# DETERMINANTS OF BANK PROFITABILITY: THE CASE OF LISTED BANK ON INDONESIAN STOCK EXCHANGE

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## ABSTRACT

*Banks are referred to as financial institutions or companies that are authorized by the government to manage money by receiving deposits, providing loans and investments. Banks are important in gaining profits for long-term survival and bank growth. In calculating bank profitability there are various ways, namely by using ROE, ROA and NIM. The dependent variable is profitability with ROE, ROA and NIM measurement tools. Purposive sampling technique is used as a sampling method with criteria: 1) banks listed on the IDX during the observation period from 2008 to 2018, 2) banks during the observation period from 2008 to 2018 and 3) generate positive profit or profitability in a row - according to the years 2008 to 2018. The method of multiple linear regression analysis was used in this study, using the help of SPSS software version 20. Output of research shows descriptive statistics, where the maximum value is in the size variable, while the ROE variable ranks the lowest minimum, with the highest average being the size and the standard deviation.*

*Keywords: Bank Size, Capital Ratio, Loan Ratio, Assets Quality, and Bank Profitability.*

**INTRODUCTION**

Bank competition looks very tight in the current era of globalization. The banking industry has a dominant role in the financial system in Indonesia with a market share of 77.9 percent of the total assets of banking financial institutions (Bank Indonesia, 2013). This is an indication of the importance of banking as one of the economic sub-systems that support the progress of the nation. The main source for banks is profit (Gropp & Heider, 2009). If the bank's financial system runs efficiently, there will be an increase in bank profits, the amount of funds flowing from capital owners to borrowers and better bank services (Sufian & Habibullah, 2009). Therefore we need various profitability analyzes to be achieved to avoid liquidity problems and even the possibility of business bankruptcy that can be detected early. The higher the profitability of banks shows the better financial performance possessed by banks (Alhassan, 2015).

Banks are referred to as financial institutions or companies that are authorized by the government to manage money by receiving deposits, providing loans and investments (Devarajappa, 2012). Banks are business entities that collect public funds in the form of savings, time deposits and investments. The funds are then disbursed to return in various forms of consumer and productive loans (Law No. 10 of 1998). Kasmir (2012) provides an opinion that actually refers to the banking provisions. So it becomes clear that its main role in economic activities is to help the flow of funds from the owner of the fund to the borrowers or those who need funds (Bank Indonesia, 2012). Profitability as widely accepted is one of the measures of bank performance and bank capability in generating profits in a certain period (Kumbirai & Webb, 2010). Alshatti (2015) said that bank profitability can be interpreted as the ability to generate profits exceeding the costs required, in this case it depends on the capital of the bank itself.

Banks are important in gaining profits for long-term survival and bank growth (Dadkhah, 2009). In calculating bank profitability there are various ways, namely by using ROE, ROA and NIM. The dependent variable is profitability with ROE, ROA and NIM measurement tools based on research from Menicucci & Paolucci (2016). The three proxies reflect increasingly rising profitability (Athanasoglou, Brissimis, & Delis, 2008). According to Taswan (2010), return on equity is the company's ability to generate profits based on owned equity. ROE is positively related and indicates financial performance. Similar to ROE, ROA also measures the level of profit but based on assets. While net interest margin is interest income derived from productive assets held. Net interest margin (NIM) is the ratio of net interest income to total earning assets (Taswan, 2010). Menicucci & Paolucci (2016) defines bank size as the size of a bank. The size of the bank is seen from the total assets of the bank at the end of the year. In the study of Alp et al., (2010) explored antecedents of bank profitability, which turned out to be one

of the causes, the statement was also strengthened from the results of Al-Qudah & Jaradat's (2013) study which said the effect of bank size on bank profitability was seen from the total assets owned by the bank. Capital ratio is the ratio of minimum capital requirement that must be maintained by banks which is a proportion of total risk-weighted assets. Capital ratio function is the ratio of loss risk that may be faced by banks. Capital ratio is an indicator of a bank's ability to cover a decline in assets caused by losses experienced by banks (Rivai, Veithzal, & Idroes, 2007). Banks that have a sufficient capital ratio are better in making prospects in the future (Trujillo-Ponce, 2012). A high capital ratio allows banks to avoid bankruptcy (Garcia-Herrero, Gavila, & Santabarbara, 2009). Dhar & Bakshi (2015) explains that banks must be able to anticipate a worsening loan or credit ratio caused by lack of infrastructure, inadequate debt recovery regulations, accurate assessment of loan proposals and lack of initiative in bank employees who abuse the loan amount.

