THE IMPACT OF ABILITY TO CHANNEL FUNDS AND NON-PERFORMING LOAN ON PROFITABILITY OF LISTED BANKS ON INDONESIA STOCK EXCHANGE

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ABSTRACT
Banks are established to distribute funds to society that needs them. By doing it effectively, banks are expected to be able to generate the amount of profits. This funding activity, indeed, has its risk. The risk intended is uncollectible funds from borrowers. This study intends to test and analyze the impact of ability of bank to channel funds and non-performing loans on bank profitability. Population used in this study comes from listed banks on Indonesia Stock Exchange. Banks as sample are taken from population by using simple random sampling method. Regression model with pooled data is utilized as data analysis method. Based on the test result of proposed hypotheses, this study concludes that ability to channel funds has a positive impact on bank profitability. On the other hand, non-performing loan has a negative impact on bank profitability.
Keywords: bank funding ability, profitability, non-performing loan.

I. INTRODUCTION

Banking is one of suspensions strengthening economy of a country. It is due to the function as the institution that is able to distribute funds from surplus units to deficit units (Dendawijaya, 2009). Funds obtained from surplus unit must be deposits and funds distributed to deficit unit must be loan (Astuty & Asri, 2014). Hence, banks must be receiving net interest income from these two activities (Munawir, 2002).

Trade-off between liquidity and profitability is mandatory for bank management to be noticed (Munawir, 2002). It is because low liquidity will lead to high ability for bank to distribute funds (Umam, 2013) so that profitability will increase (see study of Purnamawati, 2014; Widjaja, 2014; Vinh, 2017; Santoso, Samosir, & Suparningsih, 2018).

The studies attempting to test the ability of bank to distribute funds on profitability have already done. However, no consensus about the results has happened. For examples, the study of Purwoko & Sudiyatno (2013), Hayati & Musdholifah (2014), Bernardin (2016), Septiani & Lestari (2016), Akter & Roy (2017) shows profitability is not affected by bank capability of distributing fundss. On the other instances, there are several studies showing that profitability is both positively affected (Purnamawati, 2014; Widjaja, 2014; Vinh, 2017; Santoso, Samosir, & Suparningsih, 2018) and negatively affected by this capability (Santoso, 2016; Sudarmawanti, & Pramono, 2017; Kingu, Macha & Gwahula, 2018).

Besides this capability, bank profitability is also influenced by non-performing loan (NPL) and based on the previous studies, the existence of this influence has not been consistent. This evidence can be seen from insignificant impact of NPL on profitability (Hayati & Musdholifah, 2014; Santoso, 2016; Septiani & Lestari, 2016) and a negative impact of NPL on profitability (see Agustami & Wirekso, 2013; Purwoko & Sudiyatno 2013; Lata, 2015; Ozurumba, 2016; Islam, Sarker, Rahman, Sultana, & Prodhan, 2017; Sudarmawanti, & Pramono, 2017; Vinh, 2017; Kingu, et al., 2018; Nyarko-Baasi, 2018).

Based on this inconsistency of several studies mentioned above about these two impacts on profitability of bank, this study is conducted. Therefore, the purpose of this study is to test and analyze the impact of bank ability to channel funds and non-performing loan on profitability. The next sections are arranged as follows. Section two presents theoretical framework and hypotheses development. Section three and four respectively give information about research method, results and discussion. The final section displays conclusion and recommendations.

II. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

2.1. The Impact of Bank Ability to Channel Funds on Profitability

Channeling credit is the intermediary function of bank and this function is measured by loan to deposits ratio (LDR) (Buchory, 2014). The higher LDR, the more effective bank to channel its credits, and the higher profits bank get. This argument is confirmed by the study of Purnamawati (2014), Widjaja (2014), Vinh (2017), Santoso et al. (2018) showing that LDR has a positive impact on bank profitability. Based on this information, the first hypothesis can be stated as follows.
H_1: Bank ability to channel funds has a positive impact on its profitability.

