An Empirical Investigation of Financial Performance to Corporate Governance of Indonesian Listed Banks

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       The objective of this study was to investigate the relationship of financial performance to corporate governance of Indonesian listed banks in year 2010. After excluding the company with negative earnings per share, there were 30 companies left for analysis. A regression model was used in which corporate governance as dependent variable is measured by the composite of five corporate governance aspects. A set of financial performance measures were considered as independent variables including: Earnings per share, price to book ratio, and debt to equity ratio. The results indicate that financial performance has no significant relationship to corporate governance using the composite index. Financial performance relies on earnings per share in relations to board of director size and audit committee size.

Key Words: Bank, corporate governance, financial performance, Indonesia

INTRODUCTION

       There are many different ways to measure financial performance, but all measures should be taken in aggregation as Dutta and Reichelstein (2005) explained that an optimal performance measure must rely on both accounting and stock price variables. Stock price is not only essential in providing investment incentives, but also for filtering out some of the variability in investment returns. Moreover, Barton, Hansen, and Pownall (2010) found that no single measure dominate around the world when they examined the value relevance of a comprehensive set of summary performance measures. Financial performance term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

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       The issues of corporate governance are often framed in terms of a debate over the nature or essence of the corporation.Corporate overnance is often said to chiefly concern the internal governance of corporations, that is, the relationship among the participants in the corporate enterprise. Recurring questions include who owns the corporation, whether a corporation is an artificial phenomenon created by state fiat or a natural byproduct of human interaction, whether the corporation is an entity separate from its constituent individuals, and why decision-making authority is concentrated in professional managers (Joo, 2010).

       Indonesia is an especially suitable laboratory to examine the relationship of financial performance to corporate governance, as FCGI (2011) noted that efforts have begun in Indonesia to improve corporate governance. Moreover, Thomas White Global Investing (2010) reported that the global recession that devastated economies worldwide did not wreak as much havoc in Indonesia, making Indonesia one of the fastest growing

economies in the G20 League of Nations. The Indonesian financial sector is now at the top of the Indonesian government policy agenda, since Indonesian economy continues its steady growth, and in many ways, becomes more integrated in the world economy (Titiheruw & Atje, 2009). In such an environment, Indonesia needs to do more to protect the financial sector in a world vulnerable to shocks, since a financial sector that is sturdy and liquid will support the real sector (Suharmoko, 2009) and banks are special, they must run business based on prudential principles. A bank is an apparent institution of trust that has role as intermediary agent and enabling payment and settlement system. Strengthening good governance in banking sector is another method to mitigate risk. Additionally, banks in Indonesia are encouraged to improve the quality of their governance, not only to meet Bank Indonesia's regulations but also to nurture market discipline. The banking industry is currently quite prudent and conservative, concentrating on applying good governance (Bank Indonesia, 2010).

A large body of literature examined the relationship between corporate governance and firm's performance (*e.g.*, Ali Shah, Ali butt and Hasan, 2009; Balasubramanian, Black, and Khanna, 2010; Dittmar and Mahrt-Smith, 2007). While some studies argue that the causality runs from governance to performance, a number of others demonstrate the reverse (see Aman and Nguyen, 2007; Shen and Chih, 2007).

Aman and Nguyen (2007) discovered that in Japan, poorly governed firms significantly outperform better-governed firms in market returns, and Bhagat, Bolton, and Romano (2008) found that there is no consistent relation between governance indices and measures of corporate performance. Love (2011) suggested that corporate governance is likely to develop endogenously, that better firm performance leads to better corporate governance. Therefore the present study was designed to investigate the relationship of three different types of financial Performance (earnings per share, price to book value, and debt to equity) to corporate governance using Indonesian Banking Sector data.

