Bank Risk

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Bank Risk and Banking Financial Performance in Indonesia

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Abstract--- This study aims to review and obtain empirical evidence of banking risk (NPL and LDR) and financial performance (ROA) that affect the firm value (PBV) in Banking companies listed on the Indonesia Stock Exchange so do that as the population on this study especially in 2017. The sampling technique used is a saturated sample of 42 banking companies. Methods of data analysis using multiple linear regression and multiple tests. The results of the analysis show an R2 of 72.6% with a significance value of 0,000 less than 0.05. Then the NPL, LDR and ROA variables simultaneously have a significant effect on PBV. The partial test results show that the Non Performing Loan (NPL) and Loan to Deposit Ratio (LDR) negatively significant effects on profitability (ROA) and firm value (PBV), while the Profitability (ROA) variable has positively significant effects on the firm value (ROA) PBV). ROA capable to mediate the effect on NPL on PBV was shown by shown by sobel test. This study's result shown that ROA information gives a good signal and good news for the owner and an investor so that it will provide prosperity to the owner in the form of an enhance in firm value.

Keywords--- Credit Risk, Liquidity Risk, Financial Performance, Firm Value.

I. Introduction

Increasing the firm value and prosperity of stakeholders and owners is the main goal of the company. Company's stock prices is one of the several aspects can measured firm value (Sukcharoensin, 2013). It is happened because the company's stock price reflects the investor's assessment of total equity owned. Increasing the firm value is an accomplishment, which is in conformity with owners's pleasure, because with increasing firm value, the welfare of the owners will also increase (Purwohandoko, 2017). Capital market in Indonesia which is "a party that organizes and provides and or a means to bring together the sale and purchase offers of other parties with the aim of trading securities between them" named The Indonesia Stock Exchange (IDX) (Capital Market Law No. 8 Year 1995 about IDX). Bank is a financial sub-sector contained on the IDX. The banking Industry has an important role for Financial System Stability with 80% mastery of the financial system in Indonesia (Bank. Indonesia: Financial Stability Review, 2016: 8), this has made the condition of the banking industry as the main focus in the Indonesian Financial System Stability. Banking attracts investors to make investments, because its performance effective and efficiently from time to time being a country's financial stability index. Tandelilin (2015: 378) states from the perspective of investors, one important indicator to assess the company's prospects in the time to come is to see the expansion of the company's profitability growth. Brigham and Houston (2013: 24) define company profitability is the company's potency to get profits from investments that are invested in a certain period of time. Investors will have positive respond if company has high profitability and automatically the firm value will increase (Sujono, 2007). Hofstrand (2009: 39) argues that profitability is a goal to be achieved by the company, without profitability the company will not survive in the long run and ultimately affect the firm value. Profitability has an impact on risk taking behavior carried out by banks. The Banking industry is an industry that is prerequisite with risk, mainly because it requires public's management money and is played in the form of various investments, such as granting loans, purchasing securities and investing other funds (Brigham and Daves, 2016: 47). The most dominant risk influences Bank resilience, namely credit risk and liquidity risk (Bank Indonesia, 2015: 98).

Credit risk has an important role in bank's profitability because the decline in bank income arises from the interest loans obtained (Badawi, 2017). Every loan given by a bank experiences a bottleneck in its payment, which will reduce the Bank's profit and equity, which in turn can cause bank failure if the bank cannot pay off its obligations. The decline in bank's performance will have an impact on the poor perception of investors because of the declining bank's image. If the value of NPL is higher means the the value of the bank will turn down. (Sigid, 2014). Risks that affect bank resilience other than credit risk are liquidity risk. That's caused by the bank can not pay its short-term obligations, so that the company's activities will be disrupted (Rustam, 2017: 19). The greater LDR indicates that bank;s profitability will decrease so that the company's activities will be disrupted. The high

value of liquidity risk causes a reduction in funds available to companies to pay dividends, finance operations and investments, so that investor perceptions of company performance will decrease (Iqbal, 2015). The stock price is expected to decline followed by a decrease in price to book value (PBV).

