Mediation Role of Cost of Debt and Intellectual Capital on Corporate Governance and Firm Value: Evidence from Indonesia

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Abstract. This Study aims to investigate the relationship between corporate governance and firm value using mediation variable intellectual capital and cost of debt. Firm value is measured by using financial performance indicator, which in proximated with ROA, ROE, PBV and NPM. Corporate governance is proximated with CGPI. The sample of this research are companies that follow CGPI and is listed in BEI in observation period 2011 to 2015. Data analysis using structural equation method. The results showed that corporate governance directly affect the firm value (NPM and PBV) and corporate governance did not directly affect the firm value (ROA and ROE). Furthermore, cost of debt and intellectual capital full mediates the relationship between corporate governance and firm value (ROA and ROE) and partial mediate the relationship between corporate governance and firm value (NPM and PBV). Good corporate governance increases investor confidence in the company so that it lowers cost of debt. Furthermore, the decline in cost of debt increases firm value. Furthermore, corporate governance increase actually decreases the intellectual capital and then increases the firm value. From the model proposed in this study cost of debt and intellectual capital perfect mediate relations corporate governance and financial performance (ROA and ROE).

Keywords: Corporate Governance, Cost of Debt, Firm Value, Intellectual Capital

1. Introduction

Firm value is the important thing to be noticed by the company to be able to maintain long term sustainability and meet the main obligation the company which is owner's prosperity. Corporate Governance is very needed to reach this goal. It is expected with the application of good Corporate Governance will increase investor trust cause corporate investment managed with appropriate regulation and appropriate manner. Corporate Governance occured when the owner entrust the corporate governance to the management, it consequences on limit the interest conflict between shareholder and manager, and especially cost that occurs due to the conflict non-new phenomenon[1]. Berles and Means stated that manager has to be controlled to avoid loss [2]. The economic perspective, *corporate governance* plays important role in achieving invested funds efficiency to get high reimbursement and can be a vital determinant for the institutional investment[3].

SU-AFBE 2018, December 06, Jakarta, Indonesia

DOI 10.4108/eai.6-12-2018.2286318

Furthermore, the relationship between *corporate governance* and *firm value* has been widely discussed and become research topics in many developing and developed countries. Corporate collapses due to weak corporate governance system which implies needs to increase and reform corporate management structure that plays important role in the probability of accounting deception and companies that have weak governance will be more susceptible toward accounting fraud [4]. Failure in preventing this fraud has sparked a lot of debate about the effectiveness of the company's current governance rules, principles, structures and mechanisms [5]. Improved *corporate governance* will also improve corporate performance [3];[6].

Implementation of good corporate governance is expected to increase investor confidence in the company, so investors do not demand high return on their investment. Corporate governance also plays an important role in explaining the variations in the cost of capital companies[7]. *Cost of Capital* have a significant effect on the profitability and value of the company[8].

Corporate governance though small impact on the intellectual capital in the banking companies [9]. The limitations on the financial statements in explaining the value of the company underscores the fact that the source of economic value is no longer the production of material goods, but the creation of intellectual capital. Intellectual capital, including human capital and structural capital encased in a customer, process, database, brand, and the system [10] an increasingly important role in creating a sustainable competitive advantage [11]. However, the intellectual capital can play an important role in improving financial performance [10].

Results of research corporate governance and firm value shows the result of inconsistencies, we examine the direct effect of the settings back in Indonesia and indirect influence of the variable cost of debt and intellectual capital as a mediating variable, in the period of 2011 – 2015 where in that period the results of implementation Bank Indonesia Circular Letter No. 12/13/DPbS, April, 30, 2010 as part of the institutional implementation of implementing good corporate governance is proclaimed by the goverment. *The* purpose of this study examines the influence of corporate governance on financial performance with cost of capital and intellectual capital as a mediation variable. Financial performance is measures with ROA, ROE, PBV, and NPM.

2. Method

2.1 Data Types and Source

The data used in this research is secondary data. Secondary data taken from Indonesian Capital Market Directory (ICMD), annual reports, and publications Corporate Governance Perception Index (CGPI) by the Indonesian Institute for Corporate Governance (IICG).

a. Research Population

The research population was based on some criterion: (1) publishing sustainability report (2) joining the corporate governance program perception index from Indonesia Institute Corporate Governance (IICG) (3) not experiencing negative profits during the research period. The observations are conducted for the period 2011 to 2015. Based on the above criterion, all of them were used as research samples. Observations were conducted for 5 years (2011 to 2015). From the population criteria, it is obtained 17 samples with 70 observations (presented in Table 1 and table 2).