The model used for the measurement of corporate governance in this study is in line with Ali Shah, Ali Butt and Hasan (2009); Capital Market Supervisory Agency (2004); Jakarta Stock Exchange Inc. (2004); Kajola (2008) and Rebeiz & Salameh (2006). Based on the extensive literatures and the availability of data, five aspects of corporate governance (board of director size, board of commissioner size, the proportion of independent commissioners in the composition of board of commissioners, audit committee size and proportion of independent commissioners in the composition of audit committee) are composed as an index of corporate governance for this study. The management of a limited liability company (PT) in Indonesia is adopting a two board system (called the two-tier board system), namely the Board of Commissioners and the Board of Directors (National Committee on Governance, 2006).

RESEARCH METHODOLOGY

Research Design. The causal design was used in this study to explain relationships among variables. The concern in causal analysis according to Cooper and Schindler (2006) was on how one variable affects the changes in another variable. In this study, it probes deeply and analyzes the relationship of financial performance to corporate governance.

Population. The listed banking sector in general offer an ideal area of financial performance and corporate governance research, because: (1) there are reliable data available in the form of published annual reports; (2) the participants of stock exchange are deeply concerned with the governance, performance and valuation of firms; (3) the banking industry is currently quite prudent and concentrating on applying good governance. There are 31 sample companies listed according to IDX as of

2010, however only 30 companies were used for this study. The company with negative earnings per share was excluded from the calculation.

Data Collection. Data needed to derive financial performance ratio were standard financial numbers that were available from IDX statistics. In addition, data needed to derive corporate governance index were taken from annual reports of the listed companies that were voluntarily reported as Good Corporate Governance implementation report. Indonesia's *Code of Good Corporate Governance* is not a regulation, but a fundamental guidance for companies to exercise their efforts in assuring long-term continuity within the corridor of appropriate business ethics (National Committee on Governance, 2006).

Measure of Variables. Corporate Governance as dependent variable in this study was measured by the composite of five corporate governance aspects (board of director size, board of commissioner size, the proportion of independent commissioners in the composition of board of commissioners, audit committee size and proportion of independent commissioners in the composition of audit committee). The independent variables were financial performance ratios which comprised of three different performance measures: Earnings per share ratio (EPS ratio), price to book value ratio (P/B ratio), and debt to equity ratio (DER ratio). (see Table 1)

Statistical Tools Used. To determine the relationships of financial performance to corporate governance, multiple regression analysis was conducted using cross-sectional data. Multiple linear regression was used to determine if several continuous independent variables are significant predictors of a continuous dependent variable. The multiple linear regressions model is presented below:

$$\text{CG Index} = b_0 + b_1\,\text{EPS ratio}_i + b_2\,\text{P/B ratio}_i + b3\,\text{DER Ratio}_i + u \qquad \text{(Model 1)}$$
$$\text{BODSize Ratio} = b_0 + b_1\,\text{EPS ratio}_i + b_2\,\text{P/B ratio}_i + b3\,\text{DER Ratio}_i + u \qquad \text{(Model 2)}$$
$$\text{BOCSize Ratio} = b_0 + b_1\,\text{EPS ratio}_i + b_2\,\text{P/B ratio}_i + b3\,\text{DER Ratio}_i + u \qquad \text{(Model 3)}$$
$$\text{BOCIndp Ratio} = b_0 + b_1\,\text{EPS ratio}_i + b_2\,\text{P/B ratio}_i + b3\,\text{DER Ratio}_i + u \qquad \text{(Model 4)}$$
$$\text{ACSize Ratio} = b_0 + b_1\,\text{EPS ratio}_i + b_2\,\text{P/B ratio}_i + b3\,\text{DER Ratio}_i + u \qquad \text{(Model 5)}$$
$$\text{ACIndp Ratio} = b_0 + b_1\,\text{EPS ratio}_i + b_2\,\text{P/B ratio}_i + b3\,\text{DER Ratio}_i + u \qquad \text{(Model 6)}$$

Where b_0 is the intercept of the model which is equal to the value of the dependent variable when the independent variable is equal to zero, b_1, b_2 and b_3 are the coefficients for the independent variables and indicate how many units change there is in the dependent variable for every one unit increase in the independent variable when controlling for the other independent variables in the model. u is the random error term that is normally distributed with a mean of zero and a constant variance (Salvatore and Reagle, 2002).