2.2. The Impact of Non-Performing Loan on Profitability

Non-performing loan is a credit having less, doubtful and bad category. If this loan is not performed, interest income of bank will decrease and ability of bank to gain profit will also drop (Purwoko & Sudiyatno, 2013). This argument is confirmed by the study of Agustami & Wirekso (2013), Purwoko & Sudiyatno (2013), Lata (2015), Ozurumba (2016), Sudarmawanti & Pramono (2017), Islam et al. (2017), Vinh (2017), Kingu et al. (2018), as well as Nyarko-Baasi (2018) giving evidence that non-performing loan has a negative impact on bank profitability. Based on this information, the second hypothesis can be stated as follows.
H_2: Non-performing loan has a negative impact on bank profitability.

III. RESEARCH METHOD

This section gives information about three things. The first thing is population and sample. The second one is definition of variable operationalization. The third one is method of data analysis.

3.1. Population and Sample

Population in this study is from the banks listed on Indonesia Stock Exchange from 2013 to 2016. Regarding the number of the banks differs for each year; sampling frame is needed before picking up the banks as the sample. To accommodate this condition, the banks as sampling frame are determined by their consistency to be available for every year. Based on this rule, 34 banks are obtained as the number of sampling frame. Moreover, these banks are given the sequential number started from 1 to 34.

To compute the number of the banks representing the number of the population, Slovin formula with 10% margin of error (e) is used. This formula refers to Suliyanto (2009) and can be seen in the equation one as follows.

$$n = \frac{N}{1+Ne^2} \quad \text{.......} \quad (1)$$

By using this formula, the number of the banks as the sample is $\frac{34}{1+34(0,10)(0,10)} = 25{,}37 \approx 25$ (rounded). Furthermore, 25 banks are taken from the sampling frame by using *simple random sampling*. The name of the banks as sample can be seen in Table 1.

Tabel 1. The Name of The Bank as Research Sample

No.	Code	The name of the bank
1.	AGRO	PT. Bank Rakyat Indonesia Agroniaga Tbk
2.	BABP	PT. Bank MNC Internasional Tbk
3.	BACA	PT. Bank Capital Indonesia Tbk
4.	BBCA	PT. Bank Central Asia Tbk
5.	BBKP	PT. Bank Bukopin Tbk
6.	BBMD	PT. Bank Mestika Dharma Tbk
7.	BBNP	PT. Bank Nusantara Parahyangan Tbk
8.	BBRI	PT. Bank Rakyat Indonesia (Persero) Tbk
9	BBTN	PT. Bank Tabungan Negara (Persero) Tbk
10.	BDMN	PT. Bank Danamon Indonesia Tbk
11.	BMAS	PT. Bank Maspion Indonesia
12.	BMRI	Bank Mandiri (Persero) Tbk
13.	BNBA	PT. Bank Bumi Arta Tbk
14.	BNGA	PT. Bank CIMB Niaga Tbk
15.	BNII	PT. Bank Maybank Indonesia Tbk
16.	BSIM	PT Bank Sinarmas Tbk
17.	BTPN	PT. Bank Tabungan Pensiunan Nasional Tbk
18.	BVI C	PT. Bank Victoria International Tbk
19.	INPC	PT. Bank Artha Graha Internasional Tbk
20.	MAYA	PT. Bank Mayapada Internasional Tbk
21.	MCOR	PT. Bank China Construction Bank Indonesia Tbk
22.	MEGA	PT. Bank Mega Tbk
23.	NAGA	PT. Bank Mitraniaga Tbk
24.	PNBN	PT. Bank Pan Indonesia Tbk
25.	SDRA	PT. Bank Woori Saudara Indonesia 1906 Tbk

Source: Reprocessed IDX Fact Book 2014-2017

3.2. Definition of Variable Operationalization

The variable utilized in this study consists of independent and dependent variable. Ability of bank to channel funds and non-performing loan are independent variable. Profitability acts as dependent variable.