The greater the bank's loan ratio, the higher the bank's profitability. In particular banks usually provide loans to companies that provide information on financial statements in a transparent manner compared to companies that provide information on non-transparent financial statements (Berger & Black, 2011). According to Menicucci & Paolucci (2016) banks rely on customer deposits to allocate credit to other customers. Thus, the bank will get more funds from customer deposits used to provide credit to those who need it, so the bank can make a profit. Lee & Hsieh (2013) examined that high deposits can increase bank profitability, while low deposits can reduce bank profitability. According to Menicucci & Paolucci (2016) asset quality is used to measure the effect of bank asset quality on profitability. Asset quality can be seen from the higher total credit, which shows the low quality of loans and the high level of risk from loans in securities. Asset quality is a measure to assess the possible return of funds invested in earning assets according to criteria (Bank Indonesia, 2004).

**LITERATURE REVIEW**

According to Menicucci & Paolucci (2016) there is a positive effect of bank size on the level of profitability measured from ROE, ROA and NIM. The relationship between bank size and bank profitability has been investigated in previous studies and it is proven that the role of bank size as a determinant of bank profitability (Alp et al., 2010; Athanasoglou, Brissimis, & Delis, 2008; Syafri, 2012). Furthermore, there is a positive correlation of capital ratio and bank profitability that is measured using ROE, ROA and NIM. The higher the capital ratio, the better the profitability that the bank will get. According to Abreu & Mendes (2002), it was found that in several European countries it showed a positive impact on the capital ratio of bank profitability calculated using ROE and

ROA. Kosmidou (2008), also confirms a significant positive impact between capital ratio on bank profitability.

*H1*: Bank size has a positive effect on bank profitability.
*H2*: Capital ratio has a positive effect on bank profitability.

According to Menicucci & Paolucci (2016) there is a positive relationship between loan ratio related to bank profitability with measurements based on ROE, ROA and NIM. According to Sufian & Habibullah (2009), loan ratio has a positive effect on bank profitability using NIM measurement tools, because the higher the credit to the customer, the greater the profitability of the bank. Abreu & Mendes (2002) research found that there is a positive relationship between loan ratio and profitability because the loan ratio greatly affects the profitability of a bank which is calculated using ROA. According to Menicucci & Paolucci (2016) states that deposits have a significant positive effect on bank profitability by using ROE, ROA and NIM. According to Lee & Hsieh (2013) there is a significant relationship between deposits and profitability measured using ROE, because the higher the amount of deposits that customers keep in the bank, the bank will perform well to generate profits and vice versa if the amount of deposits is low then the bank will experience profit decline. There is empirical evidence from Naceur & Goaied (2001) that shows deposits have a positive effect on bank profitability that is calculated using ROE, because banks that perform well are seen from the higher amount of deposits that customers deposit in banks.

According to Menicucci & Paolucci (2016) asset quality has a negative effect on profitability. Because the greater the loan loss reserve means the less credit given, will automatically reduce bank profitability. According to Kosmidou (2008), found a positive relationship between asset quality and profitability using NIM measurement tools. According to Athanasoglou, Brissimis, & Delis (2008), there is a positive relationship between asset quality and profitability using NIM. Fu & Heffernan (2010) and Miller & Noulas (1997) also state the same results that there is a negative relationship between asset quality and bank profitability. So. The hypothesis in this research is as follows.

*H3*: Loan ratio has a positive effect on bank profitability
*H4*: Deposits has a positive effect on bank profitability
*H5*: Assets quality has a positive effect on bank profitability

**Research Framework**

Based on the literature review above, the research framework in this study is as follows.

*H1*: Bank size has a positive effect on bank profitability.
*H2*: Capital ratio has a positive effect on bank profitability.

*H3*: Loan ratio has a positive effect on bank profitability

*H4*: Deposits has a positive effect on bank profitability

*H5*: Assets quality has a positive effect on bank profitability
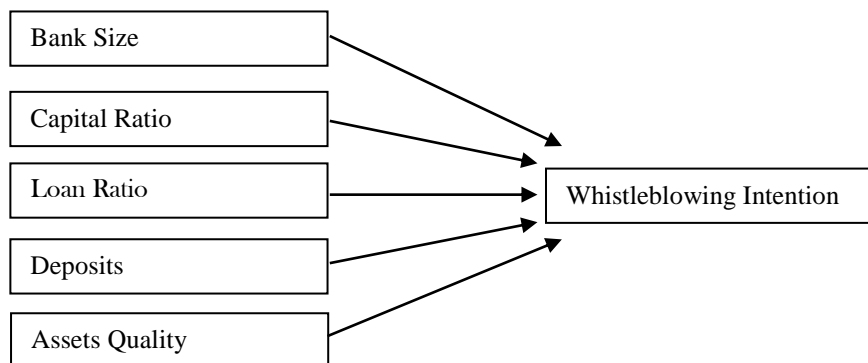


Source: Data processed, (2019)

