Ownership Structure, Presidential Election, and Company Performance: An Empirical Evidence in Indonesia Banking Industry

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Abstract**—**This study aims to assess the correlation between bank ownership and bank performance in Indonesia and to test whether election takes a role in this relationship. The study of the correlation between bank ownership and performance is measured using linear regression with dummy variable. This study uses financial reports of 56 commercial banks that range between 2004 and 2012. Those commercial banks are classified into six types: state-owned banks, private banks, foreign exchange banks, regional banks, joint venture banks, and foreign banks. This study finds for its hypothesis that ownership does have correlation with bank performance in Indonesia. Furthermore, in order to test whether the differential in performances is driven by election consideration, this paper checks whether the differential widens during election years; it finds strong support for this hypothesis. In conclusion, through this research all commercial banks in Indonesia can prepare certain strategy during election years to increase their performance.

Keywords**—** Banking Classification, Ownership, Performance, Election

I. Introduction

THE atmosphere of banking sector in Indonesia is quite refreshing. For the last five years, banking sector showed a bright performance in the middle of inflation and interest rate pressure, and uncertainty in global economy. It is seen by an increasing of Indonesia's Gross Domestic Product (GDP) from banking sector by approximately 70% in period 2009-2013 [1]. Bank of Indonesia also noted that the average of capital adequacy ratio (CAR) in national banking sector was high enough, achieve at17.89% per August 2013 and the non-performing loan (NPL) still kept low, that was below 1% although there was an increasing in interest at that time [2]. Several time, Bank of Indonesia conducted stress test to all banks from side of liquidity, loans, and equities to show the strong endurance of banking sector in facing some risks, for instance economic deceleration, interest rate increment, and rupiah exchange rate deflation [2].

Because of that impressive performance of banking sector in Indonesia, foreign party (especially from Singapore, Malaysia, South Korea, and Thailand) tries to take over the ownership of banking sector in Indonesia [2]. Presently, foreign party has expropriated more than 50% banking assets in Indonesia [2]. In addition, five from top ten banks in Indonesia are foreign banks and those five banks take control almost two-thirds national market share [2].

Based on that phenomenon, the study of bank ownership and performance is needed to see whether there is correlation between bank ownership and its performance. Paper from [3] studies the relationship between bank ownership and performance for developing and industrial countries. The study finds that state-owned banks located in developing countries tend to have lower profitability and higher costs than their private counterparts, and that the opposite is true for foreign-owned banks. The paper finds no strong correlation between ownership and performance for banks located in industrial countries. Similar study provides evidence on the impact of different types of ownership structure on bank performance in one of developing country in ASEAN, Malaysia[4]. It test on five categories of ownership structure such as insider, family, government, institutional, and foreign ownership, and the results suggest that bank performance varies with different types of ownership structure [4].

Although studies addressing the issue of bank ownership and performance have increased rapidly in the past few years, however the theoretical and empirical evidences did not conclusively resolve the issue. Also, most of the studies focused on developed countries and very limited study done in developing countries, like Indonesia. As there are some significant differences in banking sector between developing and developed countries, for example the level of dependency on banks as source of funding, ownership structure, expertise and skills, technology, management, and compensation and wages, thus it cause concern whether the result of studies on developed countries could be applicable to the developing countries, especially Indonesia.

Based on previous study [3], and the concern mentioned above, this paper aims to test whether there is correlation between bank ownership and its performance in Indonesia. On the other hand, this study also wants to check whether that correlation is driven by election factor. This is the most interesting result of this paper, and it is useful addition to the

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literature on the relationship between politics (represented by election) and banking activities. In fact, this is the first paper in Indonesia that focuses on the relationship between politics and bank performance.

II. Data

The source of data in this research is Indonesia Banking Directory, obtained from Bank of Indonesia (BI) that provides bank-level annual financial statement for 115 banks in Indonesia. This dataset explain all financial condition of all banks, which some of it will not be used in conducting statistical analyses in this research. Hence, there is data editing before the data is able to use for the statistical analyses in this research.