II. Research Methods

This research is a quantitative study, which departs from the positivistic paradigm, which considers that all events take place in a causal relationship, where the cause occurs earlier than the effect. The data of this research is deductive in nature, namely testing data and general theories through testing of the hypotheses submitted. This study also identifies and integrates the effect NPL and LDR on PBV with ROA as a mediating variable .Exogenous variables in this study are credit risk and liquidity risk, firm value as endogenous variables, and profitability as mediating variables. Quantitative data is used in this study, which is in the form of numbers and uses secondary data sources.

The data source is in the form of annual financial statements of companies listed on the Indonesia Stock Exchange and Indonesian Capital Market Directory (ICMD) that can be find in online website www.idx.co.id.All banking companies listed on the Indonesia Stock Exchange in 2017 about 42 companies being a ppopulation in this research. The sampling technique used saturation sampling technique, which is all members are used as samples. The non-participant observation was being collecting data method in this research, which is collected by observation or observation where the researcher is not involved directly (Sugiyono, 2015: 204). Multiple linear regression as the data analysis technique that determine the direct effect of each variable and the sobel test to determine the indirect effect.The following is a list of the names of the banking companies that were sampled in this study:

Table 1. List of Banking Companies Research Samples

No	Company Name
1	BRI Agro Niaga
2	B. Agri
3	B. Artos Indonesia
4	B. MNC Internasional
5	B. Capital Indonesia
6	BCA
7	B. Harda Internasional
8	B. Bukopin
9	B. Mestika Dharma
10	BNI
11	BRI
12	BTN
13	B. Yudha Bhakti
14	B. J Trust Indonesia
15	B. Danamon Indonesia
16	BPD Banten
17	B. Ganesha
18	B. Ina Perdana
19	B. Jabar Banten
20	BPD Jawa Timur
21	B. QNB Indonesia
22	B. Maspion Indonesia
23	B. Mandiri
24	B. Bumi Arta
25	B. CIMB Niaga
26	B. Maybank Indonesia
27	B. Permata
28	B. Sinar Mas
29	B. India Indonesia
30	BTPN
31	B. Victoria Internasional
32	B. Dinar Indonesia
33	B. Artha Graha International
34	B. Mayapada International
35	B. China Construction
36	B. Mega
37	B. Mitraniaga
38	OCBC NISP
39	B. Nationalnobu
40	B. Pan Indonesia
41	B. Panin Syariah
42	B. Woori Saudara Indonesia 1906

III. Results and Discussion

Classic Assumption Test Results

Here are the substructure equations in this study:

Substructure equation 1 : $Y_1 = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$

Substructure equation 2 : $Y_2 = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 Y_1 + e$

Where,

α = Constant

β = Regression coefficient

X1 = Credit risk

X2 = Liquidity risk

Y1 = Profitability

Y2 = Firm value

e   = error

Classical Assumption Test Results Substructure Equation 1

1) Normality Test

Table 2: Test Results of Normality of NPL and LDR on ROA

	Unstandardized Residual	Explanation
N	42	Significant > 0.05,
Kolmogorov-Smirnov Z	0.094	the data is normally distributed
Asymp. Sig (2-tailed)	0.200	

2) Multicollinearity Test

Table 3: Multicollinearity Test Results of NPL and LDR on ROA

Model	Collinearity Statistic		Explanation
	Tolerance	VIF	
NPL	0.693	1.443	Tolerance value > 0.10 and VIF value <10, so there is no multi Collinearity
LDR	0.645	1.238	

3) Heteroscedasticity Test

Table 4: Heteroscedasticity Test Results Variable of NPL and LDR on ROA

Model	Sig.	Critical Value	Explanation
NPL	0,973	0,05	Significant > 0.05, it does not occur
LDR	0,320	0,05	heteroscedasticity

