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THE EFFECT OF GOOD CORPORATE GOVERNANCE, CAPITAL ADEQUACY, LIQUIDITY AND NON-PERFORMING LOAN ON BANK PROFITABILITY IN INDONESIA

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ABSTRACT

This study aims to examine the effect of Good Corporate Governance, capital adequacy, liquidity, and non-performing loans to bank profitability in Indonesia in 2008-2016. The independent variables in this study are Good Corporate Governance assessed by its inverse value, capital adequacy represented by Capital Adequacy Ratio, liquidity represented by Loan to Deposit Ratio, and non-performing loans represented by Non-Performing Loan. Dependent variable in this research is profitability represented by Return on Asset and Return on Equity. This present study uses firm size control variables proxied by logarithm natural total asset (LnTA). The samples of this study are 10 banks with the largest total assets in Indonesia. The researcher uses data from bank annual report in 2008-2016 published on the website of each bank. This research is examined by using multiple linear regression analysis technique.

KEY WORDS

Bank, loan, profitability, assets, Indonesia.

Lehman Brothers is one of the strongest investment bank companies in Wall Street. The year of 2008 became the end of Lehman Brothers triumph. At that year, the consumption of the American people is very high compared to the income and they finance it in the form of debt or credit. Financial institutions went to bankruptcy because it cannot pay debts at the same time. At the same moment, Indonesia is also being disrupted by the Bank of Century bailout case. The case begins from the decrease of Bank of Century performance so that meetings are held to determine its status. The result of the meeting states that the Bank of Century is a failed bank, but there is a concern that it will have a systemic impact; therefore, in bank failure analysis, it is mentioned that the bank only needs additional capital of 632 billion rupiah.

Bank of Indonesia has attempted to improve the quality of conventional banks in Indonesia not only from the financial side but also from the non-financial side. *Good Corporate Governance* practices must be implemented in the banking industry since 2006. Based on Bank of Indonesia regulation No. 8/4/PBI/2006, Bank of Indonesia requires all banks in Indonesia to implement *Good Corporate Governance*. Based on the research conducted by Lukas (2015), Purwanto (2015), and Haider (2015), *Good Corporate Governance* affects profitability. Similarly, the research conducted by Lutfi et al (2014) states that the Board of commissioners and public transparency can increase profitability of bank operations. In this research, the effect of *Good Corporate Governance* on the profitability of conventional banks in Indonesia will be re-examined. In this study, *Good Corporate Governance* will be assessed based on composite value.

The implementation of *Good Corporate Governance* is done with the fulfillment of 11 assessment indicators. Assessment indicators ensure that the functioning of all policy holders is accountable. The bank's obligation to provide information transparently about the financial and non-financial conditions at the bank makes all management responsible for their respective duties. In addition, there is also the implementation of compliance functions that can maintain the suitability of implementation in banks with regulations set by Bank Indonesia. The main source of bank income is from interest income earned from credit customers. Loans are sourced from customers' deposits, including savings, deposits, and other time deposits. Since it has high role of customers for banks, then Bank of Indonesia

guarantees it with the assessment of *Good Corporate Governance* that will show the performance of bank management in regulating customer funds. Bank with composite value 1 is a bank that has implemented *Good Corporate Governance* very well. The implementation of *Good Corporate Governance* must be published so that customers know the performance of all banks, so that customers can choose which banks will be where they apply credit or to save the funds. The more customers have credit and save the funds in the bank, the more increasing the profitability of the bank.

In 2008, the banking industry is increasingly difficult to obtain third party funds, the banking industry reduces credit expansion due to tight liquidity, the weakening of rupiah exchange rate, the rising bank interest rates, the slackening of bond and stock market transactions, and the declining economic activity. The banking industry is also constrained by increasingly tight liquidity. The increasingly tight liquidity can threaten the Indonesian economy. The tight bank liquidity is viewed from the slow amount of deposits in the bank while the credit distribution is smoother. Based on the researches conducted by Rengasamy (2014) and Purwanto (2015), bank liquidity does not affect the profitability of banks. While the results of research done by Serani et al (2016) prove that liquidity has a negative effect on profitability. The inconsistency of the study results will be re-examined in this present study.

