Factors Affecting Bank Profitability in Indonesia

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Abstract

The purpose of this study is to analyze the factors that affect the profit of commercial banks in Indonesia. Type of data used is polling data from commercial banks listed on the Indonesia Stock Exchange beetween 2002 and 2011. Bank profitability is measured by Return on Assets (ROA) as a function of banks specific determinants. Analysis technique used is pooling data regression model. The empirical results show that loan to toal assets, total equity to total assets, loan loss provision to total loan have positive effect on profitability, while inflation rate, the size of bank and cost-to-income ratio (BOPO) have negative effect on profitability. Economic growth and non interst income to total assets have no effect on bank profitability.

Keywords*: bank profitability, commercial bank, panel data regression model, Indonesia*

INTRODUCTION

Crises that occurred in Indonesia in 1998, has resulted in a decrease in performance of national banks. In 1997 the amount of CAR, ROA and Non-performing loan (NPL) amounted to 9.19 percent, 1.37 percent and 8.1 percent respectively. In 1998, the CAR, ROA and NPL became -15.7 percent, -18.76 percent and 50 percent respectively. In order to save the Indonesia banking system, the policies implemented by the government and Bank Indonesia, among others, were provision of Bank Indonesia Liquidity Assistance, Government blanket guarantee on January 26, 1998, Establishment of National Bank Restructuring Agency (IBRA) on January 27, 1998. In 2003, Bank Indonesia formulated Indonesia Banking Architecture which aims to produce a healthy, robust and efficient banking. In addition, other policies in the banking sector also performed, including a policy remedy to overcome the global financial crisis of 2008 (Center for Study of Education and Bank Indonesia central banking, 2012).

These policies then result in improved performance of the banking sector in Indonesia. Return on assets (ROA) and return on equity (ROE) of banks in Indonesia is the highest in the ASEAN region in 2009. ROA averages bank in Indonesia amounted to 2.6 percent higher than Singapore (1.1%), Japan (0.2%), UK (-0.1%), American (0.1%), and China (1.1%). Likewise, ROE, Indonesia reached 35.9%, which is the highest in ASEAN. It is higher than Malaysia (13%), Singapore (11.1%), and even higher than Asia countries such as China (17.1%). Similarly, the ratio of net interest margin (NIM),

where Indonesia is still the highest (5.89%), followed by Filipinos (3.92%) and Singapore (1.79%) (Muditomo , 2011). Besides profitable, banks in Indonesia today is also very prudent, as reflected in the capital adequacy ratio (CAR) of 16.7 percent and the ratio of nonperforming loans (NPL) is only 2.7 percent in September 2011. However, the Indonesian banking efficiency is still low which is reflected in the ratio of operating costs compared to operating income (BOPO) which reached 87.22 percent. For comparison, the value of BOPO in the ASEAN region ranged 40-60 percent (Investor Daily, November 30, 2011).

LITERATURE REVIEW AND RESEARCH HYPOTHESES

Bank profits are influenced by internal and external factors. Internal factors are affected by management decisions and goals to be achieved by the bank. Internal factors can be grouped into two groups of variables related to the financial statements and variables unrelated to the financial statements. Financial statement variables are variables that arise from the decision of the bank management that affect the items on the balance sheet and income statement. Non-financial statement variables are variables that are not directly related to the financial statements such as the number of branch offices, and the status of bank branches (main, auxiliary, cash offices).

External factors are factors that are beyond the control of the bank, which is linked with economic and environmental conditions that affect the bank's operations and performance. These internal factors include liquidity, the level of provisioning, capital adequacy, bank size. These external factors such as competition, government regulation, ownership, lack of capital, the money supply and inflation.

Dependent variable is usually used in the study analysis of bank profits is a return on assets (ROA), return on equity (ROE), return on capital employed (ROCE) and net interest margin (NIM). This study use ROA as dependent variable. ROA is the ratio of net income to total assets. ROA measures the profit generated from the asset and reflect how well the bank's management uses real investment resources to generate profits (Naceur, 2003). For any bank, ROA depends on the bank's as well as the uncontollable decisions related to economic conditions and government policies. (Sufian, 2011).

In a study of banking profit analysis, various internal and external factors are used by various researchers. In this study, internal factors are taken into consideration is the size of the bank, the loan, capital, credit risk, non-interest income (operational efficiency).