Classical Assumption Test Results Substructure Equation 2

1) Normality Test

Table 5: Test Results for Normality of NPL, LDR and ROA on PBV

	Unstandardized Residual	Explanation
N	42	Significant > 0.05,
Kolmogorov-Smirnov Z	0.134	the data is normally distributed
Asymp. Sig (2-tailed)	0.056	

2) Multicollinearity Test

Table 6: Multicollinearity Test Results for NPL, LDR and ROA on PBV

Model	Collinearity Statistic		Explanation
	Tolerance	VIF	
NPL	0,615	1,625	Tolerance value > 0.10 and VIF value <10, so there is no multicollinearity
LDR	0,306	3,267	
ROA	0,274	3,645	

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3) Heteroscedasticity Test

Table 7: Heteroscedasticity Test Results for NPL, LDR and ROA on PBV

Model	Sig.	Critical Value	Explanation
NPL	0,512	0,05	Significant > 0.05, it does not occur heteroscedasticity
LDR	0,291	0,05	
ROA	0,242	0,05	

Hypothesis Testing

Multiple linear regression analysis used in this study to determine the effect of exogenous variables partially on endogenous variables using a significance level of 5% which indicates that the error rate in this study was 5% or with a confidence level of 95%. The value of each regression coefficient is known through SPSS Statistics 24.0 For Windows calculation results.

Results of Regression Analysis of Substructure Equations 1

1) Simultaneous Effect of NPL and LDR on ROA

Table 8: Summary Analysis Results of the Effects of NPL and LDR Simultaneously on ROA

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,852[a]	0,726	0,712	0,029

R Square value (R2) 0.726 so that we can know the coefficient of determination of 72.6%. This figure means that the variables Credit Risk and Liquidity Risk affect Profitability, while 27.4% is another factor not included in the model.

2) Effect of NPL on ROA

Table 9: Summary Analysis Results of NPL on ROA

Endogenous Variable : ROA						
Exogenous Variable	B	Std. Error	Beta	T	Sig.	Explanation
NPL	-0.477	0.215	-0.224	-2.219	0.032	H_1 accepted

Beta coefficient value is -0.224 with a significance of 0.032 <0.05 indicating that Credit Risk effects negatively significant on profitability, so H1 is accepted. This indicates that the increase in banking risk can speculate the low bank's performance. A high NPL ratio will increase costs, so banks must bear the loss in their operations and this can affect the decline in profit (ROA) obtained by banks and can potentially be a cause of bank losses.

3) Effect of LDR on ROA

Table 10: Summary Analysis Results of LDR on ROA

Endogenous Variable : ROA						
Exogenous Variable	B	Std. Error	Beta	T	Sig.	Explanation
LDR	-0.194	0.028	-0.707	-7.023	0.000	H_2 accepted

The beta coefficient value is -0.707 with a significance of 0.000 <0.05 indicating that Liquidity effects negatively significant on profitability, so H2 is accepted. This indicates the increasing of LDR which reflects the bank's profit will increasingly decline, because banks are unable to meet their short-term obligations, so that the bank's activities will be disrupted. The decline in bank profits resulted in the bank's profitability also decreased. Thus the size of the LDR ratio of a bank will affect bank performance.

Results of Regression Analysis of Substructure Equations 2

1) Effect of NPL on PBV

Table 11: Summary of Results of Analysis Effect NPL on PBV

Endogenous Variable : PBV						
Exogenous Variable	B	Std. Error	Beta	T	Sig.	Explanation
NPL	-0,101	0,041	-0,258	5,465	0,018	H_3 accepted

Beta coefficient value is -0.258 with a significance of 0.018 <0.05 indicating that Credit Risk has effects negatively significant on Firm value, so that H3 is accepted. An increase in problem loans will cause income and profits to decline, bank performance will also decline and this will lead to bad perceptions for investors. Therefore, banks need to improve their credit risk's management so that the level of non-performing loans or NPLs does not

exceed Bank Indonesia regulations in accordance with PBI No. 13/3/2011, which is a maximum of 5% of total loans. If the NPL ratio is above 5%, it will indicate that the bank is less successful in problem loan's managing. Investors may not want to buy bank-owned shares with high credit risk.