The coefficient of determination, R^2 (*R-squared*) was used in the context of statistical models whose main purpose is the prediction of future outcomes on the basis of other related information. R^2 provides a measure of how well future outcomes are likely to be predicted by the model. R^2 was used in this study to indicate the strength of the relationship. If the model fits the data well, the overall R^2 value will be high, and the corresponding *p*-value will be low. In addition to the overall *p* value, multiple regression also reports an individual *p*-value for each independent variable. A low *p*-value here means that this particular independent variable significantly improves the fit of the model. It is calculated by comparing the goodness-of-fit of the entire model to the goodness-of-fit when that independent variable is omitted.

F-test was used to test the significance of R^2, which is the same as testing the significance of the regression model as a whole. If probability (F) < 0.05, then the model is considered significantly better than would be expected by chance. F is a function of R^2, the number of independents, and the number of cases. *F-*

test and *p*-value were used to test the hypothesis. If the calculated value of *F* is smaller than the tabular value, the alternative hypothesis is rejected. If the *p*-value is smaller than the significance level ($a = 0.05$) accept alternative hypothesis.

Regression Assumptions. Linearity assumption was verified through examination of scatter plots of residuals that indicates linear relationship between the independent variable (s) and the dependent variable. Normality of the error term distribution was used to check if the data are normally distributed. According to Chan (2003), small samples of n<30 always assume not normal and moderate sample are 30-100. With these reasons the sample size of this study is assumed as normal. Multicollinearity between the independent variables was checked. If the independent variables are highly correlated with each other, then they are no longer independent of each other. A formal method for detecting multicollinearity involves the calculation of variance inflation factors (VIF) and tolerance value (TOL). A VIF for a *β* parameter greater than 10 or TOL value < 0.10 indicates that a serious multicollinearity problem exist and the independent variable will not be allowed to enter into the model (Mendenhall & Sincich, 1996). Heteroscedasticity test was done by arranging the data from small to large values of the independent variable and running two regressions, one for small values of independent variable and one for large values, omitting one-fifth of the middle observations. Then, the ratio of the error sum of squares (ESS) of the second

regression to the first regression was tested. Using the *F* table with $(n\text{-}d\text{-}2k)/2$ degrees of freedom, where n is the total number of observations, d is the number of omitted observations, and k is the number of estimated parameters, if ESS_2/ESS_1 exceeds *F* table at the 5% level of significance, the hypothesis of heteroscedasticity is accepted. This is the *Gold-feld-Quandt test for heteroscedasticity* and is most appropriate for large samples (i.e., for n ≥ 30) (Salvatore and Reagle, 2002).

RESULTS AND DISCUSSIONS

The finding suggests that using the three indicators of financial performance (EPS Ratio, P/B Ratio and DER Ratio) to composite index of corporate governance (CG Index), the overall model is not significant and therefore the pre-designed model (1) is rejected. Financial performance has no significant relationship to corporate governance. This result is in line with the analysis of Bhagat, Bolton, and Romano (2008) that, there is no best governance index to identify governance quality. Different measures of governance could correlate with different measures of performance.

