



Lending Behavior of Indonesian Banks

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The main banking activity is taking deposits from the surplus unit and lends it to deficit units, or in other words banks will act as financial intermediaries. In lending activities banks deal with credit risks. Thus, the objective of this paper was to examine the determinants of lending behavior in Indonesian banks. This paper used lagged loans, deposits, capital, non-performing loans, and bank size as determinant variables on lending behavior of Indonesian banks. The data were taken from financial performance of 30 Indonesian banks listed on the Indonesia Stock Exchange from the year of 2011, 2012 and 2013. The model developed in this research was an ordinary least squares method using SPSS software. The result proved that there is no empirical evidence shows that lending behavior of Indonesian banks is influenced by the amount of deposits, non-performing loans, and bank size. Whereas, there is significant evidence shows that lagged loans and capital do influence the lending behavior of Indonesian banks. This indicates that Indonesian banks are making the decision of lending activities based on the previous loans and capital owned by the banks. Capital could be used by the banks to cover the unavoidable losses, therefore it affects the decision making by the Indonesian banks in regards to the lending activities.

Keywords: Bank Lending, Indonesian Banks, Capital, Deposits, Non-Performing Loans.

1. INTRODUCTION

Banks are different compared to other industries because the main activities in banks are saving and lending. Basically, banks receive money from the depositors and loaning it to the borrowers. Banks guarantee the depositors' money from the risks.¹¹ The role of the government is to assure the depositors by setting bank regulation and monitoring the banks' activities. Due to the importance of banks' activities, there are many researches regarding the lending behavior in many countries such as Asian countries,^{8,9,15,18} United States,¹⁸ and Nigeria.¹²

Lending behavior is different among countries, it is usually based on the monetary policy and economic growth in that particular country. Monetary policy tools include the interest rate, capital requirements, and reserve requirements.⁸ The monetary policy does give impact on the economic activities and it can affect the financial condition of the borrowers thus indirectly affect the bank activities.

The policy regarding the capital requirements is made to handle the bank risks. The banks are suggested to have higher capital than the minimum capital requirements to absorb the risk of banks' activities.¹³

Reference [15] stated that commercial banks' lending behavior might affect the monetary policy in developing countries. Many companies in the developing countries are small and medium enterprises and usually are lacking with their financial reports. Indonesia is one of the developing countries and many of micro,

small and medium enterprises use loans as their capital. Therefore, it might increase the risk of the banks, thus, the banks should be careful in decision making regarding their funding to the borrowers. The focus of this paper is to examine the internal factors that affect the lending behavior of Indonesian banks listed on Indonesia Stock Exchange for the year 2011, 2012 and 2013.

This paper is organized as follows: Section 2 overview of Indonesian Banks. Section 3 describes the theoretical model. Section 4 explains the result and discussion. Finally, in Section 5 provide the conclusion.

2. OVERVIEW OF INDONESIAN BANKS

Banks activities from year to year are more complex and potentially have a higher risk. The increased risk should be accompanied by the increased capital to cover the unavoidable risk. Due to the importance of capital in the business sustainability, thus the banks require to have minimum capital set by the government.² The government also sets the legal lending limit to the borrowers based on the banks' capital. Besides the capital, assets are also important to manage the credit risk. Banks are required to watch over their assets' quality. The total assets of banks show the banks' size. The different size of banks tends to give the different loans.

The recent paper by Ref. [15] studied the lending behavior in Vietnamese banks. They used two stages of least squares in their model to determine the lending behavior. They examined two types of banks; private banks and state-owned banks.

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Reference [15] assumed in their paper that loans given to the customers are decided by the banks' decision. The model used in the paper was the profit maximization as a means of commercial banks. Thus, the determinant used in their paper was asset structure, loan quantity, and deposit quantity and government bonds.

Reference [15] found that the deposit growth, equity growth, liquidity constraint, government bond rate and output growth affect the growth of loans. Furthermore,⁶ examine the effect of capital ratio to the bank lending over the period 2001 to 2011 using a matching method. Their finding shows that the higher the actual capital will make the growth of loan stronger. They also found there is a relationship between bank size and loan type to banks' capital and bank lending. Reference [16] found that in Indonesia, small banks are more interested than larger banks in giving loans to the small enterprises.

Based on the data of Statistic Indonesia, Indonesia has 4 state owned banks, 24 regional government banks, 57 private national banks, 11 sharia commercial banks, and 23 foreign and joint banks for the year 2011, 2012, and 2013.¹⁹ The development of bank funds by the type of fund are always increasing from year to year, however there is decreasing of the increasing percentage. The year 2011 increased by 18.72% from the year before and 2012 shows it increased by 15.61% and in 2013 it increased by 13.11% and followed by the year 2014 that showed the increase of bank fund development as much as 12.17%.