2) Effect of LDR on PBV

Table 12: Summary of Analysis Results Effect of LDR on PBV

Endogenous Variable : PBV						
Exogenous Variable	B	Std. Error	Beta	T	Sig.	Explanation
NPL	-0.016	0.007	-0.315	-2.124	0.040	H_4 accepted

Beta coefficient value is -0.315 with a significance of 0.040 <0.05 indicating that Liquidity Risk has effects negatively significant on Firm value. so H4 is accepted. The high value of liquidity risk due to the inability of banks to meet their obligations, causes the reduction of funds available to companies to pay dividends, finance operations and investments, so that bank profits will decline and investor perceptions on company performance will decrease. The share price is expected to decline as well and the price to book value (PBV) will be adversely affected and cause a decline in the firm value.

3) Effect of ROA on PBV

Table 13: Summary of Analysis Effect of ROA on PBV

Endogenous Variable : PBV						
Exogenous Variable	B	Std. Error	Beta	T	Sig.	Explanation
ROA	0.072	0.029	0.394	2.516	0.016	H_5 accepted

Beta coefficient value of 0.394 with a significance of 0.016 <0.05 indicates that profitability has effects positively significant on Firm value so that H5 is accepted. This will be important information for investors when analyzing financial statements when going to invest, because the ability of banks to maintain profitability shows the good performance of the bank and the company's image so that it gives a good signal to investors. The increasing of ROA illustrates the bank has better performance and the increasing share price which reflects an increase in the firm value (Susilowati and Tri, 2011). So ROA effects positively on the company's image in the future, means if ROA increased, so do the fim value.

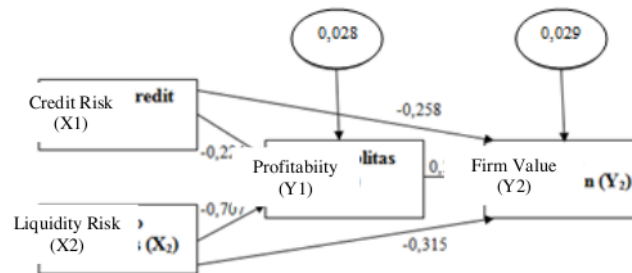Base on the discussion of the above research results, here is a summary of the research model.

Figure 1: Research Concept Framework

Sobel Test

1) Sobel Test Results of Credit Risk Effect on Firm value through the Profitability variable
To test the significance of the indirect effect the value of the coefficient ab, using the following formula: S_{ab}

$$= \sqrt{(0,394)^2(0,028)^2 + (-0,224)^2(0,029)^2 + (0,028)^2(0,029)^2}$$

$$S_{ab} = 0,013$$

In view of the significance of the indirect effect, calculate the value of the t coefficient ab using the following formula

$$t\ count = \frac{ab}{Sab} = \frac{(-0,224)(0,394)}{0,013} = -6,769$$

T count is 6.769> 1.96. It's means that credit risk to firm value has a negative effect on profitability as a mediating variable. The results of this study conclude that the increasing value of bad loans is shown by an increase in the NPL value of a company illustrates the inability of bank management in managing NPL provided by banks. The large number of outstanding debts causes the company's burden to increase, resulting in decreased profits earned by the company. Decline in profit has an impact on the decline in the firm value's profitability. This means giving a negative signal to investors, because decreasing the level of profitability also means reducing investor confidence. If the company has a profitability that tends to decrease, it will cause investors to be reluctant to invest.