To give a further in-depth outlook, the analysis with multiple linear regression using the individual components of corporate governance instead of the composite index (CG Index) as dependent variable re-conducted to find out if any of corporate governance aspects can be predicted by financial performance

.Table 1. Variables and Their Proxy Measure Determination

Notation	Description	Measurement
CG Index	Corporate Governance Index	BODSize ratio$_i$ + BOCSize ratio$_i$ + BOCIndp ratio$_i$ + ACSize ratio$_i$ + ACIndp ratio$_i$
BODSize ratio$_i$	Ratio Board of Director Size	Board of director size of company i divided by weighted mean board of director size of the 30 companies
BOCSize ratio$_i$	Ratio Board of Commissioner Size	Board of commissioner size of company i divided by weighted mean board of commissioner size of the 30 companies
BOCIndp ratio$_i$	Ratio proportion of independent commissioners in the composition of board of commissioners	Proportion of independent commissioners in the composition of board of commissioners of company i divided by weighted mean proportion of independent commissioners in the composition of board of commissioners of the 30 companies
ACSize ratio$_i$	Ratio audit committee size	Audit committee size of company i divided by weighted mean audit committee size of the 30 companies
ACIndp ratio$_i$	Ratio proportion of independent commissioners in the composition of audit committee	Proportion of independent commissioners in the composition of audit committee of company i divided by weighted mean proportion of independent commissioners in the composition of audit committee of the 30 companies
EPS ratio$_i$	Earnings per share ratio	$\dfrac{\text{EPS of company i}}{\text{Weighted mean EPS of the 30 companies}}$
P/B ratio$_i$	Price to book ratio	$\dfrac{\text{P/B of of company i}}{\text{Weighted mean P/B of the 30 companies}}$
DER Ratio$_i$	Debt to Equity ratio	$\dfrac{\text{DER of company i}}{\text{Weighted mean DER of the 30 companies}}$
EPS	Earnings per share	$\dfrac{\text{Earnings available to ordinary shareholders}}{\text{Number of ordinary shares in issue}}$
P/B	Price-to-book	$\dfrac{\text{Market price per share}}{\text{Book value per share}}$
DER	Debt-to-equity	$\dfrac{\text{Total debt to equity}}{\text{Shareholder's equity}}$

Note: Weighted mean is simply dividing total of value x frequency by the total of all frequency

Table 2 Multiple Regression Test : Financial performance predicts board of director size
Dependent Variable: BODSize Ratio

Independent Variables	Unstandardized Coefficients	Standardized Beta	*t.*	Sig. *	Collinearity Statistics	
					Tolerance	VIF
(constant)	.672		2.921	.007		
EPS ratio	.117	.405	2.245	.033	.713	1.402
P/B ratio	.236	.317	1.748	.092	.706	1.417
DER ratio	-.026	-.019	-.126	.901	.972	1.029

R^2 .398
Adj. R^2 .329
F – value   5.730
Prob. *(F)*   .004
No. of companies/observations 30

* Significant at the 0.05 level

The finding in Table 2 shown that using the three indicators of financial performance (EPS Ratio, P/B Ratio and DER Ratio) to board of director size ratio (BODSize Ratio), the global F value = 5.730 suggests the overall model is significant (p = 0.004). This extremely small p-value suggests that at least one of the independent variables is related to BODSize Ratio. Turning to the significance of each independent variable, the t-statistic and p-value suggest that EPS Ratio is the only independent variable significant in explaining BODSize Ratio. P/B Ratio and DER Ratio are not significant predictors in this model. The tolerance value is greater than 0.10 and VIFs less than 10. It can be presumed the absence of any multicollinearity problems. The finding suggests that financial performance predicts board of director size.

As part of robustness check, to further determine the significance of EPS Ratio in explaining BODSize Ratio, Table 3 shows the simple regression result using EPS Ratio only as the independent variable. The result suggests that in Indonesian banking scenario, the implementation of financial performance is relied on earnings per share in relations to board of director size. R^2 = 0.327 of the model indicates that approximately 33% of the variance in board of director size can be explained by predictor variable EPS Ratio and the remaining 67% the proportion of variance in board of director size explained by other factors.