Indonesian banks have challenges to face the instability of economic conditions and the pressure of domestic economy. Data from Statistic Indonesia shows the economic growth obtained in 2011 was 6.5%, 6.23% (2012) and 5.58% (2013). The growth of economy in Indonesia helps to stimulate the banks' performance and other financial institutions. The banks' performance does not only face the external factor such as economic growth, but also the internal factors such as governance, risk management, capital, funding of MSMEs and productive sectors, the bank's services and the stability of financial systems. In 2011, Indonesian governments are legalizing the Act No. 22/2011 regarding the transition of functions, duties and powers include regulation and supervision of financial services of banks from Bank Indonesia to Financial Services Authority. Besides the economic growth, the lending growth in Indonesian banks in 2012 experienced the lower growth compare to lending growth in 2011. This is due to the decreasing of lending for consumption sectors and declining on domestic corporate performance.³ The productive credit and working capital lending lead the lending growth in the year 2012, while consumption credit and investment credit tend to decrease.

3. THEORETICAL MODEL

The source of data of this paper was taken from the annual report of Indonesian banks listed on Indonesia Stock Exchange for the year 2011, 2012 and 2013. There were 30 Indonesian banks used as sample for this paper. The model developed in this paper was based on ordinary least squares (OLS). All the data were processed by using multiple linear analyses using SPSS Software. The data collected were the amount of loans, deposits, capital, NPL, and total assets. This paper assumed that the lending activities were decided from the banks. Thus, the dependent variable in this paper is the total loans (LOANS) while the independent variables are lagged loans ($LOANS_{t-1}$), deposits (DEPOSIT), non-performing loans (NPL), bank size (TA), and capital (CAP).

Table I. Total of banks outstanding investment credits and working capital by economic sectors during 2011 to 2013 (in billion rupiahs).

Sectors	Year		
	2011	2012	2013
Investment credits	1075108,96	1325357,05	1344383,41
Working capital	463307,45	591073,27	639899,45

The objective of this paper was to examine the lending behavior of Indonesian banks by detecting the effect of lagged loans on current year loans given to the borrowers. Besides that, this paper included the total deposits. The total deposits used in this paper covered the demand deposits, time deposits, also saving and other deposits. The relationship between deposits and lending has been examined by Ref. [5]. Reference [5] found the evidence that banks profoundly funded by core deposits in response to exogenous changes in credit risk tend to provide borrowers with smoother loan rates. Banks have to hold the minimum capital amount to maintain their banks. Capital ratio could be used to show the banks' ability to absorb the unexpected losses like the default loans. It is expected the higher the capital ratio, the higher the loans given to the borrowers. Furthermore, non-performing loans show the inability of the customers to pay their debt to the banks, in other word non-performing loans show the banks' risk. Non-performing loans will lead to the bad debt and become a burden for the banks. Thus, the higher the loans given to the borrowers the higher the risk will be faced by banks. When the non-performing loans of the banks is higher, banks will tend to change the credit policy. Bank size shows the bank's assets. The different bank size usually tends to give the different amount of loans to the borrowers.

Based on the above discussion, the general model of ordinary least squares that this paper provides could be shown as follows:

$$LOANS = \alpha + \beta_1 LOANS_{t-1} + \beta_2 DEPOSITS_{t-1} + \beta_3 NPL_{t-1} + \beta_4 TA_{t-1} + \beta_5 CAP_{t-1} + \varepsilon$$

All the data of variable used in this paper are lagged variables because this paper would like to see the total loans based on the data lagged independent variables.

4. RESULTS AND DISCUSSION

In the first part, this paper presented the result of the process of the classical assumption test to check if the data from all variables were fit as a research data. The classical assumption taken in this paper was multicollinearity, autocorrelation, heteroscedasticity, and normality. Table II below shows the result of autocorrelation.

The result of autocorrelation tests showed that all data of variables were fit as a research data, proven by the value of Durbin Watson. There were no autocorrelation problems as the value was $d_u < d < 4 - d_u$ ($1,598 < 1,930 < 2,402$).²¹ The result of collinearity test showed that all the variables value of tolerance

Table II. Test of autocorrelation.

Model	R	R square	Adjusted R square	Durbin watson
1	0.997	0.995	0.994	1.930

Table III. ANOVA.