As the purpose of this research is to see the correlation of bank ownership and performance, thus all 115 banks have to be classified into certain type of bank. Fortunately, Bank of Indonesia has classified all banks into six types, there are: state-owned banks, foreign exchange banks, non-foreign exchange banks, regional banks, joint venture banks, and foreign banks [6]. In this research, sharia (Islamic) banks are excluded. After that, deciding the period which will be used. In deciding the period, the ultimate consideration is election year in Indonesia. As Indonesia hold the election every five years, so in order to get accurate result regarding the election variable, the period used is from 2004 to 2012, which the election year is in 2004 and 2009. The next step is drop all banks for which BI do not have data for ROA, interest margin, overhead costs, and employment. Not only that, for which banks that occurs a change in ownership from period 2004-2009 are also, being dropped. The last step is excluding outliers by dropping the top and bottom data, according to [5] for each dependent variable. Finally, the data which is ready to be used is 469 observations that come from 56 banks; 3 state-owned banks, 21 foreign exchange banks, 11 non-foreign exchange banks, 12 regional banks, 5 joint venture banks, and 4 foreign banks.

III. Methodology

A. Data Methodology

As this research using panel data and analyze it by linear regression method, using statistic software, SPSS (Statistical Package for Social Science). However, before come to the regression analysis, the data should be test whether it is fulfilled the requirement for using linear regression. Based on [7] and [8], there are four assumptions made by standard linear regression models with standard estimation techniques; 1) multicollinearity, 2) normality, 3) heteroscedasticity, and 4) autocorrelation.

First, multicollinearity is the undesirable situation where the correlations among the independent variables are strong [9]. It also increases the standard errors of the coefficients, while by the increasing standard errors in turn means that, coefficients for some independent variables may be found not to be significantly different from 0 [9]. To detect the existence of multicollinearity is seen from the variance inflation factors (VIF). It measure how much the variance of the estimated coefficients are increased over the case of no correlation among the X variables. If no two X variables are correlated, then all the VIF will be 1.

Normality test is to see whether the residual values are normally distributed or not [10]. Kolmogorov-Smirnov test is used here because the data is greater than 50 [11]. The data is called normal when the Asymp. Sig. (2-tailed) or usually known by p-value is greater than .05 (accept the H_0) [12].

Park test is used for detect the heteroscedasticity. Heteroscedasticity exists if the random variables have different variances [13]. When the Sig. of each independent variable is greater than .05, then there is no heteroscedasticity.

The last in classical assumption is autocorrelation. Autocorrelation is used to detect non-randomness in data and to identify an appropriate time series model if the data are not random [14]. To test the existence of autocorrelation, Durbin Watson is an appropriate test. If the value of d (Durbin Watson) is greater than du (upper value) and less than (4-du), or du < d < (4 – du), then the autocorrelation is proven not exists. After those four assumptions are fulfilled, then the regression can be done.

As this study is similar to [3], the dependent variable of this study is bank performance. Moreover, the performance is explained into four variables; return on assets (ROA), interest margins, overhead costs over total assets, and employment (total employment measured as a share of total assets). ROA shows the profitability of the bank, while interest margins, overhead costs, and employment focus on bank efficiency [15].

For the independent variables, there is a slightly difference in analyzing the correlation between ownership and performance and test the influence of election. Overall the independent variables are the dummy variables of each bank's type and matrix of bank-specific controls. The matrix includes two variables aimed at capturing the effect of the main sector of activity of the bank and two variables aimed at capturing the effect of bank size. The variables that used to control the sector of activity are non-interest income as a share of total assets (NONINT) and demand deposits as a share of total deposits (DDEP). The variables that used to control for size are the lag of total assets (LTA) and lagged share of bank's total assets over total banking assets in the country (SHTA).

