, AGE, LEV, INVEST, ROA, and DUMMY.

Source: Data processed, regression output

Results of Testing the Second Model of Hypothesis

This second model test is a regression test conducted to see the effect of earning aggressiveness, information asymmetry and earning informativeness on the cost of capital with prudence as moderating variable. Cost of capital uses a three-factor model can be seen in Table 3.

Table 3: Second Model Test Result

$$CoC_{it} = \beta_0 + \beta_1 AGGRESS_{it} + \beta_2 AI_{it} + \beta_3 INF_{it} + \beta_4 PRU_{it} + \beta_5 (AGGRESS*PRU)_{it} + \beta_6 (AI*PRU)_{it} + \beta_7 (INF*PRU)_{it} + \beta_8 SIZE_{it} + \beta_9 AGE_{it} + \beta_{10} LEV_{it} + \beta_{11} INVEST_{it} + \beta_{12} ROA_{it} + \beta_{13} DUMMY_{it} + \varepsilon_{it}$$

Variable	Prediction	Coefficient	P-Value	Statistics Collinearity	
				Tolerance	VIF
Constanta		0.2263	0.0000	--	--
AGGRESS	+	0.1995	0.0000***	0,6732	1.4855
AI	+	0.3286	0.0000***	0,6307	1.5856
INF	-	-0.0243	0.0000***	0,6991	1.4304
PRU	-	-0.0005	0.0366**	0,7619	1.3125
AGGRESS_PRU	-	-0.0011	0.0000***	0,4519	2.2127
AI_PRU	-	-0.0018	0.0000***	0,5702	1.7538
INF_PRU	-	-0.0008	0.0000***	0,6936	1.4417
SIZE	-	-0.0083	0.0000***	0,5966	1.6762
AGE	-	-0.0002	0.0277**	0,8613	1.1610
LEV	+	0.0027	0.6022	0,9334	1.0714
INVEST	+	0.0035	0.3772	0,4021	2.4868
ROA	-	-0.0806	0.0000***	0,8175	1.2232

DUMMY	+	0.0076	0.0608*)	0,3392	2.9485
Normality Test		0.9907			
Durbin-Watson Stat		1.8230			
Glejser Test		0.0128			
Adjusted R^2		0.6744			
Prob (F- Statistics)		0.0000***			
Total Observation		900			

*** Significant at the level of 1%; ** Significant at the level of 5%; * Significant at the level of 10%.
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 CoC. The independent variables are AGGRESS, AI, and INF. The moderating variable is PRU. Control variables are SIZE, AGE, LEV, INVEST, ROA, and DUMMY.

Source: Data processed, regression output

Results of the Third Model Research Hypothesis (Indonesia)

The third main model test is a regression test conducted to see the effect of earning aggressiveness, information asymmetry and earning informativeness on capital costs with prudence as a moderating variable for manufacturing companies in Indonesia. Calculation of cost of capital uses a three-factor model. A summary of the results of the testing of the third model can be seen in Table 4.

Table 4: Third Model Test Result (Indonesia)

$$CoC_{it} = \beta_0 + \beta_1 AGGRESS_{it} + \beta_2 AI_{it} + \beta_3 INF_{it} + \beta_4 PRU_{it} + \beta_5 (AGGRESS^*PRU)_{it} + \beta_6 (AI^*PRU)_{it} + \beta_7 (INF^*PRU)_{it} + \beta_8 SIZE_{it} + \beta_9 AGE_{it} + \beta_{10} LEV_{it} + \beta_{11} INVEST_{it} + \beta_{12} ROA_{it} + \varepsilon_{it}$$

Variable	Prediction	Coefficient	P-Value	Statistics Collinearity	
				Tolerance	VIF
Constanta		0.2666	0.0000	--	--
AGGRESS	+	0.1860	0.0000***	0,7268	1.3758
AI	+	0.3621	0.0000***	0,6350	1.5748
INF	-	-0.0279	0.0000***	0,7711	1.2968
PRU	-	0.0004	0.0785*)	0,7277	1.3741
AGGRESS_PRU	-	-0.0014	0.0001***	0,4868	2.0544
AI_PRU	-	-0.0011	0.0785*)	0,5818	1.7189
INF_PRU	-	-0.0008	0.0000***	0,7906	1.2648
SIZE	-	-0.0124	0.0000***	0,7527	1.3285
AGE	-	-0.0009	0.6265	0,8325	1.2012
LEV	+	-0.0078	0.3040	0,9246	1.0815
INVEST	+	-0.0055	0.0041***	0,9334	1.0714
ROA	-	-0.0844	0.0006***	0,7482	1.3366
Normality Test		0.5103			
Durbin-Watson Stat		1.8117			
Glejser Test		0.2632			
Adjusted R^2		0.6264			
Prob (F- Statistics)		0.0000***			
Total Observation		500			

*** Significant at the level of 1%; ** Significant at the level of 5%; * Significant at the level of 10%.
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 CoC. Independent variables are AGGRESS, AI, and INF. The moderating variable is PRU. Control variables are SIZE, AGE, LEV, INVEST, and ROA.