Banking financial performance can be measured by liquidity ratio, solvency, and profitability. Liquidity ratio is the ratio used to see the bank's ability to meet its short-term liabilities. Short-term liabilities meant is the funds of depositors who are at any time withdrawn. Besides, the banks must also have the ability to provide disbursement of credit funds that have been approved. According to Agnes (2001, 28) the bank is considered being liquid if: (a) the bank has cash assets of the needs that will be used to meet its liquidity; (b) the bank has cash assets through various forms of debt. At the bank's financial statements, total assets of high value means not only shows a strong financial position, but also shows that there are excess assets which are idle. If a large asset is offset by a high asset turnover, it can generate profits. Idle funds can be allocated for disbursements in the form of credit so that banks can benefit from interest income. In this study, total assets can be a control variable to test the effect of *Good Corporate Governance*, capital adequacy, liquidity, and non-performing loans.

One of the causes of Lehman Brother's bankruptcy is the high level of bad debts, so the company is not able to finance the company's operations. Based on the research conducted by Abiola (2015), bad credit occurs due to the shift in the cost of failure of loan payments so that it can reduce profitability. Bhattarai (2016) and Juliana Stanley (2017) prove that non-performing loans have a positive effect on profitability, but in the research conducted by Frederick (2015), it reveals that non-performing loan is not the variable affecting profitability. In this research, the effect of non-performing loans on bank profitability in Indonesia will be examined.

Related to the large amount of bad loans, banks are required to have sufficient capital to be able to defend itself when conditions are difficult. The higher the capital adequacy rate of the bank, the better the bank is in self-defense. The research conducted by Abiola (2014), Frederick (2015) and Isanzu (2017) prove that capital adequacy has a positive effect on bank profitability. The condition of the capital adequacy of conventional banks in Indonesia over the past five years has always been an increase. Banks with large capital ratios mean having a capital structure that is a quarrel. Banks have sufficient funds that can be used as anticipation to cover the non-performing loans. A large capital ratio can trigger a team spirit to provide large credits, from the disbursed loans that are expected to provide a large interest income as well. A large interest income can increase ROA and ROE ratios.

METHODS OF RESEARCH

Based on the time dimension of the research, this research includes pooling data, in which the data used is from 2008-2016. Source of data used in this research is secondary data source that is bank annual report published in 2008-2016. Besides, based on the research objectives, this research is included into deductive research. On the other hand,

based on the characteristics of the problem, this study is included into comparative causal research, in which the researcher looks for causal relationships of dependent variables and independent variables.

The populations in this study are all conventional commercial banks in Indonesia and the research sample is the top ten banks with the largest total assets that publish annual report on 2008-2016 on their respective websites. The following sample in this research:

Table 1 – List of Sample

No.	Bank name	No.	Bank name
1	BRI	6.	Panin Bank
2	Mandiri	7.	Permata Bank
3	BCA	8	Maybank
4	BNI	9	Danamon Bank
5	CIMB Niaga	10	OCBC NISP

The data analysis technique used is multiple linear regression. Before doing residual regression, the data must be free from undesirable things, so it needs to do normality test, multicollinearity test, autocorrelation test, and heteroscedasticity test. In this study, the effect of GCG variables, capital adequacy, liquidity and nonperforming loans to profitability (ROA and ROE) both partially and simultaneously will also be tested. The regression model used is:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon_1$$

Where:

α : constants

X_1 : *Good Corporate Governance*

X_2 : Capital Adequacy

X_3 : Liquidity

X_4 : Nonperforming loans

X_5 : Ln Total Assets

$\beta_1, \beta_2 \dots \beta_6$: Regression coefficients

ε_1 : Error

The GCG used is the composite value submitted by each bank on the bank's annual report. High composite values indicate that banks disobey and adhere to 11 GCG guidelines, whereas GCGs should be able to improve profitability. The better the GCG implementation, the higher the profitability. However, high composite values indicate high GCG implementation. To simplify the process of data processing, the inverse value of GCG is done. The formula for inverse GCG is:

$$\begin{aligned} GCG1 &= 6 - GCG (1) \\ GCG1 &= \text{inverse GCG value} \\ 6 &= \text{Constant} \\ GCG &= \text{Bank GCG Value} \end{aligned}$$

Capital adequacy used in this research is *Capital Adequacy Ratio*. The data used is the CAR ratio contained in the annual report of the bank year of 2008-2016. Liquidity used in this research is *Loan to Deposit Ratio*. The data used is the LDR ratio contained in the bank yearly report of 2008-2016. The bad credit used in this study is the ratio of *Non-Performing Loans*. The data used is the ratio of NPL found in the annual report of the bank year of 2008-2016.