The size of bank as one of the independent variable because theoretically (for example in microeconomics) a large bank could create economies of scale which lower the average cost and has a positive impact on bank profits. But if the size of

bank become larger, phenomenon of the diseconomices of scale appears, the more difficult for management to conduct surveillance (Nicholson, 2000) and the higher the level of bureaucracy that have a negative impact on bank profits (Athanasouglau, Brissimis and Delis, 2005). Alper & Anbar (2011) and and Gur, Irshad and Zaman (2011) found a direct relationship between the size of banks and profitability.This finding leads us to the first hypotheses to be tested:

Hypothesis 1: There is a positive relationship between the size of bank and profitability.

Activities of the bank is to raise funds from surplus units and lend it to deficit units. From these activities the bank will earn net interest margin. The larger the loan, the greater the net interest margin, and the higher bank profits. Aper & Anbar (2011) found an inverse relationship between bank loans and profitability while Gur, Irshad and Zaman (2011), Sufian (2011) and Sasrosuwito danSuzuki (2011) reported a direct relationship between the loan and profitability. Based on theory and these empirical results, leads us to second hypotheses to be tested:

Hypothesis 2: There is a positive relationship between the bank loans and profitability.

The capital ratio (TE/TA), which is measured by total equity over total asset, reveals capital adequacy and should capture the general safety and soundness of the financial institution. It indicates the ability of a bank to absorb unexpected losses (Javaid et.al, 2011:66). Banks that have higher levesl of equity would decrease the cost of capital (Molyneux, 1993) so that it has a positive impact on bank profitability. Moreover, an increase in capital may raise expected earnings by reducing the expected cost of financial distress, including bankruptcy (Berger, 1995) as quoted by Sufian (2011).Gul, Irshad and Zaman (2011), Zeitun (2012) and Trujilo-Ponce (2010) found a positive relationship between capital and profitability. These findings leads us to the third hypothesis to be tested:

Hypothesis 3: There is a positive relationship between the amount of capital of a bank and profitability.

Credit risk, in the broadest sense, can be interpreted as the risk of financial loss due to borrower's failure to perform its obligations. Basically, this credit risk can arise either from the activities of banks in extending credit and other activities such as trading and capital market activities (Alexiou and Sofoklis, 2009). The ratio of loan loss provisions to total loans (LLP / TL) is usually used as a proxy variable to measure credit risk. Expansion in the banking sectors that are considered high risk, will increase the credit risk and lower profits to be obtained by banks. Therefore, the relationship between credit risk and bank profit is expected to be negative (Sufian, 2011). Sufian

(2011), Alexio & Sofoklis (2009) and Alper and Ambar (2011) found an invers relationship between credit risk and profitability. The hypotheses that could be tested, based on these findings is:

Hypothesis 4: There is a negative relationship between credit risk and profitability.

One source of banking income, excluding interest income, is a non-interest income. Non-interest income consists of commission, services charges, fees, quarantee fees, net profits from sales of investment securities and foreign exchange profits. Increasing non-interest income means that the bank has diversified its activities, not just rely on its traditional activities. Theoretically, it is expected that the larger non-interest income to total assets (NII/ TA) the higher bank profits (Sufian, 2011). Alper & Anbar (2011) and Sufian (2011) reported a direct relationship between non interest income and profitability. The next hypothesis that could be tested from these findings is:

Hypothesis 5: There is a positif relationship between non interest income and profitability.

Bank profits can also be improved by using advanced technologies in communication, information and financial technologies. The use of advanced technologies will improve the efficiency of banking operations. As a result, the cost-to-income ratio (BOPO), as a proxy of operational efficiency, will decline and the impact on bank profits increase (Trujilo-Ponce, 2012). Trujilo-Ponce (2010), Zeitun (2012) and Aleksiou & Sofoklis (2009) found an inverse relationship between cost-to-income ratio and profitability. The hypothesis derived from these findings is:

Hypothesis 6: There is a negative relationship between cost-to-income ratio and profitability.

A country's economic growth reflects increased economic activity and incomes in the country. High economic growth also reflects good business prospect, including banking. Therefore, it can be expected that at a high rate of economic growth, bank profits are also high.Gur, Irshad and Zaman (2011), Trujilo-Ponce (2012) and Zeitun (2012) found a direct relationship between economic growth and profitability. Based on th4ese findings, the hypothesis that could be tested is:

Hypothesis 7: There is a positive relationship between economic growth and profitability.