- Ability of bank to channel funds is measured by loan to deposits ratio (LDR) at the end of the year.
- Non-performing loan is measured by dividing the amount of less, doubtful and bad credit quality by the amount of credit at the end of the year (NPL).
- Profitability is measured by return on assets at the end of the year. (ROA).

3.3. Method of Data Analysis

Regression model with pooling data is method of data analysis used in this study. This regression also estimates the coefficients of regression by using ordinary least square. In addition, the regression model can be written in equation two as follows.

$$ROA_{it} = \beta_0 + \beta_1 LDR_{it} + \beta_2 NPL_{it} + \varepsilon_{1it} \text{...} \quad (2)$$

As a consequence of use of ordinary least square as the method of estimation to obtain the estimators that are best, linier, and not bias, regression model must reach all classical assumption tests such as multicollinearity, heteroskedasticity, normality, and autocorrelation test (Ghozali, 2016).

IV. RESULTS AND DISCUSSION

This section presents classical assumption tests, model estimation, hypothesis test result, discussion, and managerial implication.

4.1. The result of classical assumption tests

The presence of multicolinearity is detected by using Pearson coefficient corellation test. The result of this test can be seen in Table 2. In this table, Pearson correlation coefficient value between LDR and NPL is -0.014 with its sig. (2-tailed) value of 0.888. Because this value is larger than 5% significance level, multicollinierity does not exist. The absence of multicollinierity supports required test result of classical assumption in regression model.

Table 2. The Result of Peason Correlation Test

		LDR	NPL
LDR	*Pearson Correlation*	1	-0.014
	Sig. (2-tailed)		0.888
	N	100	100
NPL	*Pearson Correlation*	-0.014	1
	Sig. (2-tailed)	0.888	
	N	100	100

Source: Modified Output of IBM SPSS 19

The presence of heteroskedasticity is detected by using White test. The result of this test can be seen in Table 3. In this table, probability value of t-statistic of regression coefficient of LDR^2 is 0.5194 and NPL^2 is 0.1489. Because these two values are larger than 5% significance level, LDR^2 and NPL^2 have no impact on squared residual. It means heteroskedasticity does not occur. The absence of heteroskedasticity supports required test result of classical assumption in regression model.

Table 3. The Result of White Test

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 09/09/18 Time: 22:02
Sample: 1 24 29 40 45 48 65 84 89 92 97 116 117 124 133 140
Included observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000110	6.27E-05	1.752674	0.0828
LDR^2	4.92E-05	7.60E-05	0.646696	0.5194
NPL^2	-0.060552	0.041621	-1.454851	0.1489

Source: Modified Output of Eviews 6

The presence of normality is detected by using one-sample Kolmogorov-Smirnov test on residual value. The result of this test can be seen in Table 4. In this table, sig.(2-tailed) value of Z-statistic is 0.405. Because this value is larger than 5% significance level, residual folows normality distribution. The existence of normality supports required test result of classical assumption in regression model.

Table 4. The Result of Kolmogorov-Smirnov Test

		Unstandardized Residual
N		100
Normal Parameters[a,b]	Mean	0.0000000
	Std. Deviation	0.01114548
Most Extreme Differences	Absolute	0.089
	Positive	0.089
	Negative	-0.057
Kolmogorov-Smirnov Z		0.891
Asymp. Sig. (2-tailed)		0.405

a. Test distribution is Normal.
b. Calculated from data.
Source: Output of IBM SPSS 19

The presence of autocorrelation is detected by using test of runs based on mode of residuals. The result of this test can be seen in Table 5. In this table, sig. (2-tailed) value of Z-statistic is 0.886. Because this value is larger than 5% significance level, residuals are not correlated themselves. It means autocorrelation does not happen. The absence of autocorrelation supports required test result of classical assumption in regression model.