B. Hypotheses Tested

Based on this research's purpose, the hypothesis of this study is formulated as follows:

H_0: There is a positive correlation between bank ownership and performance

H_1: Election drives the correlation between bank ownership and performance

C. Empirical Model

To study the correlation between ownership and performance, the model that used is:

$$PERF_{i,t} = \alpha_0 + \beta_1 DPER_{i,t} + \beta_2 DDEV_{i,t} + \beta_3 DNDEV_{i,t} + \beta_4 DBPD_{i,t} + \beta_5 DCAM_{i,t} + \beta_6 DASG_{i,t} + X_{i,t} + \varepsilon_{i,t} \quad (1)$$

where $PERF_{i,t}$ is a measure of performance for bank *i* at time *t* and measured by return on assets (ROA), interest margin, overhead costs, and employment. The ownership variables, which are DPER (dummy variable that takes value one if in year *t* bank *i* is state-owned bank), DDEV (dummy variable that takes value one if in year *t* bank *i* is foreign exchange bank), DNDEV (dummy variable that takes value one if in year *t* bank *i* is non-foreign exchange bank), DBPD (dummy variable that takes value one if in year *t* bank *i* is regional bank), DCAM (dummy variable that takes value one if in year *t* bank *i* is joint venture bank), and DASG (dummy variable that takes value one if in year *t* bank *i* is foreign bank). The $X_{i,t}$ is a matrix of bank-specific controls that consist of NONINT, DDEP, SHTA, LTA.

Similarly, to check whether elections affect the relationship between bank ownership and performance is using this equation:

$$PERF_{i,t} = \alpha_0 + \Sigma Type_{i,t}(\beta_1 + \beta_2 GROWTH_t + \beta_3 ELECT_t) + X_{i,t} + \varepsilon_{i,t} \quad (2)$$

In the set-up of "(2)," $Type_{i,t}$ is a variable that symbolize the six bank's types in Indonesia, there are state-owned banks, foreign exchange banks, non-foreign exchange banks, regional banks, joint venture banks, and foreign banks. Moreover, $GROWTH_t$ is a variable that measures real GDP growth of Indonesia in year *t*, and $ELECT_t$ is a dummy variable that takes value one when Indonesia is in an election year and zero otherwise. All other variables are defined as in Eq. (1).

The coefficient of interest is β_3, to measure whether the presence of elections affects the performance of all bank types and could be used to test some predictions of the political view. This study also controls the interaction between ownership and GDP growth, as different bank type may have a differential reaction to the business cycle [3].

IV. Findings

A. Classical Assumption Test

Multicollinearity condition that seen from variance inflation factors (VIF) is proven to be not exist. The average value of VIF is 1, thus the multicollinearity is not exist. Kolmogorov-Smirnov test for normality shows that the data is normal, proven by the value of Asymp. Sig. (2-tailed) which is below 0.05. Similarly for heteroscedasticity, the results using Park test show that Sig. value of each independent variable is below 0.05, so the data is homoscedasticity. Durbin-Watson test for autocorrelation shows that the autocorrelation is proven not exist. The value of durbin-watson on average is $\pm$ 2.0 which is fulfilled this condition du < d < (4 – du).

B. Regression Results

Table I presents the average value of bank performance, measured from ROA, IM, OH, and EM for the total sample of 469 observations over the 2004 to 2012 period.

Table I shows that foreign banks have the highest level of profitability (measured as return on asset). This result confirms the previous finding that in developing country the foreign banks tend to be more profitable [3].

TABLE I
AVERAGE VALUES OF DEPENDENT VARIABLES

Ownership	No. banks	ROA (%)	Interest margin relative to total assets (%)	Overhead cost relative to total assets (%)	Employment relative to total assets (%)
State-owned	3	2.14	5.34	0.033	0.00009
Foreign exchange	21	1.78	5.49	0.036	0.00025
Non-foreign exchange	11	1.68	5.37	0.036	0.00012
Regional	12	2.99	8.18	0.044	0.00018
Joint venture	5	1.69	4.68	0.036	0.00008
Foreign	4	3.39	5.44	0.056	0.00006

From the aspect of interest margin, regional banks' is the highest. Furthermore, state-owned banks perform the best in bank efficiency seen from the lowest of overhead cost over total assets (0.033%). Meanwhile, foreign banks have the lowest employment relative to total assets, indicates that foreign banks in Indonesia are the most efficient from the aspect of total employment.