2) Sob Test Results of Liquidity Risk Effect on Firm value through the Profitability variable
For the significance of the indirect effect, the value of t coefficient ab is calculated using the following formula:

$$S_{ab} = \sqrt{(0{,}319)^2(0{,}028)^2 + (-0{,}707)^2(0{,}029)^2 + (0{,}028)^2(0{,}029)^2}$$

$$S_{ab} = 0{,}022$$

For the significance of the indirect effect, the value of t coefficient ab is calculated using the following formula:

$$t\ count = \frac{ab}{Sab} = \frac{(-0{,}707)(0{,}319)}{0{,}022}$$

$$= -10{,}227$$

T count is 10.227> 1.96. It's means that Liquidity Risk on Value The company has a negative effect on profitability as a mediating variable. The results is include that the greater liquidity risk reflects that bank profits will decrease, because banks are unable to meet their short-term obligations, so that company activities will be disrupted. The decline in bank profits resulted in decreased banks profitability. Thus the bank's size LDR ratio will affect the bank's performance. High value of liquidity risk due to the inability of banks to meet their obligations, causes the reduction of funds available to companies to pay dividends, finance operations and investments, so that investors' perceptions of company performance will decrease. The stock price is expected to decline which results in a decrease in the firm value, causing investors to be reluctant to invest more in the company.

Research Implications

Theoretical Implications

Firm value (PBV) is the ratio to calculate the market values the company itself. So in this case the company value is more influenced by financial performance such as profitability and risks faced by the company to achieve the company's main objectives.

Practical Implications

The company's stock price is a benchmark that illustrates company's value. Therefore, investors in conducting an analysis before investing need to consider the company's performance which can be seen from profitability's value of company itself, besides that the company also needs to consider the risks that have a significant impact on the company's performance that give an impact on the company value.

IV. Conclusions and Suggestions

Conclusions

1) Credit risk has a negative and significant effect on the profitability.
2) Liquidity risk has a negative and significant effect on the profitability.
3) Credit risk has a negative and significant effect on the firm value.
4) Liquidity risk has a negative and significant effect on the firm value.
5) Profitability has a positive and significant effect on the firm value.
6) Profitability is able to mediate the effect of credit risk on the firm value.
7) Profitability is able to mediate the effect of liquidity risk on firm value.

V. Recommendation

1) For Company Management

Banking company managementnt should continue to strive to increase the firm value which is reflected in the company's stock price. Based on the results of this study, the factors that influence the firm value are credit risk,

liquidity risk and profitability. Thus the company needs to make efforts to minimize banking risks, especially credit risk and liquidity risk which have an impact on increasing company profitability.

2) For Investors

In an effort to maximize stock returns, investors need to look at the company's prospects by looking at the firm value and analyze the company's financial performance by considering credit risk, liquidity risk and profitability.

3) For Further Researchers

a) Exogenous variables that are used should not only be two variables because there are still many other factors that affect the firm value.
b) The research period used should not be only one year so that it can produce information that is more supportive of previous studies.
c) The use of samples is not only limited to the banking sector on the Indonesia Stock Exchange, but can be specifically extended to several other banking sectors such as foreign and non-foreign exchange banking.

References

[1]   Badawi, Ahmad. 2017. Effect of Credit Risk, Liquidity Risk, and Market Risk Banking to Profitability Bank. *European Journal of Business and Management*, 9(29).

[2]   Ika, S. R., & Abdullah, N. (2011). A comparative study of financial performance of Islamic banks and conventional banks in Indonesia. *International Journal of Business and Social Science*, 2(15).

[3]   Bank Indonesia. Peraturan Bank Indonesia No. 17/11/PBI/2015 tentang Giro Wajib Minimum Bank Umum Dalam Rupiah dan Valuta Asing Bagi Bank Umum Konvensional. *Tambahan Lembaga Negara Republik Indonesia Tahun* 2015 Nomor 5712.

[4]   Bank Indonesia, Kajian Stabilitas Keuangan, No. 26, Maret 2016

[5]   Bank Indonesia. 2015. *Economic Report On Indonesia Edisi Juni*. Tersedia di http://www.bi.go.id/en/publikasi/laporantahunan/perekonomian/Pages/LPI_2015.aspx, diakses pada 20 Mei 2019.