Table 3 Simple Regression Result: EPS Ratio to BODSize Ratio
Dependent Variable: BODSize Ratio

Independent Variables	Unstandardized Coefficients	Standardized Beta	t.	Sig. *	Collinearity Statistics	
					Tolerance	VIF
(constant)	.834		10.947	.000		
EPS ratio	.166	.572	3.686	.001	1.000	1.000
R^2	.327					
Adj. R^2	.303					
F – value	13.588					
Prob. (F)	.001					
No. of companies/observations 30						

* Significant at the 0.05 level

Heteroscedasticity test was applied by arranging the data from small to large values of EPS Ratio as the independent variable and running two regressions, one for small values of EPS Ratio and one for large values, omitting one-fifth of the middle observations. By regressing EPS Ratio on BODSize Ratio for the first 12 and for last 12 observations, leaving the middle 6 observations out, the result is:

Small GCG Index: R^2 = 0.025; Prob. (F) = 0.259; ESS_1 = 0.8019
Large GCG Index: R^2 = 0.164; Prob. (F) = 1.961; ESS_2 = 1.3329

Since ESS_2/ESS_1 = 1.3329/0.8019 = 1.66 < F = 2.97 with (30-6-4)/2 = 10 degrees of freedom in the numerator and denominator at the 5% level of significance, this suggest that variances at each level of independent variables are homogeneous thus indicating no evidence of heteroscedasticity. In this way, the researcher can rely on the regression result in Table 3.

The predictive regression equation as a revision of model (2) from the regression analysis shown in Table 3 is: **BODSize Ratio = 0.834 + 0.166 EPS Ratio.** The result shows a positive relationship between earnings per share ratio and board of director size ratio and that better earnings per share can lead to board of director size. The linear relationship depicted in the above equation is consistent with the conclusion of Love (2011) that

corporate governance is likely to develop endogenously. According to Love (2011), firm performance could be measured by operating performance, market valuation, or stock returns and firm governance can be measured as one aspect affecting corporate governance, or an index of several aspects combined into one measure.

Multiple regression analysis was run to check the relationship between all the three indicators of financial performance (EPS Ratio, P/B Ratio and DER Ratio) to board of commissioner size ratio (BOCSize Ratio) and the proportion of independent commissioners in the composition of board of commissioners (BOCIndp Ratio). The results suggest that financial performance does not predict board of commissioner size and independent commissioners in the composition of board of commissioners and model (3) and (4) are rejected.

The multiple regression analysis (Table 4) was run to check the relationship between all the three indicators of financial performance (EPS Ratio, P/B Ratio and DER Ratio) to audit committee size. The global F value = 5.565 suggests that the overall model is significant ($p = 0.004$). The small p-value indicates that at least one of the independent variables is related to ACSize Ratio and turning to the significance of each independent variable, the t-statistic and p-value suggest that EPS Ratio is the only independent variable significant in explaining ACSize Ratio. P/B Ratio and DER Ratio are not significant predictors in this model.

Table 4 Multiple Regression Test: Financial performance predicts audit committee size
Dependent Variable: ACSize Ratio

Independent Variables	Unstandardized Coefficients	Standardized Beta	$t.$	Sig. *	Collinearity Statistics	
					Tolerance	VIF
(constant)	.897		5.855	.000		
EPS ratio	.108	.560	3.092	.005	.713	1.402
P/B ratio	.051	.102	.562	.579	.706	1.417
DER ratio	-.058	-.066	-.424	.675	.972	1.029
R^2		.391				
Adj. R^2		.321				
F – value		5.565				
Prob. (F)		.004				
No. of companies/observations 30						

* Significant at the 0.05 level

As part of robustness check, to further determine the significance of EPS Ratio in explaining ACSize Ratio, Table 5 shows the simple regression result using EPS Ratio only as the independent variable. The result suggests that in Indonesian banking scenario, the implementation of financial performance is relied on earnings per share in relations to audit committee size. R^2 = 0.381 of the model indicates that approximately 38% of variance in audit committee size can be explained by predictor variable EPS Ratio and the remaining 62% the proportion of variance in audit committee size can be explained by other factors. The original model (5) is inadequate and must be revised since P/B Ratio and DER Ratio are not significant predictors in this model.