Source: Data processed, regression output

Results of the Fourth Model Research Hypothesis (The Philippines)

This fourth model test is a regression test conducted to see the effect of earning aggressiveness, information asymmetry and earning informativeness on the cost of capital with prudence as a moderating variable. Calculation of cost of capital uses a

three-factor model. A summary of the results of testing the fourth model can be seen in Table 5.

Table 5: Fourth Model Test Result (The Philippines)

$$CoC_{it} = \beta_0 + \beta_1 AGGRESS_{it} + \beta_2 AI_{it} + \beta_3 INF_{it} + \beta_4 PRU_{it} + \beta_5(AGGRESS*PRU)_{it} + \beta_6(AI*PRU)_{it} +$$
$$\beta_7(INF*PRU)_{it} + \beta_8 SIZE_{it} + \beta_9 AGE_{it} + \beta_{10} LEV_{it} + \beta_{11} INVEST_{it} + \beta_{12} ROA_{it} + \varepsilon_{it}$$

Variable	Prediction	Coefficient	P-Value	Statistics Collinearity	
				Tolerance	VIF
Constanta		0.1841	0.0000	--	--
AGGRESS	+	0.2221	0.0000***)	0,6060	1.6501
AI	+	0.3045	0.0000***)	0,6066	1.6485
INF	-	-0.0214	0.0012***)	0,6249	1.6002
PRU	-	-0.0006	0.0320**)	0,7540	1.3263
AGGRESS_PRU	-	-0.0010	0.0007***)	0,3984	2.5101
AI_PRU	-	-0.0024	0.0000***)	0,5476	1.8261
INF_PRU	-	-0.0009	0.0000***)	0,5860	1.7065
SIZE	-	-0.0030	0.0702*)	0,5951	1.6803
AGE	-	-0.0003	0.0173**)	0,8562	1.1679
LEV	+	0.0109	0.1379	0,9528	1.0495
INVEST	+	0.0002	0.0776*)	0,9593	1.0424
ROA	-	-0.0848	0.0003***)	0,8427	1.1866
Normality Test		0.9444			
Durbin-Watson Stat		1.8663			
Glejser Test		0.0749			
Adjusted R^2		0.7187			
Prob (F- Statistics)		0.0000***)			
Total Observation		400			

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

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 CoC. Independent variables are AGGRESS, AI, and INF. The moderating variable is PRU. Control variables are SIZE, AGE, LEV, INVEST, and ROA.

Source: Data processed, regression output

Sensitivity Analysis

The sensitivity test is a regression test that is conducted to see the effect of earning aggressiveness, information asymmetry, and earning informativeness on the cost of capital. Calculation of cost of capital using Capital Asset Pricing Capital (CAPM). A summary of the results of sensitivity testing can be seen in Table 6.

Table 6: Fifth Model Test Result (Sensitivity Test)

$$CoC_{it} = \beta_0 + \beta_1 AGGRESS_{it} + \beta_2 AI_{it} + \beta_3 INF_{it} + \beta_4 PRU_{it} + \beta_5(AGGRESS*PRU)_{it} + \beta_6(AI*PRU)_{it} +$$
$$\beta_7(INF*PRU)_{it} + \beta_8 SIZE_{it} + \beta_9 AGE_{it} + \beta_{10} LEV_{it} + \beta_{11} INVEST_{it} + \beta_{12} ROA_{it} + \beta_{13} DUMMY_{it} + \varepsilon_{it}$$

Variable	Prediction	Coefficient	P-Value	Statistics Collinearity	
				Tolerance	VIF
Constanta		0.0876	0.0000	--	--
AGGRESS	+	0.0363	0.0102**)	0,6732	1.4855
AI	+	0.0679	0.0042***)	0,6307	1.5856
INF	-	-0.0069	0.0070***)	0,6991	1.4304
PRU	-	-0.0002	0.0831*)	0,7619	1.3125
AGGRESS_PRU	-	-0.0002	0.0892*)	0,4519	2.2127
AI_PRU	-	-0.0003	0.3150	0,5702	1.7538
INF_PRU	-	-0.0010	0.2196	0,6936	1.4417
SIZE	-	-0.0024	0.0328**)	0,5966	1.6762
AGE	-	-0.0001	0.0715*)	0,8613	1.1610

LEV	+	0.0051	0.1331	0,9334	1.0714
INVEST	+	0.0030	0.2399	0,4021	2.4868
ROA	-	-0.0247	0.0218**)	0,8175	1.2232
DUMMY	+	0.0217	0.0001***)	0,3392	2.9485
Normality Test		0.7232			
Durbin-Watson Stat		1.8716			
Glejser Test		0.0843			
Adjusted R^2		0.1725			
Prob (F- Statistics)		0.0000***)			
Total Observation		900			

*** Significant at the level of 1%; ** Significant at the level of 5%; * Significant at the level of 10%.
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 CoC. Independent variables are AGGRESS, AI, and INF. The moderating variable is PRU. Control variables are SIZE, AGE, LEV, INVEST, and ROA.

