The Effect Of Capital Adequacy Ratio and Loan To Deposit Ratio on Banking Profitability

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Abstract

The objective of this research is to analyses the influence of Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), Size, Operations Expenses to Operations Income (BOPO), toward Profitability of Domestic Banks and Foreign Banks in January 2003 until December 2007. This research also used Chow Test to analyses the influence of Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), Size, Operations Expenses to Operations Income (BOPO), toward Profitability between State Owned Banks and Foreign Banks. This research used time series data from Bank Indonesia’s three-monthly domestic Banks and Foreign Banks published financial reports. After passed the purposive sampling phase, the number of valid samples is 10 Domestic Banks and 10 Foreign Banks. This research used multiple regression analysis to analyses the data. This research also used Chow Test to analyses the influence of Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), Size, Operations Expenses to Operations Income (BOPO), toward Profitability between Domestic Banks and Foreign Banks. Empirical evidence shows that Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR) has a positive and significant influence toward profitability in State Owned Banks. And only Size has positive and significant influenced toward profitability in foreign bank. The result of this research shows that adjusted R2 from Domestic Banks is 90.2% and Foreign Banks is 45.1%. F test shows that in simultant, Domestic Banks, Foreign Banks, variable independent influence variable dependent. Chow Test result shows influence of Capital Adequacy Ratio (CAR), loan to Deposit Ratio (LDR), Size, Operations Expenses to Operations Income (BOPO) toward Profitability between Domestic Banks and Foreign Banks. This research result can be consideration for investor in invested whether domestic bank and foreign bank. Existence global competition that always change caused domestic bank and foreign bank must follow the flow of global competition changing to maintain survive, with this competition then needed for future research.

Keywords: Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), Size, BOPO, Profitability.
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I. Introduction

The Banking Industry plays an important role in economic development as a Financial Intermediary or intermediary between parties who are excessively funded and those who need funds. According to Ali (2006), a bank is defined as a financial institution that has a business license to operate as a bank, namely accepting placements of funds entrusted by the public to the bank, providing loans to the public and the business world in general, giving acceptance of various forms of debt securities submitted to the bank and issued a check. The banking business itself was born because in reality not all people who save use their savings for their daily needs, while many other business activities require more capital than the ability of the business owners (Jaya, 1998). The general trend of competition in banking is checking risk taking with adequate capital and changing deposit guarantees to introduce the underlying risk of the system.

Basel Capital Accord found three pillars, namely the first pillar of the capital adequacy ratio, the second pillar of supervision, and the third pillar of market discipline. Supervisors have access to the extent to which the bank has capital with existing risks and the bank will disclose information on their financial structure, bookkeeping practices, risk exposure and capital adequacy at the right time. This competition is conducted to attract investors to raise funds in banks with more adequate security guarantees (Vives, 2001). According to Sofyan (2003), banking performance can be measured using the average loan interest rate, the average deposit interest rate, and the bank profitability. Furthermore, in his research, he stated that the deposit interest rate is a measure of weak performance and causes problems, so that in his research it was concluded that profitability was the most appropriate indicator to measure the performance of a bank.

The measure of profitability used is the rate of return equity (ROE) for companies in general and return on assets (ROA) in the banking industry. Return on Asset (ROA) focuses on the company's ability to obtain earnings in the company's operations, while Return on Equity (ROE) only measures the return obtained from the company's owner's investment in the business (Siamat, 2002). So that in this study, ROA is used as a measure of banking performance. The reason for choosing Return On Asset (ROA) as a measure of performance is because ROA is used to measure the effectiveness of a company in generating profits by utilizing its assets.

According to Suad Husnan (1998) ROA is the ratio between profit before tax to total assets, the greater the ROA indicates the better financial performance, because the rate
of return (return) is greater. If ROA increases, it means that the company's profitability increases, so that the final impact is an increase in profitability enjoyed by shareholders (Husnan, 1998). Banking companies in Indonesia include domestic banks and foreign banks.

Domestic banks consist of state-owned banks, national foreign exchange private commercial banks, national non-foreign exchange private commercial banks, regional development banks, and joint venture banks. The banks studied in this study are domestic banks and foreign banks. The reason for choosing a domestic bank and a foreign bank is because domestic banks and foreign banks are different from the perspective of ownership, but both domestic banks and foreign banks compete for market share in Indonesia. Domestic banks are banks whose majority ownership is owned by the central government, while foreign banks are banks owned by foreign investors (not Indonesian citizens) (Kasmir, 2005). Bank management has two objectives, namely long-term goals and short-term goals. The long-term goal of a bank is to seek profit or profit, while the short-term goal of a bank is to meet minimum reserves, good service to customers and strategies for investing (Nopirin, 1992: 23).