Table 1. Sample Selection

Criteria	Total
Companies that follow CGPI and listed on IDX (2011 – 2015)	22
Companies not follow CGPI for 2 years period reseacrh	(8)
The Company did not issue the financial statements in Rupiah	(3)
Companies with negative earnings for the year of research	(3)
Final sample	11
Data missing	(15)
Final observation	70

Table 2. List of Sample

No	Company	Code
1	Bank BNI	BBNI
2	Bank BRI	BBRI
3	Bank BTN	BBTN
4	Bank CIMB	BNGA
5	Bank Mandiri	BMRI
6	PT Adhi Karya	ADHI
7	PT Adira Dinamika Multifinance	ADMF
8	PT Astra Otoparts	AUTO
9	PT Bukit Asam	PTBA
10	PT Panorama Transportasi	PANR
11	PT Telekomunikasi Indonesia	TLKM
12	PT Timah	TINS
13	PT United Tractors	UNTR
14	PT Wijaya Karya	WIKA
15	Jasa Marga	JSMR
16	OCBC NISP	NISP
17	Bank BCA	BBCA

2.3 Operational definitions and variable measurements

Corporate governance is the commitment, the rules and practice of conducting business in a healthy and ethical governing the relationship between shareholders and stakeholders to create value added (value added) for the company. This study uses a measurement CGPI (Corporate Governance Perception Index) which was held by Indonesian Institute for Corporate Governance (IICG).

Firm value is a reflection of the company's performance. Firm value is measured by Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), and Price to Book Value (PBV). Return on Assets (ROA) is the level of ability of the company in making the investment with formula Return on Assets = Net Income/Total Assets[12]. Return on Equity (ROE) is he level of ability of the company provide for the results, with formula Return on Equity = Net Income / Owners' Equity[12]. Net Profit Margin (NPM) is the level of the company's ability to

generate profits, with formula NPM = Net Profit/Sales[12]. Price to Book Value is values that describe the company, with formula PBV = price to book value/number of shares[13].

Intellectual Capital as defined in this study is the performance of the IC which is measured based on the value added created by physical capital (VACA), human capital (VAHU), and structural capital (STVA). The combination of these three value added symbolized by the name VAIC ™ developed by[14]. *Cost of debt* is the level of corporate debt. Counted with formula: $kd = \frac{Interest\ (1-t)}{Total\ Debt}$ [15].

2.4 Hypothesis Testing Method

In this study, analysis of data used Partial Least Square (PLS) approach using software WarpPLS 4.0, includes the outer test models (indicator test) and the inner test models (structural test). This method of analysis is used because the sample size of the study is small.

3. Result

3.1 Descriptive Statistics

Based on Table 3, the average value for Corporate Governance Perception Index (CGPI) is about 83.8714 approaching 100. It means that although it is not 100 percent of companies implementing the principles of corporate governance, but it is already at almost-perfect execution. It is different from the apparent value of financial performance varies by far the average value of the maximum and minimum value.

Table 3. Descriptive Statistics

	N	Min.	Max.	Mean	Std. Deviation
CG	70	68.00	93.00	83.8714	5.36203
CoD	70	.00	4.00	1.7714	1.10560
IC	70	.00	26.00	5.4429	5.59149
ROA	70	1.00	47.00	18.3857	7.92774
ROE	70	1.00	41.00	18.8429	11.28759
NPM	70	2.14	200.00	29.6592	43.66703
PBV	70	.00	1.00	.1000	.30217
Valid N (listwise)	70				

a. The results of testing the hypothesis

Hypothesis discussion consists of 4 research models, which distinguish each measurement variable firm value (ROA, ROE, PBV, and NPM). The results of the path analysis are presented in Table 4.

Table 4. Summary of Path Analysis

Path	Direct Effect		Indirect Effect		Remark
	Coeeficient	p-value	Coeeficient	p-value	
MODEL 1					
CG → CoD	-0,36	<0,01			
CoD → ROA	-0,13	0,07			
CG → IC	-0,23	<0,01			
IC → ROA	-0,15	0,05			
CG → ROA	-0,10	0,12			H1a is not accepted
CG → CoD → ROA			0,19	0,071	H2a is accepted
CG → IC → ROA			0,023	0,047	H3a is accepted
Indicator Model Fit					Model fit
Average Path Coefficient (APC)			0,193	0,007	
Average R Square (ARS)			0,080	0,090	
Average Variance Inflation Factor (AVIF)			1,058	<3,3	
MODEL 2					
CG → CoD	-0,36	<0,01			
CoD → ROE	0,23	<0,01			
CG → IC	-0,23	<0,01			
IC → ROE	-0,23	<0,01			
CG → ROE	0,11	0,11			H1b is not accepted
CG → CoD → ROE			0,057	0,004	H2b is accepted
CG → IC → ROE			0,062	0,005	H3b is accepted
Indicator Model Fit					Model fit
Average Path Coefficient (APC)			0,231	0,002	
Average R Square (ARS)			0,108	0,054	
Average Variance Inflation Factor (AVIF)			1,150	<3,3	
MODEL 3					
CG → CoD	-0,36	<0,01			
CoD → NPM	0,13	0,07			
CG → IC	-0,23	<0,01			
IC → NPM	-0,58	<0,01			
CG → NPM	0,26	<0,01			H1c is accepted
CG → CoD → NPM			0,013	0,069	H2c is accepted
CG → IC → NPM			0,405	<0,001	H3c is accepted
Indicator Model Fit					Model fit
Average Path Coefficient (APC)			0,311	0,001	
Average R Square (ARS)			0,249	0,001	
Average Variance Inflation Factor (AVIF)			1,289	<3,3	
MODEL 4					
CG → CoD	-0,36	<0,01			
CoD → PBV	-0,17	0,03			
CG → IC	-0,23	<0,01			
IC → PBV	-0,18	0,02			
CG → PBV	0,23	<0,01			H1d is accepted
CG → CoD → PBV			0,041	0,026	H2d is accepted
CG → IC → PBV			0,039	0,020	H3d is accepted
Indicator Model Fit					Model fit
Average Path Coefficient (APC)			0,234	0,002	
Average R Square (ARS)			0,109	0,053	
Average Variance Inflation Factor (AVIF)			1,048	<3,3	

