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BANKING AND STABILITY : EVIDENCE FROM INDONESIA

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ABSTRACT

Banking is an institution having an important role in the economic activities of a country, namely supporting national development, implementation of monetary policy, and achieving financial system stability. Considering the importance of banking for the country, it is necessary to maintain the stability of the bank. Bank stability can be measured by the Althman z-score method. A number of studies have been conducted to determine factors influencing bank stability. The aims of this study was to examine the impact of competition, net interest margin, size, and liquidity on the bank stability in Indonesia. The population in this study are commercial and conventional banks listed on the Indonesia Stock Exchange from 2013 to 2017, totaling 120 banks. Purposive sampling technique is used, so that the sample received is 42 banks. Hypothesis testing is done using multiple linear regression. The results showed that interest margins and competition addressed significant positive results on bank stability, while size had a significant negative effect on bank stability, and liquidity had no effect on bank stability.

Keywords: competition, net interest margin, size, liquidity, bank stability

Background of The Study

The financial system has an important role for the economy of a country. In Indonesia, the financial system relies on the banking sector. The bank aims to support the implementation of national development in order to improve equitable development, economic growth and national stability, towards improving the standard of living of the people. Problems that occur in the banking sector is able to disrupt the economy so that it is necessary to maintain efficiency and stability in the banking sector.

Banking stability is a steady financial system and efficiently carries out its main economic functions, such as allocating resources and spreading risks and payment systems (Jahn & Kick, 2012). The instability of the banking sector according to Jokipii & Monnin (2013) is defined as the possibility of the banking sector going bankrupt in the next quarter when the market value of assets owned by all banks in a country is not enough to repay the total debt. The stability of the banking sector is very important to ensure the general stability of the financial system. The instability of the banking sector is able to be detrimental to the state especially for countries whose economic activities still depend on the existence of banks as the main source of financing for economic activities so that problems that occur in the banking sector can hinder or disrupt economic growth (Breuer, 2003).

Bank stability is important because it has an impact on the country's economy. Bank stability can be measured using proxy of the Z-score. The Altman z-score method is the most widely used method in research related to banking stability. Z-score is considered an indicator that does not cause a bias in measuring bank risk. It is considered to reflect the overall risk of the bank. The z-score measurement and the probability of the bank for insolvency provide a better measure without imposing further distribution assumptions (Lepetit & Strobel, 2015).

A number of studies have found that there are various determinants of banking stability, namely both internal and external factors, one of which is competition. The impact of bank competition on financial stability has been a focus of academic and policy debate over the last two decades and particularly since the 2007–2008 global financial crises. Under competition-fragility view, competition will decrease banking stability (Boyd & De Nicolo, 2005; Beck, Jonghe, & Schepens, 2013; Kasman, 2015, Dwumfour, 2017). Increasing competition in banking industy will lead to lower lending rates and an increase in deposit rates, which results in a reduction in profit margin for banks.

Whereas under competition-stability view, competition increases banking stability (Schaeck, Čihák, & Wolfe, 2006; Amidu & Wolfe, 2013; Schaeck, Čihák, & Wolfe; 2014; Shijaku, 2017). Competition will reduce the moral hazard and adverse selection between borrowers and lenders. Increasing competition will increase bank profit, the quality of bank assets, and will reduce the level of non-performing loans. In addition, competition has an impact on innovation, product quality and efficiency that are considered to have a good impact on the banking sector (Kasman, 2015). However, Fu, Lin, & Molyneux (2013) found different results. Fu et al (2013) investigated the competition and stability of the banking sector using cross-country data from 14 Asia Pacific countries from 2003 to 2010. The findings support the neutral view of Nexus competition and stability, which shows that competition-stability and competition- simultaneously, fragility theory, these findings are supported by empirical research (Tabak, Fazio, & Cajueroi, 2012; Jeon & Lim, 2013; Jiménez, Lopez, & Saurina, 2013).

Interest margin also considered to be one of the factors that influence banking stability. Higher net interest margins has a positive impact on bank stability, namely increasing income that can be used as a buffer for banking (Dwumfour, 2017; Bustaman Ekaputra, & Husodo, 2017). Low interest margin reflects the conditions of effective monetary policy, well-maintained financial stability, and a competitive banking system (Nicoló, 2005; Saksonova, 2014).

The size of the bank is an issue associated with banking stability especially after the global financial crisis. Evidence shows that large banks responsible for the crisis caused significant damage to many economies throughout the world. In addition, large banks have increased substantially over the past two decades. Large banks tend to have lower capital ratios, less stable funding, and more exposure to market-based activities that have risky potential (Laeven, Ratnovski, & Tong, 2016). Banks having a larger size are able to increase profits, have high capital buffers, thus enabling banks not to be vulnerable to liquidity shocks or macroeconomic shocks (Adusei, 2015; Jakob de Haan and Tigran, 2011; Kaguchi 2014).