II. Methodology

Research on the profitability of domestic banks with foreign banks in Indonesia with the observation year for the quarterly period January 2003-December 2007 used secondary data, namely the financial statements of banks in Indonesia published by Bank Indonesia consisting of balance sheets and income statements obtained through www.bi.go. TED en. The population of this research is all domestic banks and foreign banks in Indonesia which operate between the quarterly period of January 2003 to December 2007. The sampling uses purposive sampling method, according to Umar (2004) using purposive sampling technique. The population of domestic banks is 119 banks. After taking the sample, it turns out that 109 domestic banks do not meet the criteria, while foreign banks with a population of 11 banks have one foreign bank that does not meet the criteria. The criteria used in determining the sample include: Banking companies in Indonesia consisting of domestic banks and foreign banks, domestic banks and foreign banks that publish complete financial reports during the study period, namely the annual period from January 2003 to December 2007, domestic banks include all banks which are managed by the government, both those that have gone public and those that have not yet go public.

The data analysis technique was performed using the classical assumption test, multiple regression analysis test, and hypothesis testing. Based on the research that has been done, the following conclusions can be drawn:

1. In domestic banks, the adjusted R2 value = 0.902, which means that 90.2% of the variation in profitability (ROA) can be explained by variations in the four independent variables of Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), size and BOPO, while the rest 9.8% is explained by other variables not
studied. For foreign banks, the value of Adjusted R2 = 0.451, which means that 45.1% variation in profitability (ROA) can be explained by variations in the four independent variables, Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), size and BOPO, while the remaining 54.9% explained by other variables not studied.

2. In domestic banks, the simultaneous test value is F = 197.069 and the significance is 0.000. For foreign banks, the simultaneous test value is F = 31,717 with a significance value of 0.000. So it can be concluded that in domestic banks the independent variable Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), size and BOPO simultaneously (together) have an effect on profitability (ROA) in domestic and foreign banks.

3. Based on the results of the t-test statistical test (partially): Capital Adequacy Ratio (CAR) has a positive and significant effect on the profitability of domestic banks. Capital Adequacy Ratio (CAR) has a positive and insignificant effect on the profitability of foreign banks.

4. Loan to Deposit Ratio (LDR) has a positive and significant effect on the profitability of domestic banks. Loan to Deposit Ratio (LDR) has a negative and significant effect on the profitability of foreign banks.

5. Size has a negative and significant effect on the profitability of domestic banks. Size has a positive and significant effect on the profitability of foreign banks.

6. BOPO has a negative and significant effect on the profitability of domestic banks. BOPO has a negative and significant effect on the profitability of foreign banks.

7. There are significant differences between domestic banks and foreign banks in terms of the effect of Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), Size, BOPO on profitability.

**III. Results and Discussion**

Foreign banks are keen to see this opportunity by implementing short-term goals, namely good service to customers and strategies for investing, this can be seen from the increase in the number of foreign bank offices during the period 2003 - 2007 to seize market share for domestic banks. The following is the number of branch offices both domestic banks and foreign banks spread throughout Indonesia for the 2003-2007 period are presented in Table 1 as follows:

| Table 1. Number of Domestic and Foreign Bank Offices |
|-----------------------------------------------------|
| Bank Group | Year | 2003 | 2004 | 2005 | 2006 | 2007 |
| Domestic Bank | | | | | | |
| Number of offices | 7661` | 7870 | 8164 | 8996 | 9174 |
Based on Table 1.1, it can be seen that the number of offices of both state-owned banks, joint venture banks and foreign banks. In 2004 the lowest number of offices was domestic banks at 1.02% and the highest was foreign banks in 2007 at 2.03%. In 2005 the number of domestic bank offices was 1.06% higher than foreign banks at 1.04%. In 2006 there was a striking change, namely the high number of foreign bank offices at 1.58% and the lowest number of domestic bank offices at 1.17%. In 2007, the highest number of offices was foreign banks 2.03% and the last was domestic banks 1.19%. An unbalanced increase in the number of offices between domestic and foreign banks, seen in 2007 of 2.03%, further tightened business competition in the banking sector.