TABLE II
CORRELATION BETWEEN BANK OWNERSHIP AND PERFORMANCE

	ROA (1)	**IM** (2)	**OH** (3)	**EM** (4)
DPER	0.963	0.093	0.026	0.000
	0.002	-0.078	(-0.103)*	(-0.191)**
DDEV	0.000	0.000	0.000	0.000
	(-0.217)**	(-0.190)**	(-0.165)**	(0.243)**
DNDEV	0.000	0.001	0.009	0.000
	(-0.179)**	(-0.150)**	(-0.120)**	(0.253)**
DBPD	0.000	0.000	0.000	0.713
	(0.355)**	(0.585)**	(0.229)**	-0.017
DCAM	0.103	0.000	0.000	0.000
	0.075	(-0.203)**	(0.162)**	(-0.483)**
DASG	0.000	0.152	0.000	0.000
	(0.251)**	-0.066	(0.329)**	(-0.328)**
NONINT	0.000	0.000	0.000	0.000
	(0.171)**	(-0.197)**	(0.476)**	(-0.371)**
DDEP	0.000	0.000	0.000	0.000
	(0.437)**	(0.421)**	(0.218)**	(-0.189)**
SHTA	0.008	0.161	0.008	0.000
	(0.121)**	-0.065	(-0.123)**	(-0.218)**
LTA	0.006	0.104	0.000	0.001
	(-0.128)**	-0.075	(-0.287)**	(-0.157)**
No. obs.	469	469	469	469
R2	0.271	0.375	0.441	0.391

* Significant at 5% (2-tailed).
** Significant at 1% (2-tailed).

Table II reports the correlation between bank ownership and performance. The first column focuses on profitability. The explanation will be started by briefly describing the set of independent variables. Non-interest income is positive and statistically significant correlated with ROA but has negligible relationship between them (17.1%). The same result also happens in the ratio of demand deposits to total deposits, which has positive and significant correlation with ROA and has strong relationship (43.7%). The relative size (SHTA) has a statistically significant correlation with ROA but has negligible relationship (0.6%). The last, there is correlation between absolute bank size (LTA) with ROA, but no relationship (-12.8%).

Focusing on the ownership variables, the first column shows that bank ownership correlates with bank profitability, for foreign exchange banks, non-foreign exchange banks, regional banks, and foreign banks. In other hand, ownership does not correlate with bank profitability only for state-owned and joint venture banks. This finding is different with previous study [3], which finds state-owned banks located in developing countries correlates with ROA. Similarly, it also different with previous study done in Malaysia [4], who points out that government ownership bank correlates with ROA.

Column 2 of Table II focuses on net interest margin. Both non-interest income and demand deposits correlate with net interest margin, however they have different strength in the correlation. While non-interest income has negative and very weak correlation (19.7%), demand deposits has positive and quite strong correlation (42.1%) with net interest margin. Furthermore, both absolute size and relative size have no correlation with net interest margin. With respect to ownership, this study finds that ownership has no correlation with bank interest margin for state-owned and foreign banks; while for the other four type of banks have correlation with interest margin.

In column 3, focuses on bank efficiency measured as overhead costs over total assets. The four independent variables: non-interest income, demand deposits, absolute size, and relative size have correlation with overhead costs. Non-interest income and demand deposits have positive correlation, while different strength on its correlation. Moreover for absolute size and relative size have negative and weak correlation with overhead costs. Focusing on ownership, all types of banks in Indonesia have correlation with overhead costs. For the first three types of banks: state-owned banks, foreign exchange banks, and non-foreign exchange banks are negatively correlated with overhead costs, but for regional banks, joint venture banks, and foreign banks are positively correlated with overhead costs.