, **, and * significant level (one-tailed) at the 0,10; 0,05; and 0,01*

b. Corporate governance affects the firm value

Table 4 presents a summary of the path analysis. Based on Table 5, corporate governance has no direct influence on the firm value measured by ROA and ROE. corporate governance effect directly to the firm value which is measured by NPM and PBV. These results showed that:

a. There was not impact of corporate governance on firm value which is measured by ROA and ROE.
b. There was positive impact of corporate governance on firm value which is measured by NPM and PBV.

c. Cost of debt mediates the relationship corporate governance and firm value

Cost of debt effect full mediates the relationship corporate governance and firm value which is measured by ROA and ROE. Different firm value which is measured by NPM and PBV, cost of debt effect partial mediates the relationship corporate governance and firm value.

d. Intellectual capital mediates the relationship corporate governance and firm value

Intellectual capital effect full mediates the relationship corporate governance and firm value which is measured by ROA and ROE. Different firm value which is measured by NPM and PBV intellectual capital effect partial mediates the relationship corporate governance and firm value.

4. Discussion

Among 3 proposed hypotheses and 2 analysis model there are four not proved, the direct effect of corporate governance on firm value (ROA and ROE). The results showed a direct effect on NPM and PBV are in line with research[3]. Corporate governance have no direct impact on NPM and PBV is not in line with research[3];[16];[17].

Implementation of companies corporate governance improve the firm value (NPM and PBV). However, this does not happen to firm value (ROA and PBV). It is possible that the application of corporate governance affects directly on the company's operational performance and will result in the company's assets in the long term, given the data used by the researcher only 5 years of observation.

The mediating variable test showed that the variable cost of debt mediates the relationship of corporate governance and firm value (ROA, ROE, NPM and PBV). Moreover, the intellectual capital mediated the relationship of corporate governance and firm value (ROA,ROE, NPM and PBV).

The results showed that with the implementation of management corporate governance manage investments well in accordance with the rules of proper governance and proper operation. Good corporate governance enhances investor confidence in the company so that it lowers cost of debt (expected rate of return on debt investor). Furthermore, the decrease in cost of debt increased firm value (ROA, ROE, NPM, and PBV). It is interesting to investigate further increase in corporate governance actually reduce Intellectual Debt and then improve the firm value (ROA, ROE, PBV, NPM). From the model proposed in this study, cost of debt and intellectual capital full mediate relationship of corporate governance and firm value (ROA and ROE) and partial mediate relationship of corporate governance and firm value (NPM and PBV).

5. Conclusion

Firm value is certainly an important topic for researchers, investors and company. This study aimed to investigate the relationship of corporate governance and firm value with mediating variables, intellectual capital and cost of debt. Firm value is proximated with ROA, ROE, NPM, and PBV. Corporate governance is proximated with the Corporate Governance Perception Index (CGPI). Samples are companies that follow CGPI program and a listing on the Stock Exchange with the observation period 2011 to 2015.

The main statistical methods used to test the study hypotheses were structural equation model with PLS. The results confirmed that there were direct effects corporate governance on firm value (NPM and PBV) and there were not direct effects corporate governance on firm value (ROA and ROE).

Moreover, the results demonstrated that cost of debt and intellectual capital full mediate the relationships among corporate governance and firm value (ROA and ROE) and partial

mediate the relationships among corporate governance and firm value (NPM and PBV). Therefore, the importance of this study stems from trying to interpret the controversial results for effecting corporate governance on firm value, with mediate variable cost of debt and intellectual capital.

Acknowledgements

The authors gratefully acknowledge the helpful comments and suggestions received from the referees. Besides, we would like to thank the financial support by the DRPM-KEMENRISTEKDIKTI contract number 014/K6/KM/SP2H/RESEARCH/2018 and Islamic Batik University (UNIBA) Surakarta.

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