Figure 1
Research Framework

## METHODOLOGY

This research is a hypothesis test, to see certain characteristics. Bank profitability is measured using return on equality, return on assets and net interest margin. This research is a hypothesis test (hypotheses testing) to see certain characteristics. Bank profitability is measured using return on equality, return on assets and net interest margin. Purposive sampling technique is used as a sampling method with criteria: 1) banks listed on the IDX during the observation period from 2008 to 2018, 2) banks during the observation period from 2008 to 2018 and 3) generate positive profit or profitability in a row - according to the years 2008 to 2018. The method of multiple linear regression analysis was used in this study, using the help of SPSS software version 20. The basic model is as follows:

Model 1:
$$ROE_{i,t} = \beta_0 + \beta_1\,SIZE_{,t} + \beta_2\,CAP_{,t} + \beta_3\,LOAN_{,t} + \beta_4\,DEP_{,t} + \beta_5\,LLP_{,t} + \varepsilon_{i,t}$$

Model 2:
$$ROA_{i,t} = \beta_0 + \beta_1\,SIZE_{,t} + \beta_2\,CAP_{,t} + \beta_3\,LOAN_{,t} + \beta_4\,DEP_{,t} + \beta_5\,LLP_{,t} + \varepsilon_{i,t}$$

Model 3:
$$NIM_{i,t} = \beta_0 + \beta_1\,SIZE_{,t} + \beta_2\,CAP_{,t} + \beta3\,LOAN_{,t} + \beta_4\,DEP_{,t} + \beta_5\,LLP_{,t} + \varepsilon_{i,t}$$

ROE = *Return on Equity*
ROA = *Return on Asset*
NIM = *Net Interest Margin*
SIZE = *Bank Size*
CAP = *Capital Ratio*

LOAN = *Loan Ratio*
DEP = *Deposits*
LLP = *Loan Loss Provisions*
t = Time Research Period

## RESULT

The object of research used in this study is the banks listed on the Indonesia Stock Exchange during the period 2006 to 2015. The number of samples that met the purposive sampling was obtained by 25 banks as samples for 10 years but because there were outliers the number of samples used was reduced to 20 so that it became 200 observation data. Table 1 shows the results of descriptive statistics, where the maximum value is in the size variable, while the ROE variable ranks the lowest minimum, with the highest average being the size and the standard deviation.

Table 1
Results of Multiple Regression Analysis

| Variable | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| ROA | 200 | -0.02 | 0.02 | 0.02 | 0.00 |
| ROE | 200 | -0.34 | 0.23 | 0.05 | 0.05 |
| NIM | 200 | 0.02 | 0.12 | 0.03 | 0.03 |
| SIZE | 200 | 12.63 | 14.21 | 13.21 | 0.73 |
| CAP | 200 | 0.02 | 0.23 | 0.21 | 0.06 |
| LOAN | 200 | 0.31 | 0.82 | 0.65 | 0.12 |
| DEP | 200 | 0.46 | 0.95 | 0.73 | 0.07 |
| LLP | 200 | 0.00 | 0.26 | 0.01 | 0.05 |

Source: Data processed, 2019

The results of the first hypothesis of bank size on bank profitability for both the ROA, ROE, and NIM models have a p-value of less than 0.05 with a regression coefficient of 0.006; 0.062 and 0.006 so that bank size has a positive effect on ROA, ROE, and NIM. In line with the results of previous studies. The second hypothesis is the effect of capital ratio on bank profitability for the ROA, ROE, and NIM models has a p-value of less than 0.05 with a regression coefficient of 0.091 each; 0.317; and 0.121 so that the capital ratio is proven to have an effect on profitability, hereby reinforcing the results of previous studies conducted. Then the third hypothesis, the effect of loan ratio on bank profitability for the model of ROA, ROE, and NIM has a p-value of less than 0.05 which has a regression coefficient of 0.015; .189; and 0.017 so that the loan ratio is proven as an antecedent of profitability. As some previous literature that the loan ratio affects profitability. In the fourth hypothesis, there is a slight difference where the p-value deposits are greater than 0.05 against ROA and NIM, but have a p-value less than 0.05 against ROE, so it can be concluded that only deposits are able to influence profitability. As for the previous studies which produced the same

conclusion that deposits affect ROE. Finally, the fifth hypothesis shows that the p-value of asset quality is more than 0.05 with respect to ROA and ROE, but contrary to NIM, where the p-value is less than 0.05, so asset quality has a positive effect on NIM. Much literature states the same thing that NIM is apparently influenced by asset quality.

## CONCLUSION

Some conclusions from the results of this study are 1) bank size, capital ratio, and loan ratio have a positive and significant effect on bank profitability (ROE, ROA, and NIM), 2) deposits have no effect on ROA and NIM, but have a positive effect and significant to ROE, 3) asset quality has no effect on ROE and ROA, but has a positive and significant effect on bank profitability (NIM). The limitation in this study is to use three types of profitability measurements to see the difference, it turns out that the three measurements are interrelated, but it only focuses on conventional bank research objects. Suggestions for further research are adding management efficiency as the main determinant of profitability (Hendrawan & Lestasi, 2016).

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