[6]   Bringham, E. F., Houston, J. F. 2013. Essentials of Financial Management. *3rd Edition. Ohio: Thomson South-Western*.

[7]   Brigham, E.F., Daves, P.R. 2016. Intermediate Financial Management, 12th Edition. *Thomson Higher Education*, 5191 Natorp Boulevard, Mason, OH 45040 USA.

[8]   Hofstrand, Don. 2009. *Understanding Profitability*. IOWA State University.

[9]   Iqbal N. 2015. Impact of Liquidity Risk on Firm Spesific Factors: A Case of Pakistan Islamic Banks of Pakistan. *Arabian Journal of Business and Management Review*, 4(2).

[10]   Lantasari, D.P.S. And Widnyana, I.W., 2018. Pengaruh Profitabilitas, Solvabilitas, Likuiditas, Dan Nilai Perusahaan Terhadap Return Saham Perusahaan Yang Terindeks LQ45 Pada Bursa Efek Indonesia (BEI). *Jurnal Ilmu Manajemen (JUIMA)*, 8(1), pp.36-49.

[11]   Purwohandoko. 2017. The Influence of Firm's Size, Growth, and Profitability on Firm Value with Capital Structure as the Mediator: A Study on the Agricultural Firm Listed in the Indonesian Stock Exchange. *International Journal of Economics and Finance*, 3(2): 55-62.

[12]   Rustam,B.R. 2017. Manajemen Risiko. *Jakarta:Salemba Empat*.

[13]   Sigid, Ahmad. 2014. Analisis Pengaruh Kredit dan Non Performing Loan (NPL) Terhadap Profitabilitas Bank Umum Milik Pemerintah (Studi Kasus: PT. Bank Rakyat Indonesia, Tbk. Periode Thaun 2011-2013). *Tesis*. Fakultas Ekonomi dan Bisnis Universitas Brawijaya.

[14]   Sukcharoensin, Pariyada. 2013. Capital Control and Bank Risk. *The Journal of Banking and Finance*, 2(7).

[15]   Sujono. 2007. Pengaruh Struktur Kepemilikan Saham, Leverage, Faktor ntern dan Faktor ekstern terhadap Nilai Perusahaan. *Jurnal Manajemen dan Kewirausahaan*, 9(1): 41-48.

[16]   Sugiyono. 2015. Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif dan R&D). *Bandung: CV Alfabeta*.

[17]   Susilowati, Yeye., Tri, Turyanto. 2011. Reaksi Signal Rasio Profitabilitas dan Rasio Solvabilitas Terhadap Return Saham Perusahaan. *Jurnal Dinamika Keuangan dan Perbankan*, 3(1): 1-24.

[18]   Widagdo, A. K., & Ika, S. R. (2008). The interest prohibition and financial performance of Islamic banks: Indonesian evidence. *International business research*, 1(3), 98-109.

[19]   Tandelilin, E. 2015. Fortofolio dan Investasi : Teori dan Aplikasi. *Yogyakarta: BPFE*.

[20]   UU Pasar Modal No. 8 Tahun 1995 tentang Bursa Efek Indonesia (BEI).

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of Online Learning Readiness with Learning Culture and Character Strength as Antecedent Variables", Journal of Physics: Conference Series, 2019
Publication

9　Chairul Anam. "Study of Internal Factors and External Factors of Insurance Companies Towards Company Value (Study on Indonesia Stock Exchange)", SHS Web of Conferences, 2020
Publication　　　　　　　　　　　　　　1%

10　Bambang Leo Handoko, Nada Ayuanda, Ari Tihar Marpaung. "Organizational, Social and Individual Aspect on Acceptance of Computerized Audit in Financial Audit Work", Advances in Science, Technology and Engineering Systems Journal, 2020
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