Inflation is an important macro economic indicators, which can be used as an indicator of business risk. The high inflation rate indicates a high business risk. If inflation rises, Bank Indonesia will lower it by increasing the BI-rate. This increase in BI-rate is responded by commercial banks by raising interest rates of loan higher than

interest rates of deposits so that this resulted in increased bank profitability. But if inflation rises very high, as in the case of Indonesia's banking crisis of 1998, interest rate deposits and lending rates rise too high. In such conditions, more people to save rather than borrow from banks. This resulted in net interest income and bank profits declined. Sufian (2011), Gull, Irshad and Zaman (2011), Trujilo-Ponce (2012) found a direct relationship between inflation and profitability while Zeitun (2012) found an inverse relationship between inflation and profitability. Eventhough some of empirical research found a direct relationship between inflation and profitability, but theoretically and rationally the relationship between them should be negative. Therefore, the last hypothesis that should be tested in this study is:

> Hypothesis 8: There is a negative relationship between inflation and profitability.

METHODOLOGY

Data

This study uses secondary data in the form of panel data of commercial banks in Indonesia during the period 2002-2011, which obtained from published financial statements of banks in Bank Indonesia.

Empirical Model

The method of analysis used in this study is panel data regression model. In a specific form, the regression model used was:

$$ROA_{it} = \beta_0 + \beta_1 (\log TA)_{it} + \beta_2 (LOAN/TA)_{it} + \beta_3 (TE/TA)_{it} + \beta_4 (LLP/TL)_{it} + \beta_5 (NII/TA)_{it} + \beta_6 (BOPO)_{it} + \beta_7 (INF)_{it} + \beta_8 (GR)_{it} + u_{it}$$

where ROA is return on asset which calculated as net income to total asset (in percentage), log TA is logarithm of TA, LOAN/TA is loan to total assets (in percentage), TE/TA is total equity/total assets (in percentage), LLP/TL is loan loss provision to total loan (in percentage), NII/TA is non interest income/total asset (in percentage), BOPO is operational expense to operational income (in percentage), INF is inflation rate (in percentage), GR is economic gtowth (in percentage).

THE RESULT OF THE STUDY

Base on the Panel data regression model, the choiced model is Fixed Effect Regression Model. The result of this model could be seen in table 1. The variable of loan and total equity have positive effect on profitability and statistically significant at 1 percent level.

The sign of BOPO coefficient is as expected. The negative sign of BOPO means that inefficient banks, will generate a small profit. Conversely, an efficient bank will generate a huge profit.

The inflation rate has negative effect on banking profitability. The rise of inflation make business more risky and it has negative impact on profitability of bank.

Table 1. Determinant of Bank Profitability in Indonesia

Independent Variables	Coefficients	t-Statistic
Constant	3.989486	2.722524*
Log TA	-0.184289	-2.109374**
LOAN/TA	0.013275	8.727069*
TE/TA	0.015983	2.684931*
LLP/TL	0.116264	6.361660*
NII/TA	0.045577	1.068953
BOPO	-0.010374	-2.223049*
INF	-0.013140	-1.951653***
GR	0.052802	1.383156
Observation	250	
Adjusted R-squared	0.947434	
F-statistic	141.2473	

Note: *, ** and *** indicate significance at 1, 5 and 10 percent respectively.

The signs of a variable loan loss provision to total loans is not as expected. Coefficient is positive signs of this variable explained that the larger the loan loss provision to total loans, the greater the profit. The same is true bank size (assets). The sign of the coefficient is negative, which means that bank size is not important determinant of banking profits.

The economic growth and non interest income to total asset have positive effect on profitability but these variables are not significant statistically.

CONCLUSION AND POLICY IMPLICATIONS

The profitability of bank is influence by loans, total equity, inflation rate and operational efficiency. Eventhough other variables, such as bank size and creddit risk also have significant effect on profitability but its influence against the theory. The economic growth and non interest income have not significant effect statistically on profitability.

Future research need to be done in order to improve the results of this study that among other things can be done by increasing the number of observations, both the data time series and cross section. We should also try to find an appropriate measure for the size of bank, other than assets.

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