Table 5. The Test Result of Runs

	Unstandardized Residual
Test Value[a]	0.03402[b]
Cases < Test Value	99
Cases >= Test Value	1
Total Cases	100
Number of Runs	3
Z	0.143
Asymp. Sig. (2-tailed)	0.886

a. Mode
b. There are multiple modes. The mode with the largest data value is used.
Source: Modified Output of IBM SPSS 19

4.2. The Result of Regression Model Estimation

After achieving all tests related to classical assumptions, the next step is estimating regression model. Furthermore, the result of estimating regression model can be seen in Table 6.

Table 6. The Result Of Regression Model Estimation: The Impact Of Ability to Channel Funds and Non-Performing Loan On Profitability of Bank

Dependent Variable: ROA
Method: Least Squares
Date: 09/09/18 Time: 23:30
Sample: 1 100
Included observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.002078	0.007078	0.293595	0.7697
LDR	0.027924	0.007950	3.512271	0.0007
NPL	-0.472152	0.103157	-4.577013	0.0000

Source: Modified Output of Eviews 6

4.3. The Test Result of Hypotheses

Table 6 presents the probability value of t-statistic for LDR and NPL regression coefficient to test the presence of impact of LDR and NPL on ROA. Moreover, this value is compare with significance level of 5% to test it. If this value is higher than or the same as 5%, null hypothesis is accepted and is lower than 5% and if this value is lower than 5%, null hypothesis is rejected.

In this table, probability value of t-statistics for LDR is 0.0007 and for NPL is 0.0000. Because these two values are larger than 5% significance level, two null hypotheses related to each hypothesis are rejected. Instead, all two alternative hypotheses are accepted. It means that ability of bank to channel fund has a positive impact on bank profitability and non-performing loan has a negative impact on bank profitability.

4.4. Discussion

The test result of the first hypothesis displays that ability of bank to channel funds has a positive impact on bank profitability. This result indicates more effective bank executes its intermediary function, the more profit bank gets. Therefore, this study verify the study of Purnamawati (2014), Widjaja (2014), Vinh (2017), and Santoso, *et al.* (2018) showing that profitability is positively affected by ability of bank to channel funds.

The test result of the second hypothesis displays non-performing loan has a negative impact on bank profitability. This result indicates the existence of non-performing loan goes up the amount of uncollectible loan. If this amount is realized, ability of bank to gain profits goes down. Therefore, this study verify the study of Agustami & Wirekso (2013), Purwoko & Sudiyatno (2013), Lata (2015), Ozurumba (2016), Sudarmawanti & Pramono (2017), Islam *et al*. (2017), Vinh (2017), Kingu *et al*. (2018), and Nyarko-Baasi (2018) showing that profitability is negatively affected by non-performing loan.

4.5. Managerial Implication

In banking industry, the largest risk for borrowers caused by credit issue is the decrease of borrower reputation to pay funds on punctual payment system set by central bank of Indonesia. Therefore, borrowers need to own good intention by explaining their financial condition when their payment is not executed to their bank on time. Regarding this condition, the banks are suggested rescheduling the payment of its borrowers for them. By doing it, banks will get guarantee to get payment from borrowes so that they can decrease non-performing loan and increase the ability to gain profits.

V. CONCLUSION AND RECOMMENDATIONS

The purpose of this study is to test and analyze two determinant factors of bank profitability: ability to channel funds and non-performing loan. Based on statistical test, this study concludes that ability of bank to channel funds has a positive impact on profitabilty but non-performing loan has a negative impact on profitability.

Based on this study results, some theoretical recommendations that can be delivered are as follows.

1. Regarding only two determinant factors used, this study recommends the next researchers for using some independent variables that are not in the model of this study such as bank size and operating expense ratio as the internal determinant factors and inflation and economic growth as the external determinant factors.
2. This study only uses four years as time of observation and listed bank on Indonesia Stock Exchange. Based on two limitations, next researcher are suggested extending the time period into 10 years and combining listed and unlisted banks on Indonesia Stock Exchange. Moreover, the moderating effect of this status of listed and unlisted bank can be tested so that the development of theory related to this topic can be immediately appeared.

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