The last column focuses on another measure of efficiency: total employment measured as a share of total assets. All types of banks are correlated with employment, except for regional banks. Thus, basically bank ownership does correlate with bank performance in Indonesia.

TABLE III
TEST OF ELECTION FACTOR

	ROA (1)	**IM** (2)	**OH** (3)	**EM** (4)
DPER	0.963	0.093	0.026	0.0000
	0.002	-0.078	(-0.103)*	(-0.191)**
DDEV	0.000	0.000	0.000	0.0000
	(-.217)**	(-0.190)**	(-0.165)**	(0.243)**
DNDEV	0.000	0.001	0.009	0.0000
	(-0.179)**	(-0.150)**	(-0.120)**	(0.253)**
DBPD	0.000	0.000	0.000	0.713
	(0.355)**	(0.585)**	(0.229)**	-0.017
DCAM	0.027	0.000	0.131	0.0000
	(-0.102)*	(-0.193)**	-0.07	(-0.333)**
DASG	0.000	0.152	0.000	0.0000
	(0.251)**	-0.066	(0.329)**	(-0.328)**
PER*EL	0.752	0.339	0.110	0.092
	0.015	-0.044	-0.074	-0.078
DEV*EL	0.394	0.300	0.020	0.0001
	-0.039	-0.048	(-0.107)*	(0.159)**
NDEV*EL	0.905	0.454	0.254	0.0000
	0.006	0.035	-0.053	(0.160)**
BPD*EL	0.000	0.000	0.002	0.297
	(0.187)**	(0.325)**	(0.142)**	0.048
CAM*EL	0.617	0.012	0.052	0.000
	-0.023	(-0.116)*	-0.09	(-0.198)**
ASG*EL	0.000	0.142	0.245	0.000
	(0.166)**	-0.068	0.054	(-0.174)**
PER*GROWTH	0.918	0.106	0.034	0.000
	0.005	-0.075	(-0.098)*	(-0.193)**
DEV*GROWTH	0.000	0.000	0.001	0.000
	(-0.217)**	(-0.192)**	(-0.156)**	(0.226)**
NDEV*GROWTH	0.000	0.000	0.010	0.000
	(-0.186)**	(-0.164)**	(-0.119)**	(0.244)**
BPD*GROWH	0.000	0.000	0.000	0.592
	(0.350)**	(0.572)**	(0.226)**	-0.025
CAM*GROWTH	0.021	0.000	0.208	0.000
	(-0.106)*	(-0.187)**	-0.058	(-0.325)**
ASG*GROWTH	0.000	0.161	0.000	0.000
	(0.246)**	-0.065	(0.348)**	(-0.326)**
No. obs.	469	469	469	469
R2	0.249	0.384	0.252	0.353

* Significant at 5% (2-tailed).
** Significant at 1% (2-tailed).

Table III reports that whether election factor drives the correlation between bank ownership and performance. Column

I shows that election does affect bank profitability (ROA) only for regional and foreign banks. However, the strength of the correlation is very weak, only 18.7% for regional banks and 16.6% for foreign banks. In column 2 focuses on interest margin, the election correlates only with regional and joint venture banks. Moreover column 3 focuses on overhead costs, only foreign exchange and regional banks that correlates with election. The last column points out the employment and from the aspect of election, all types of banks are correlated with employment, except state-owned and regional banks.

V. CONCLUSION

This paper finds that bank ownership correlates with its performance in Indonesia banking industry. Furthermore, election factor drives the correlation between bank ownership and performance, especially for regional and foreign banks. This finding similar with previous study [3], which presents that in developing countries bank ownership correlates with performance and election drives that correlation. This study can help bankers or bank shareholders to make certain strategy during election year to increase the profitability and bank efficiency. For future research, this study can be expand to other political factor that correlates with bank performance besides election and analyze what strategy that can be made by banking industry in Indonesia to face the election year.

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