Model	F	Sig.
Regression	19999.856	0.0001

were more than 0.1 and VIF were less than 10, it means there were no multicollinearity problems. Furthermore, the result of heteroscedasticity and normality showed that all the data of variables were normal and homoscedasticity. Thus, all the data could be used as a research data and could be done the multiple linear regressions. Tables III and IV below show the output of multiple regression linear.

From Table III, it could be interpreted that $LOANS_{t-1}$ and CAP had positively effect on the LOANS. As expected the result showed that the lending given to the borrowers in the current year was affected by previous total lending and previous capital. Meantime, $DEPOSITS_{t-1}$, NPL_{t-1} and TA_{t-1} did not affect the LOANS. The result succeeded in proving that lagged loans affected the bank lending activities. The higher the previous loan, the higher the current loans will be. It means the banks consider the last year financial position or performance in decision making. Moreover, the condition of Indonesian banks seemed to be stable in the instability economy. The capital was also proven significantly affect the bank lending. It showed that the higher the capital owned by banks the higher lending given to the borrowers by banks. Banks with higher capital than the capital requirements by the government tend to give a higher lending as stated in Ref. [14] that found the same result of banking in Ghana and in line with Ref. [13] that there is relationship between capital and bank lending. The lacking of banks' capital will affect the lending decision of banks because it will cause the obstacle for the banks liquidity. This evidence did not agree with previous result showed that the insignificant relationship between capital and bank lending among others.^{1,17} Furthermore, there is research by Ref. [11] found the relationship between capital and risk in Islamic bank while there is no relationship in conventional bank of Bangladesh.

The insignificant of deposits to the bank lending did not support the result of previous research by Ref. [15] found that the deposits have a significant and positive effect on loan growth. Banks as intermediaries between surplus unit and deficit unit basically gave the loans from deposits. However, this paper could not give the evidence that deposits affect the bank lending of Indonesian banks. It might the banks focus on their capital when give the loans to the borrowers as can be seen that capital do affect the bank lending. The Indonesian banks are confident that their capital is enough to cover the credit risk. Besides that, non-performing loans also showed the insignificant effect on bank lending. The result of non-performing loans was in line with previous research in Vietnamese banks that is did not significantly effect on loan growth. Indonesian banks seemed not to be depended on non-performing loans in giving the loans or in

Table IV. The statistic result.

Model	Sig.
NPL	0.192
LnDEPOSIT	0.537
LnCAP	0.033
LnTA	0.121
LnLOANS _{t-1}	0.000

other word the amount of loans would not change although there was changing the level of non-performing loans. It might because the Indonesian banks have been applied the tight policy to the borrowers, thus the amount of default loans can be suppressed. Banks have been assessed the prospective borrowers regarding their ability to pay their debt. Moreover, for the total assets the result of this paper also do not support the previous research that found the large banks tend to give loans to the larger companies and less effective to lighten the obstacle of loans^{1,4,7,20} found there are differences banks activity among smaller regional banks and larger city banks in three different periods that is the high growth economy, stagnant growth and economic recession. For the case in Indonesian banks in this paper do not find the evidence that bank size significantly effect on bank lending. It might the data of an Indonesian bank used as in this study tend to have the same range of total assets during the years of research. Besides that, there is no different economic situation includes in this paper. Nevertheless, this result in line with Ref. [17].

5. CONCLUSIONS

This paper develops the model of lending behavior in Indonesian banks with the financial variables (internal factors) as a determining variable. The bank lending activities as dependent variable can be seen from the total loans and as independent variables are financial variables among others deposits, non-performing loans, total assets and capital. The empirical test has been done using the multiple linear regression model of SPSS software. The Indonesian banks cover in this paper are included the state owned banks, private national banks and foreign and joint banks. The result proves that the lagged loans and capital do affect the bank lending whereas the other variables such as deposit, non-performing loans, and bank size are insignificantly affected the Indonesian bank lending activities. The bank lending does not depend on the total deposits, non-performing loans and bank size as the banks already applied the tight policy during evaluate the prospective borrowers. The supervision of the Indonesian government also helps the banks to be confident in taking care of the depositor's money and sustainability of the banks. Moreover the lagged loans and capital are positive and significantly affect the bank lending. It means the higher the last year loans, the higher the loans in the current year. It happens because of the support of the total capital owned by banks. The banks that have the capital higher than the minimum capital requirement set by the government tend to give the higher loans to the borrowers.

This study has been conducted while banks are under supervision of Bank Indonesia, and starting 31 December 2013 banks are under the supervision of the Financial Services Authority. Besides that, this paper focuses on internal factors in determining the lending behavior. In the further research it is suggested to include the external factors such as the gross domestic product and monetary policy related to lending behavior of Indonesian banks.

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