The increase in foreign banks in national banking raises two issues (1) the effect of their existence in the commercial bank system (2) unbalanced competition and differences in performance between foreign banks and domestic banks. The entry of foreign banks can boost the quality and availability of banking services in key markets by increasing competition, the ability to take advantage of modern applications of banking skills and technology, encouraging the development of bank supervision and legal networks and increasing access to various countries to the international capital market (Awdeh, 2005). As for the data on the dynamics of the movement of banking financial ratios recorded at Bank Indonesia from January 2003 to December 2007, the general picture is shown in table 2 & 3 below:

| Table 2. Average Financial Ratio Return On Asset (ROA), Capital Adequacy Ratio (CAR), Loan To Deposit Ratio (LDR), SIZE, OEOI at Domestic Banks and Foreign Banks Period January 2003-December 2007 (Domestic Bank) |
|---|
| **Periode** | **ROA (%)** | **CAR (%)** | **LDR (%)** | **SIZE/Total Asset (Jutaan)** | **BOPO (%)** |
| **Domestic Bank** |
| **2003** | | | | | |
| Jan-Mar | 2,9 | 21,4 | 58,2 | 63.460.124 | 79,8 |
| Apr-Jun | 3,1 | 19,3 | 63,2 | 64.567.652 | 79,3 |
| Jul-Sept | 3,3 | 19,6 | 60,2 | 65.661.642 | 79,2 |
| Okt-Des | 3,7 | 19,0 | 69,3 | 66.588.026 | 79,4 |
| **2004** | | | | | |
| Jan-Mar | 4,1 | 21,4 | 70,0 | 64.788.773 | 57,4 |
| Apr-Jun | 4,1 | 20,1 | 67,3 | 64.661.398 | 70,2 |
| Jul-Sept | 4,0 | 19,9 | 67,2 | 65.072.909 | 69,6 |
| Okt-Des | 3,7 | 19,3 | 67,5 | 69.712.881 | 71,4 |
| **2005** | | | | | |
| Jan-Mar | 3,6 | 21,3 | 67,7 | 69.184.001 | 71,7 |
| Apr-Jun | 3,1 | 18,8 | 68,6 | 71.358.458 | 74,9 |
If seen in table 1.2, the movement of ROA at Domestic Banks is broadly stable, fluctuations ranged from 4.1% points for the highest, namely the January 2004 period to 2.3% points for the lowest, namely in the December 2006 period. At the turn of the year, from
January to December the following year ROA decreased. Meanwhile, the ROA of foreign banks was higher than domestic banks, this can be seen in January 2004 at 7.1% and the lowest in September 2005 at 1.9% and the movement of ROA for foreign banks was very fluctuating.

Then when viewed from the side of Domestic Bank capital which is proxied by the CAR ratio, from the table it can be concluded that the movement of CAR is very volatile with the highest figure of 21.6% in the January 2007 period to the lowest figure of 17.5% in the September 2005 period. The CAR ratio is more than 8%, but if the fluctuation of the CAR is compared to the fluctuation in the ROA ratio, the fluctuation of the CAR ratio is very sharp compared to the movement of the ROA ratio. Looking at the available empirical evidence, the movement of CAR is inversely proportional to the fluctuating movement of ROA, namely in the period January 2003 to January 2007 (see table 1.2). This contradicts the existing theory, where if the CAR ratio increases, then ROA should also increase. For foreign banks, the highest CAR was in June 2007 at 42.6% and the lowest was in September 2005 at 28.6%. CAR movement from 2005 to 2007 was relatively stable and fluctuating. This contradicts the existing theory, where if the CAR ratio increases, the ROA should also increase.

On the movement of the LDR ratio at Domestic Banks, from table 1.2. It can be seen that the highest number was in January 2004 at 70% and the lowest was January 2003 58.2%, the LDR ratio according to the Indonesian bank was 80% to 110% (Dendawijaya, 2003), so it can be concluded in general from the period January 2003 to January 2007, the LDR ratio for all periods did not meet Bank Indonesia standards. If it is related to ROA, it will be clear that the movement of LDR to ROA is irregular and fluctuating. Foreign banks in June 2007 the highest LDR was 91.2% and the lowest was in December 2007 58.4%. The movement of the LDR from year to year was irregular and fluctuating.