RESULTS AND DISCUSSION

The classical assumption test shall be performed to ensure that the residual data used is data that is feasible and has been freed from the things that are not desirable. In this research, normality, multicollinearity test, autocorrelation test and heteroscedasticity test will be examined. Normality test is performed by using *Kolmogorov smirnov test* with significance of 5%. The results of the ROA normality test show 0,996, the significance is greater than

0,05. It means that the residual ROA data is normally distributed. Normality test result for the dependent variable ROE is 0,723, the significance is greater than 0,05. It means that residual ROE data is normally distributed.

Table 2 – Normality test result – ROA

One-Sample Kolmogorov-Smirnov Test

n/n		Unstandardized Residual
N. X		90
Normal Parameters ^{a, b}	Mean	,0000000
	Std. Deviation	,74827451
Most Extreme Differences	Absolute	,043
	Positive	,037
	Negative	-,043
Kolmogorov-Smirnov Z		,410
Asymp. Sig. (2-tailed)		,996

a. Test distribution is Normal.

b. Calculated from data.

Table 3 – Result of normality-ROE test

One-Sample Kolmogorov-Smirnov Test

n/n		Unstandardized Residual
N. X		90
Normal Parameters ^{a, b}	Mean	,0000000
	Std. Deviation	,74827451
Most Extreme Differences	Absolute	,043
	Positive	,037
	Negative	-,043
Kolmogorov-Smirnov Z		,410
Asymp. Sig. (2-tailed)		,996

a. Test distribution is Normal.

b. Calculated from data.

The multicollinearity test is performed by regression of the model and by looking at the VIF and tolerance values. The multicollinearity test results show that the VIF value is less than 10 and tolerance is more than 0,1. The result of multicollinearity test on ROE variable with VIF value for all independent variable is less than 10 and tolerance value of all variables is more than 0.1. It means that, based on multicollinearity test, there is no correlation among independent variables.

Table 4 – Multicollinearity Test Result on ROA Variable

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-10,990	2,453		-4,480	,000		
1	gcg1	,622	,237	,212	2,619	,010	,818
	car1	,046	,032	,109	1,440	,154	,936
	ldr1	-,008	,009	-,085	-,934	,353	,648
	npl1	-,051	,086	-,045	-,593	,554	,921
	LnTA	2,000	,264	,637	7,577	,000	,757
							1,321

a. Dependent Variable: roa1

The table above reveals that the multicollinearity test results on the dependent variable of ROE with the VIF value for all independent variables is less than 10 and the tolerance value of all variables is more than 0,1. It means that, based on multicollinearity test, there is no correlation among independent variables.

Table 5 – Multicollinearity Test Result on ROE Variable

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-66,980	19,473		-3,440	,001		
gcg1	5,090	1.885	,207	2,700	,008	,818	1,222
car1	-,503	,252	-,143	-1,997	,049	,936	1.069
ldr1	-,140	,069	-,176	-2,039	,045	,648	1.544
npl1	,228	,682	,024	,334	,739	,921	1.053
LnTA	15,328	2.095	,584	7,316	,000	,757	1,321

a. Dependent Variable: roe1

The next classical assumption test done is autocorrelation test. The purpose of the autocorrelation test is to ensure that there is no correlation between the period t and the previous period ($t-1$). The occurrence of autocorrelation can be done by doing *Runs Test*. The absence of correlation between periods t and $t-1$ can be seen from significance values above 0,05. The regression model in this study reveals that the autocorrelation test for the dependent variable of ROA is significant at 0,710. The result that the autocorrelation test for the dependent variable ROE shows significant at 0,710. It means that there is no correlation between the period t and the previous period ($t-1$).

Table 6 – Autocorrelation Test on ROA Variable

Runs Test

n/n	Unstandardized Residual
Test Value ^a	-,28565
Cases < Test Value	45
Cases > = Test Value	45
Total Cases	90
Number of Runs	22
Z	-5,088
Asymp. Sig. (2-tailed)	,710

a. Median

Table 7 – Autocorrelation Test on ROE Variable

Runs Test

n/n	Unstandardized Residual
Test Value ^a	-1,43717
Cases < Test Value	45
Cases > = Test Value	45
Total Cases	90
Number of Runs	24
Z	-4,664
Asymp. Sig. (2-tailed)	,643

a. Median

The last classical assumption test is heteroscedasticity test. The purpose of the heteroscedasticity test is to ensure that the regression model does not contain residual variance inequality from one observation to another. The situation where the residual variance occurs is also called homoscedasticity. To obtain it, park test can be performed with significance of 0,05. The test results for the dependent variable of ROA shows that the significance of all independent variables is 0,05. It means that there is no heteroscedasticity in this model. The result of park test for ROA dependent variable reveals that the significance of all independent variables is above 0,05. It means that there is no heteroscedasticity in this model.

