

DETERMINANT OF CREDIT AND LIQUIDITY RISK AT BANK HEALTH LEVEL ASSESSMENT

Moh Afrizal Miradji, I Made Bagus Dwiarta

¹ PGRI Adi Buana University, Surabaya, Indonesia

*Corresponding Author: afrizal@unipasby.ac.id

Abstract: This research is to look at credit and liquidity risks to the health of banking companies. It consists of 30 samples from purposive sampling. The method of writing uses quantitative, where the test is partial and simultaneous as a hypothesis test. Research data attempted to form normally using One-sample Kolomogrov resulted in a value of 0.148. The results show credit risk acting on the health of banks while liquidity is the opposite. Simultaneous testing found the overall credit and liquidity risk results acted on the bank's health. This statement is evidenced by the testing of classic assumptions, multiple linear regressions, t tests, f tests, and determinant coefficients.

Keywords: credit risk, liquidity, bank health

1. Introduction

The growth of business recovery management resulted in a double increase in business. (Afrizal, 2014) The need to share information has increased so much that the Information System is an important advantage. This has led to increased competition between banks, especially in public banks that have gone public. Afrizal (2016) Rapid progress in various industries requires companies in Indonesia to in line with the organization's increasingly complex operational progress. In addition, banks will increase their benchmark interest rates to attract customers. However, the increase in the benchmark interest rate has an impact on credit demand. The high demand for credit will potentially lead to an increase in the interest rate of credit, resulting in banks experiencing non-performing loans that will affect the ons of credit risk.

For each bank, credit is the bank's main source of funding used as a connection to the bank's economic sustainability. One of them is to close the repayment of bank debt in a short period of time in accordance with the promises made without er interest in the bank's financial activities. The Bank's inability to close its obligations at maturity results in the bank experiencing liquidity risk, if the asset is sold cheaply while the need for liquidation of the asset is urgent, the impact of which occurs losses thus reducing the bank's income. This will hinder the health of banks, thus customer confidence will decrease because it prefers to invest in banking companies that have good bank health.

2. Literature Review

For banking companies, it is important to be able to properly management the finances so that the financial condition of the company is always in a stable and healthy condition. So investors are interested in investing.

Hayati, (2017: 80) Credit risk is the ability of the company to complete the bank's obligations in line with the agreement struck with customers who are unable to return credit to the bank.

Liquidity risk is an obstacle that the company experiences when closing its ongoing maturity obligations (Zulfikar, 2016: 253). Banks are required to be able to pay off all liabilities that have been due in the event of (Afrizal, 2017). Budisantoso (2014: 73), bank's health means that the bank can operate the funds properly, characterized by the fulfillment of all bank obligations in accordance with the applicable regulations. This study uses capital ratio as an assessment of the health of banks with car indicators as a measuring instrument. (Indonesia, 2018) Capital Adequacy Ratio aspects of bank capital where operational activities require a counterbalance to minimize losses that are likely to occur.

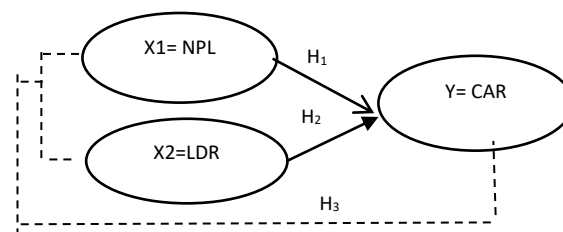


Figure 1. Concept Framework

H₁: NPL act on the CAR

H₂: LDR act on the CAR

H₃: Simultaneous impact occurred NPL and LDR caused by the CAR

3. Method

Indonesian stock exchange banking financial reporting 2016-2018 with samples used in this study. T test and f test are used as hypothesis tests, where classic assumption testing, multiple linear regressions and determination coefficients as data analyzing processes. Researchers set to use 30 research targets on 10 selected bank sector companies on the Indonesia stock exchange during the 2016-2018 working period with 3 financial reporting writing periods in which the population is defined. The use of Purposive sampling is the basis for the collection of research targets. While this technique is applied through its decision-making benchmarks.