Table 5 Simple Regression Result: EPS Ratio to ACSize Ratio
Dependent Variable: ACSize Ratio

Independent Variables	Unstandardized Coefficients	Standardized Beta	$t.$	Sig. *	Collinearity Statistics	
					Tolerance	VIF
(constant)	.879		18.167	.000		
EPS ratio	.119	.617	4.151	.000	1.000	1.000
R^2	.381					
Adj. R^2	.359					
F – value	17.232					
Prob. (F)	.000					
No. of companies/observations	30					

* Significant at the 0.05 level

Heteroscedasticity test was applied by arranging the data from small to large values of EPS Ratio as the independent variable and running two regressions, one for small values of EPS Ratio and one for large values, omitting one-fifth of the middle observations. By regressing ACSize Ratio on EPS Ratio for the first 12 and for last 12 observations, leaving the middle 6 observations out, the result is:

Small GCG Index: $R^2 = 0.022$;   Prob. $(F) = 0.65$; $ESS_1 = 0.727$
Large GCG Index: $R^2 = 0.026$;   Prob. $(F) = 0.61$; $ESS_2 = 0.773$

Since $ESS_2/ESS_1 = 0.773/0.727 = 1.06 < F = 2.97$ with $(30-6-4)/2 = 10$ degrees of freedom in the numerator and denominator at the 5% level of significance, this suggest that variances at each level of independent variables are homogeneous thus indicating no evidence of heteroscedasticity. In this way, the researcher can rely on the regression result in Table 5. The predictive regression equation as a revision of model (5) from the regression analysis shown in Table 5 is:
ACSize Ratio = 0.879 + 0.119 EPS Ratio. The linear relationship between EPS Ratio and ACSize Ratio depicted in the above equation is consistent with the conclusion of Love (2011) that corporate governance is likely to develop endogenously. In this equation corporate governance is measured by audit committee size.

Multiple regression analysis was run to check the relationship between all the three indicators of financial performance (EPS Ratio, P/B Ratio and DER Ratio) to the proportion of independent commissioners in the composition of audit committee. The result suggests that financial performance does not predict the proportion of independent commissioners in the composition of audit committee and model (6) is rejected. As Bhagat, Bolton, and Romano (2008) analyzed the relation between corporate governance and performance, they found no one size fits all approach.

CONCLUSIONS

The importance of this study may be viewed from its contribution to fill an important gap in literature by exploring whether financial performance contributes to corporate governance. This is an interesting research question with potentially important practical implications. The purpose of this research is to examine the importance of the three financial performance indicators, namely earnings per share, price to book ratio, and debt to equity ratio to corporate governance, which includes board of director size, board of commissioners size, proportion of independent commissioners in the composition of board of commissioners, audit committee size, and proportion of independent commissioners in the composition of audit committee.

Using Banking firms listed on Indonesia Stock Exchange (IDX), in general, the results of this study show that financial

performance has no significant relationship to corporate governance using the composite index of the five corporate governance indicators. Meanwhile, the result suggests that in Indonesian banking scenario, the implementation of financial performance is relied on earnings per share in relations to board of director size and audit committee size.

Empirical findings could not provide a significant relationship between financial performance to board of commissioner size, proportion of independent commissioners in the composition of board of commissioners, and proportion of independent commissioners in the composition of audit committee. This result is in line with the analysis of Bhagat, Bolton, and Romano (2008) which suggested that different measures of governance are correlated with different performance measures.

Directions for Future Research. The findings of this study can add to the existing body of the literature, and can serve as a starting point on which future studies can be done. Future studies could examine the relationship in the present study using other countries experiencing different economic conditions, using data from non banking sector and using a cross country data to support the robustness of the conclusions drawn which are needed to confirm the applicability of the findings of this study to those conditions.

Future study in Indonesia could add other measures of corporate governance to the model presented in this study and some other measures of financial performance. Possible areas of future research in Indonesia can also focus on other industries.

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