Table 8 – Heteroscedasticity Test Result on ROA Variable

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-2,556	1,719		-1,486	,145
gcg1	,097	,163	,100	,597	,554
car1	-,009	,020	-,065	-,429	,670
ldr1	-,003	,007	-,080	-,478	,635
npl1	,030	,060	,073	,496	,623
LnTA	,404	,163	,377	2,483	,017

a. Dependent Variable: LnU2iROA

Table 9 – Heteroscedasticity Test Result on ROE Variable

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1,122	3,002		,374	,710
gcg1	-,444	,300	-,242	-1,481	,146
car1	-,004	,040	-,016	-,105	,917
ldr1	-,005	,009	-,100	-,607	,547
npl1	,143	,104	,201	1,368	,178
LnTA	,306	,302	,164	1,013	,317

a. Dependent Variable: LnU2iROE

All the classical assumption test proves that the data used is the data which is worth using. Furthermore, multiple regression test is done with significance level 0,05. The amount of GCG variable capability, Capital Adequacy (CAR), liquidity (LDR) and Nonperforming Loans (LDR) in explaining ROA variable is 55,1%. It means that 44,9% can be explained by variables other than GCG, capital adequacy, liquidity, and non-performing loans.

Table 10 – Model Summary of Multiple Linear Regression – ROA

Model Summary^b

Model	R.	R Square	Adjusted R Square	Std. Error of the Estimate
1	A.4.	,551	,524	,7702227

a. Predictors: (Constant), LnTA, car1, npl1, gcg1, ldr1

b. Dependent Variable: roa1

Table 11 – Multiple Linear Regression Coefficient – ROA

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-10,990	2,453		-4,480	,000
gcg1	,622	,237	,212	2,619	,010
car1	,046	,032	,109	1,440	,154
ldr1	-,008	,009	-,085	-,934	,353
npl1	-,051	,086	-,045	-,593	,554
LnTA	2,000	,264	,637	7,577	,000

a. Dependent Variable: roa1

The table above is the result of multiple regression test which shows that GCG has positive significant effect on profitability (ROA). While the variables of adequacy and liquidity and nonperforming loans are not significant on profitability (ROA).

Table 12 – Model Summary of Multiple Linear Regression – ROE

Model Summary^b

Model	R.	R Square	Adjusted R Square	Std. Error of the Estimate
1	A.4.	,595	,571	6,1137135

a. Predictors: (Constant), LnTA, car1, npl1, gcg1, ldr1

b. Dependent Variable: roe1

The table above reveals that the GCG variables of ability, Capital Adequacy (CAR), liquidity (LDR) and non-performing loans (LDR) in explaining ROE variable is 59,5%. It means that 40,5% can be explained by variables other than GCG, capital adequacy, liquidity, and non-performing loans.

Table 13 – Multiple Linear Regression Coefficient – ROA

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-66,980	19,473		-3,440	,001
gcg1	5,090	1.885	,207	2,700	,008
car1	-,503	,252	-,143	-1,997	,049
ldr1	-,140	,069	-,176	-2,039	,045
npl1	,228	,682	,024	,334	,739
LnTA	15,328	2.095	,584	7,316	,000

a. Dependent Variable: roe1

The result of multiple regression test shows that GCG has a significant positive effect on profitability (ROE), CAR, and LDR have significant negative effect on profitability (ROE). While, the variable of NOL is not significant to profitability (ROE). It means that GCG has a significant positive effect on profitability, capital adequacy, and liquidity significantly negatively affect profitability and nonperforming loan does not have significant effect on profitability (ROE).

In this study, the effect of GCG, capital adequacy, liquidity, and non-performing loan is tested significantly on profitability (ROA and ROE). The first step that must be done to perform the F test is to determine the test hypothesis. Ho testing mentions that there is no significant effect between GCG, CAR, LDR, NPL respectively on profitability (ROA). This test is significant at 5%. Based on Test F (simultaneous) on profitability (ROA), it reveals that F arithmetic amounted to 20,613. F table in this test is 2.479015. The value of F count is more than F table, so Ho is rejected. It means that there is a significant effect between GCG, capital adequacy, liquidity, and non-performing loan on profitability (ROA).