Table 1. Company Benchmarks

No.	Benchmarks	Acquisition
1.	Bank sector companies listed on Indonesia stock exchange 2016-2018	40
2.	Bank sector companies that do not have financial reporting attached periodically 2016-2018	(7)
3.	The bank sector company does not display financial reporting using domestic currencies.	(4)
4.	Bank sector companies that do not list composite ratings of bank health risks.	(19)
	Final Sample Count	10
	Number of Observation Periods	3
Sample Count		30

Quantitative methods are a variety of data used in this study and secondary data as a source of research data. The data is a form of financial reporting of banking companies on the Indonesia stock exchange 2016-2018 accessed through the website www.idx.co.id

Operational Variables and Definitions

The operational definitions used are as follows:

1. Credit Risk Ratio

Non Performing Loan (NPL) is a measurement scale applied by banks to measure the ability to process funds devoted to non-performing loans to the distribution of loans by banks to credit applicant customers. Credit provided by the bank. The measurement scale is done with the formula:

$$NPL = \frac{\text{Kredit Bermasalah}}{\text{Total Kredit}} \times 100\%$$

2. Liquidity Risk Ratio

Loan To Deposit Ratio (LDR) is the scale of measurement applied by the bank as the controlling operator of the operation of bank funds in closing maturing obligations by relying on lending. The measurement scale is done with the formula:

$$LDR = \frac{\text{Total Kredit yang diberikan}}{\text{Total Dana Pihak Ketiga}} \times 100\%$$

3. Bank Health Ratio

The scale of measurement for bank health in this study uses

Capital Adequacy Ratio (CAR) aspects of bank capital where operational activities require a counterbalance to minimize losses that are likely to occur. The measurement scale is done with the formula:

$$CAR = \frac{\text{Modal}}{\text{ATMR}} \times 100\%$$

Data Analysis Technique

Determining strategies in responding to proposed problem formulations can be done by compiling a data analysis process (Afkar et al., 2018). In this study applied the testing of classic assumptions, multiple linear regressions, coefficients of determination as a process of data analysis. Supported with t test and f test in hypothesis testing.

4. Result and Discussion

Here are the results of the research that has been done:

Table 1. Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardize d Residual
N		30
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	.39148020
Most Extreme Differences	Absolute	.138
	Positive	.080
	Negative	-.138
Test Statistic		.138
Asymp. Sig. (2-tailed)		.148

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

From the normality test obtained asymp. Sig results from all variables worth 0.148, defined where all data in the normality test has an asymp. Sig > alpha value (0.05) it is concluded that all research data is distributed normally, hence the regresi form in this study is adequate for the assumption of normality.

Table 2. Multicollinearity Test

Net Performing Loan	Tolerance	0,921
	Variance Infation Factor (VIF)	1,085
Loan to Deposit Ratio	Tolerance	0,921
	Variance Infation Factor (VIF)	1,085

From multicollinearity testing found the results of both variables were worth $0.921 < 0.10$ for tolerance values that showed the results did not occur correlation. then inferred both variables regardless of the problem of multicolienary in the regression model. So the regresi form in this study is adequate for multicholnearity assumptions.

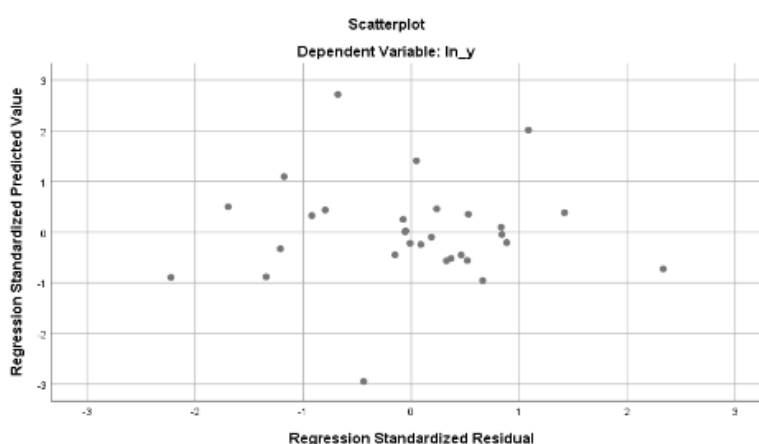


Figure 1. Heterockedatisity Test

When observed from residual plots describe results where the spread of dots is spread randomly on diagonal lines indicating that the regression form in this study is good and adequate for the assumption of heteroskedastisity.