Source: Data processed, regression output

The following is a summary of the test results from the first model (a combination of the two countries without moderating variable), the second model (a combination of the two countries with moderating variable), the third model (the country of Indonesia with moderating variable), the fourth model (the Philippines with moderating variable), and the model with sensitivity tests (a combination of the two countries with moderating variable) is summarized in Table 7 as follows.

Table 7: Overview of Results of Testing of All Research Models

			Dependent Variable: Cost of Capital				
Explanation	**Hypothesis**	**Expectations Sign**	**P-Value**				
			Indonesia and Philipina		Indonesia	Philipina	Sensitivity
			Model 1	Model 2	Model 3	Model 4	Model 5
Earning Opacity:							
-Earning Aggresiveness	H1	+	0.0000***)	0.0000***)	0.0000***)	0.0000***)	0.0102**)
Information Asymmetry	H2	+	0.0000***)	0.0000***)	0.0000***)	0.0000***)	0.0042***)
Earning Informativeness	H3	-	0.0000***)	0.0000***)	0.0000***)	0.0012***)	0.0070***)
Interaction of Earning Aggressiveness- Prudence	H4	-		0.0000***)	0.0001***)	0.0007***)	0.0892*)
Interaction of Information Asymmetry –Prudence	H5	-		0.0000***)	0.0785*)	0.0000***)	0.3150
Interaction of Earning Informativeness- Prudence	H6	-		0.0000***)	0.0000***)	0.0000***)	0.2196
Adjusted R^2			0.6016	0.6744	0.6264	0.7187	0.1725

Note:
*** Significant at the level of 1%; ** Significant at the level of 5%; * Significant at the level of 10%.
Source: Data processed, regression output

DISCUSSION

Based on the results of testing the entire model in Table 7 can be explained as follows. The results of testing the first and second models with a sample of joint manufacturing companies (Indonesia and the Philippines) are all independent variables significantly influence the cost of capital, 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 prudence which is able to moderate earning opacity (which is proxied by earning aggressiveness), information asymmetry, and earning informativeness on the cost of capital. The third model has an adjusted R2 value that is lower than the fourth model. This indicates that

the role of prudence in companies in the Philippines is stronger than that of Indonesia in overcoming earning aggressiveness, information asymmetry, and earnings informativeness. Earning informativeness is more powerful because of prudence that is applied so that profits become more qualified, lower risk, and lower cost of capital. The sensitivity test in the fifth model indicates that the adjusted R2 value is lower than the second model. The effect of prudence to moderate information asymmetry on the cost of capital is not significant in the fifth model. The effect of prudence to moderate the earning informativeness on the cost of capital is also not significant. This is because the cost of capital is calculated with a three-factor model that is more qualified and better than the CAPM. The second model test results are better than the fifth model. So, from the overview of the five models found in Table 7, it states that prudence as a moderating variable has a very strong influence.

CONCLUSION

This study aims to examine the effect of earning opacity (proxied by earning aggressiveness), information asymmetry, and earning informativeness on the cost of capital by using prudence as a moderating variable. Earning aggressiveness has a positive significant effect on the cost of capital. This indicates that earning aggressiveness can reduce the ability of profits that affect company performance and increase the risk of the company. The high risk will increase the cost of capital. Information asymmetry has a significant positive effect on the cost of capital. This indicates that information asymmetry increases the risk of the company. Earning informativeness has a significant negative effect on the cost of capital. This indicates that the earning informativeness will reduce the level of risk of the company. Low risk will reduce the cost of capital.

The combined test results (Indonesia and the Philippines) prove that prudence weakens the effect of earning opacity on the cost of capital. This happens because of the obscurity of profits for investors so that it is not balanced in trade and the economy which affects the cost of capital. Therefore, prudence decreases the effect of earning opacity (proxied by the earning aggressiveness) on the cost of capital. For the results of testing in Indonesia and the Philippines, prudence weakens the effect of proxied earnings opacity with the earning aggressiveness on the cost of capital supported by research results. The combined test results (Indonesian and Philippine) state that prudence weakens the effect of information asymmetry on the cost of capital. This indicates that the prudence of management related to information influences the role of information asymmetry on the cost of capital. The application of prudence policies carried out by the company management in accordance with accounting standards, so that prudence decreases the effect of information asymmetry has an effect on the cost of capital. The combined test results of the two countries (Indonesia and the Philippines) and the results of testing of each country prove that prudence strengthens the effect of earning informativeness on the cost of capital. Whereas, for the cost of capital calculated by the CAPM (sensitivity test), the effect of prudence to moderate information asymmetry on the cost of capital is not supported by the results of research. The effect of prudence to moderate the earning informativeness to the cost of capital is also not supported by the results of research.

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) Add more research samples from ASEAN countries. This research is limited to Indonesia and the Philippines. 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; (3) Consider other new measurements as moderating variables. This study uses prudence and calculates formula as a moderating variable by making new measurements.

PRUDENCE MEASUREMENT IS MODERATING EARNING OPACITY, INFORMATION ASYMMETRY, AND EARNING INFORMATIVENESS ON COST OF CAPITAL THREE-FACTORS MODEL

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