This is not in accordance with the theory, where the relationship between LDR and ROA should be directly proportional. Movement Size is measured from the total assets in the Domestic Bank table 1.2. seen fluctuating with the highest increase (in millions) of Rp. 99,425,347, - in December 2007 while the lowest was in January 2003 of Rp. 63,460,124, -. If it is related to ROA, it will be clear that the movement of Size to ROA is very stable. The highest size foreign bank in December 2007 was Rp. 17,189,567, - and the lowest was in January 2003 of Rp. 8,073,019. This is not in accordance with the theory, where the relationship between Size and ROA should be directly proportional. The same thing also happened to the level of operational efficiency at domestic banks which was recorded in the balance sheet of Bank Indonesia, where the BOPO proceeds from January 2003 to January 2007 were of uncertain direction or could be said to fluctuate.

This phenomenon that occurs is not in accordance with the existing theory, where the relationship between BOPO and ROA should be inversely proportional. The standard
figure for the OEOI ratio is below 90% (PBI, 2005), if the BOPO ratio generated by a bank exceeds 90%, it can be concluded that the bank is inefficient in carrying out its operations. If the BOPO ratio is in an efficiency condition, the profit to be obtained will be even greater because the operating costs borne by the bank are getting smaller. With the increase in profit, it is certain that the ROA ratio will also increase. From table 1.2, Domestic banks show that the highest BOPO ratio of 80.6% occurred in the period December 2006 and the lowest was 57.4% in January 2004. But if we observe more closely in relation to the movement of the ROA ratio, it can be concluded that in the fluctuation of the direction of movement of these two ratios are often seen in the same direction. Meanwhile, the highest BOPO for foreign banks was September 2005 84.7% and the lowest was December 2004 60.2%. This contradicts the existing theory, where if the BOPO ratio increases, then ROA should also decrease.

Triono (2007) conducted research on the factors that affect changes in earnings for the next year and two years at commercial banks in Indonesia. Triono's research (2007) shows that an increase in the Loan to Deposit Ratio (LDR) has an effect on the increase in profits earned by banks. Meanwhile, Mudrajad Kuncoro's research in Werdaningtyas (2002) examines that an increase in funds and LDR actually reduces profitability, which means that an increase in LDR has a negative effect on profitability. Minh and Tripe (2002) analyzed the factor that bank size has a positive effect on bank profitability. According to Mamatzakis (2000) bank size has a positive effect on profitability. The same thing is also said by Short (1979), Smirlock (1985) and Akhavein (1985) in Benti (2008) that there is a positive and significant effect between size (using assets and capital as an approach) on profitability.

This theory is in accordance with the research of Timothy & Scott (2000,p.141) analyzing that large banks generally employ fewer employees per dollar of their assets than small banks. One interesting change is the relationship between asset-based size and expenditure controls that small banks with US $ 300 million in assets generally have the lowest non-interest outlays relative to the income of large banks' assets. According to Athanasoglou (2005), the effect of size growth has a positive effect on profitability, only in a number of aspects, the fact that a bank is growing very large has a negative effect on size on profitability. Research conducted by Mawardi, 2005, concluded that OEOI has a negative effect on bank performance as proxied by ROA. This shows that the greater the ratio of total operating costs to operating income, the lower the ROA. The same thing was expressed by Usman (2003) in his research showing that OEOI has a significant effect on bank profits so that it is predicted that OEOI also has a significant effect on ROA because ROA is influenced by earnings.

From the results of research on empirical data and the diversity of arguments from several existing researchers regarding the effect of financial ratios on profitability (ROA) is an interesting phenomenon to study. This encourages further research to be carried out. This study uses the variable Capital Adequacy Ratio (CAR), Loan to De-
posit Ratio (LDR), Size and BOPO to determine the effect of these variables on the profitability (ROA) of domestic banks and foreign banks. The difference in the influence of the variable Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), Size and BOPO on the profitability (ROA) of domestic banks and foreign banks was tested using the Chow test.

IV. Conclusion and Recommendation

The result of this research shows that adjusted R2 from Domestic Banks is 90.2% and Foreign Banks is 45.1%. F test shows that in simultant, Domestic Banks, Foreign Banks, variable independent influence variable dependent. Chow Test result shows influence of Capital Adequacy Ratio (CAR), loan to Deposit Ratio (LDR), Size, Operations Expenses to Operations Income (BOPO) toward Profitability between Domestic Banks and Foreign Banks. This research result can be consideration for investor in invested whether domestic bank and foreign bank. Existence global competition that always change caused domestic bank and foreign bank must follow the flow of global competition changing to maintain survive, with this competition then needed for future research.

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