Table 3. Autocorrelation Test

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,477 ^a	0,228	0,170	,40572	1,674
a. Predictors: (Constant), ln_x2, ln_x1					
b. Dependent Variable: ln_y					

From the Auto correlation test obtained DW results with a value of 1,674 which is $1.55 < DW < 1,674$ which indicates the variable is free of auto correlation problems.

Table 4. Multiple Linear Regression

Model	Coefficients ^a			t	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		
(Constant)	15,851	3,783		4,190	,000
ln_x1	-,101	,097	-,183	-1,036	,309
ln_x2	-1,516	,540	-,495	-2,808	,009

a. Dependent Variable: ln_y

From the result of multiple linear regression counts

$$Y = 15,851 + (-101)X1 + (-1,516)X2 + e$$

In conclusion, if there are no independent variables then the bank's health will rise by 15,851.

Table 5. Coefficients Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,477 ^a	0,228	0,170	,40572

a. Predictors: (Constant), ln_x2, ln_x1
b. Dependent Variable: ln_y

From the coefficient test the determination obtained results (R Square) is 0.228 or 22.8% meaning the size of the npl variation capability and LDR can explain the car variable which the remaining 77.2% is described with other factors that are not included in the model.

Table 6. T Test

Model	Coefficients ^a			t	Sig.
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta		
(Constant)	15,851	3,783		4,190	,000
ln_x1	-,101	,097	-,183	-1,036	,309
ln_x2	-1,516	,540	-,495	-2,808	,009

a. Dependent Variable: ln_y

From the table above is obtained results where 2 variables show different signification results. Where the variable risk of credit produces a value of 0.309 > 0.05 which indicates the variable credit risk has no effect on the health of the bank due to the high influence of bank lending rates that affect the number of debtors in investing their capital. Shrinking the number of debtors results in the regular unemployment of bank assets where it is not possible for banks to suffer significant losses while liquidity variables act on the bank's health. Written with a yield of 0.009 \$ 0.05 reflects the bank excels in channeling the given credit. With the increase in credit provided gives the bank the opportunity to earn high profits.

Table 7. F Test

ANOVA ^a						
		Sum of		Mean		
Model		Squares	df	Square	F	Sig.
1	Regression	1.309	2	.655	3.977	.031 ^b
	Residual	4.444	27	.165		
	Total	5.754	29			

a. Dependent Variable: ln_y

b. Predictors: (Constant), ln_x2, ln_x1

The hypothetical test results based on figure 8 above obtained a f calculated value of 3,977 with a significance value of 0.031 to $0.031 < 0.05$. From these results it is stated that credit and liquidity risks have a simultaneous effect on the bank's health level. Thus, the proposed hypothesis is acceptable to the truth.

5. Conclusions

Judging by a set of statistical test results I researched showing significant results from 3 hypothetical submissions there is a hypothesis accepted and rejected. Partial credit risk has no effect on the health of the bank. Liquidity, meanwhile, acts on the health of banks. Meanwhile, simultaneous test results show independent variables simultaneously have significance to dependent variables.

Implications

The results of the research helped investors to determine the benchmark of certainty taken by a decision to invest in a banking company. What's more about the health of the bank.

Limitations of Research

The collection of a scientific work is not separated from the limitations experienced by the author in the writing process. Although the end will be well resolved.

The author has limitations on retrieving the amount of numbers in the company's financial statements that have different digit-writing characters. So it takes classification so that this scientific work can be written properly.

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