Table 14 – F Test Result (Simultaneous) – ROA

ANOVA^b

Model	Sum of Squares	df	Mean Square	F.	Sig.
1 Regression	61,143	5	12,229	20.613	A.4.
Residual	49.832	84	,593		
TOTAL	110.975	89			

a. Predictors: (Constant), LnTA, car1, npl1, gcg1, ldr1

b. Dependent Variable: roa1

In the ROE variable, Test F (Simultaneous) is also performed. The first step that must be done to perform the F test is to determine the test hypothesis. Ho testing mentions that there is no significant effect between GCG, adequacy, and liquidity and non-performing loans on profitability (ROE). This test is significant at 5%. Based on Test F (simultaneous) on profitability (ROA), it shows that F count for 24,661. F table in this test is 2.479015. F value count is more than F table, so Ho is rejected. It means that there is a significant effect between GCG, adequacy, and liquidity and non-performing loans on profitability (ROE).

Table 15 – F (Simultaneous) Test Result – ROE

ANOVA^b

	Model	Sum of Squares	df	Mean Square	F.	Sig.
1	Regression	4608,871	5	921,774	24,661	A.4.
	Residual	3139,709	84	37.377		
	TOTAL	7748,580	89			

a. Predictors: (Constant), LnTA, car1, npl1, gcg1, ldr1

b. Dependent Variable: roe1

After simultaneous testing, this study also tests the effect of each variable of GCG, adequacy, and liquidity and non-performing loans respectively on Profitability (ROA and ROE). The tests are done in two stages namely for right side and left side. The test on the right side aims to partially test the effect of variables that have a positive effect and the test on the left side aims to partially test the effect of variables that negatively affect. Right-side testing is done for GCG variables, capital adequacy, and liquidity. Left-side testing is performed for the non-performing loan variable.

The first test is a right-left test. Ho in this test is GCG, capital adequacy, and liquidity partially have a non-significant positive effect on profitability (ROA). The significance of this test is 5% and t table in this study is 1.988268. The result of t test (partial) can be seen that t count of GCG is bigger than t table, and t count of other variable is less than t table. It means that partial GCG variables have a non-significant positive effect on profitability (ROA). The test results also prove that the capital adequacy and liquidity have a significant positive effect on profitability (ROA).

In the left-side test, Ho testing is a partially non-performing loans having a non-significant negative effect on profitability (ROE). The significance of this test is 5% and t table in this study is 1.988268. The result of t test (partial) can be seen that t count of NPL which is less than t table. It means that the liquidity variable partially has a significant negative effect on profitability (ROA).

Table 16 – T-ROA Test Result

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-10,990	2,453		-4,480	,000
1	gcg1	,622	,212	2,619	,010
	car1	,046	,109	1,440	,154
	ldr1	-,008	-,085	-,934	,353
	npl1	-,051	-,045	-,593	,554
	LnTA	2,000	,637	7,577	,000

a. Dependent Variable: roa1

Table 17 – Result of t Test – ROE

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-66,980	19,473		-3,440	,001
1	gcg1	5,090	,207	2,700	,008
	car1	-,503	-,143	-1,997	,049
	ldr1	-,140	-,176	-2,039	,045
	npl1	,228	,024	,334	,739
	LnTA	15,328	,584	7,316	,000

a. Dependent Variable: roe1

The next test is the t test for the profitability variable (ROE). Ho in this test are GCG, capital adequacy, and liquidity partially have a non-significant positive effect on profitability

(ROE). The significance of this test is 5% and t table in this study is 1.988268. The result of t test (partial) shows t count of GCG is bigger than t table, and t count of other variable is less than t table. It means that partial GCG variables have a non-significant positive effect on profitability (ROA). The test results also show that the capital adequacy and liquidity have a significant positive effect on profitability (ROA).

In the left-side test, Ho testing is a partially non-performing loans having a non-significant negative effect on profitability (ROE). The significance of this test is 5% and t table in this study is 1.988268. Based on the table of t test results (partial), it can be seen that t count of NPL is less than t table. It means that the partial liquidity variable has a significant negative effect on profitability (ROE).

CONCLUSION

Based on the results of the research, it can be concluded that GCG, capital adequacy, and liquidity have an effect on profitability. Non-performing loan variable does not have any effect on profitability. In the upcoming research, other independent variables can be added that can affect the performance of banks in Indonesia.

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