Liquidity has an important role in the successful operation of business entities because it affects the growth and development of banks affecting the functioning of financial markets (Muttalib, 2015). The global crisis has proven that the lack of bank liquidity is the main trigger of all negative events. Lack of liquidity suffered by a bank can spread to other banks, causing systemic risk. A number of findings state that having adequate liquid assets will increase profitability (Liu, Molyneux, & Nguyen, 2012; Imbierowicz & Rauch 2013; Vazquez & Federico, 2015; Ozşuca & Akbostancı, 2016; Ghemini, Chaibi, & Omri, 2017). Adequate liquidity helps banks minimize liquidity risk and financial crisis. Banks can absorb the possibility of unexpected shocks caused by unexpected needs to reduce liabilities or increase the asset side from the financial statement.

Wagner (2007) found that an increase in liquidity at normal times does not increase bank stability, whereas during a higher liquidity crisis increases bank failure or decreases bank stability.

The aims of this study was to determine the impact of competition, interest margin, size, and liquidity on the stability of banks in Indonesia on 2013 until 2017. Indonesia is

chosen because there are not many studies related to these four variables with banking stability, especially most studies carried out in developed countries.

Literature Review

According to Beck, Jonghe, & Schepens (2013), there is a negative relationship between competition and banking stability. Increasing competition will lead to lower lending rates and an increase in deposit rates, which results in a reduction in profit margin for banks. The competitition-fragility view are supported by research Dwumfour, (2017) and Kasman, (2015).

Based on the competition-stability view, competition will improve banking stability. Geotz's research (2017) showed a positive relationship between competition and banking stability. Increased competition will increase bank profit, the quality of bank assets, and will reduce the level of non-performing loans. The competition and stability view is supported by Schaeck, Čihák, & Wolfe, (2006); Amidu & Wolfe, (2013); Schaeck, Čihák, & Wolfe, (2014); and Shijaku, (2017).

Martinez-Miera and Repullo (2010) combine these two views and show a non-linear relationship between competition and banking risk. Especially, increasing competition can reduce probability of default borrowers, but also interest payments from loans, which serve as a buffer to cover loan losses. The research of Martinez-miera & Repullo is supported by the research of Luis Otero Gonzaleza and Alaa Raziaa (2017). Fu, Lin, & Molyneux (2013); Tabak et al. (2013); Jeon & Lim (2013) and Jiménez (2013) found different results. The findings show that competition has a negative and positive impact on banking stability.

Yosman Butaman (2017) conducted a study of the relationship between interest margin and bank stability. The results of the study show that net interest margin has a positive impact on banking stability or the level of banking risk, so the greater the level of net interest margin, the smaller the possibility of banks going bankrupt. The establishment of a higher net interest margin has a positive impact, namely increasing income that can be used as a bank failure buffer (Dwumfour, 2017).

Michael Adusei (2015) conducted a study entitled "The impact of bank size and funding risk on bank stability". The findings indicate that the size of the bank has a positive relationship with banking stability. Banks that have a larger size can increase profits, build a high capital buffer, so that it is possible that banks are not vulnerable to liquidity or macroeconomic shocks. This finding are supported by research (Jakob de Haan and Tigran Poghosyan, 2011) and (Kaguchi, 2014).

a. Efficiency Hyphothesis

Demsetz (1973) is the first person formulating the alternative explanations about market structure-performance relationships and proposes an efficiency structure hypothesis that is applied to the banking sector. This hypothesis explains that in competitive market, banks having possibility win the competition are banks that take the opportunity to serve customers better than its competitiors. It protect themselves from competition threats, thus banks can have superiority. This superior ability can be achieved through efficiency. Banks that operate more efficiently than their competitors can gain higher profits, namely banks have the advantage of low operating costs so that the bank will have more value for each cost incurred. Banks earn higher profits by offering competitive products. Differences in the level of efficiency create inequalities in the distribution of positions in the market and strong concentration. In the long run, every bank must produce efficiently in order to survive in the industry.

b. Stewardship Theory

Stewardship theory is a theory that explains that managers who are not supervised by principals will act as supervisors who are responsible for the assets. This theory is the alternative theory explaining the relationship between bank size and bank stability. This theory states that managers are inherently trustworthy and thus not vulnerable to misusing company resources (Donaldson & Davis, 1991). This shows that there is a non-financial motivation manager in doing his job, namely that company managers have the motivation to get intrinsic satisfaction through the implementation of challenging work that is successful in carrying out responsibilities and authorities and aims to attract recognition from colleagues and bosses (McClelland, 1961)

Based on this theory, a company manager carries out an action that is personally unprofitable, however, they tend to carry out the work because it is based on a sense of obligation. When company managers feel that their wealth is closely related to their current boss through expectations of work rights or future retirement, they can see their interest in harmony with the company and its owner even though they do not own shares in the company. In essence, this theory states that there are no inner motivational problems between company managers. Company managers aspire to achieve good corporate performance. The variation in performance, in theoretical view, stems from a structural situation where company managers find themselves. If the structural situation is comfortable, one can expect good corporate performance from the company manager.

c. Theory of Banking Liquidity Requirement

The theory of liquidity needs is a theory formulated by Calomiris, Heider, & Heorova (2014). This theory explains that banks are required to have cash or smooth assets such as cash because cash has the main advantage for prudential purposes. Having sufficient liquidity by holding cash in advance will be more profitable for the bank because it can save on liquidation costs.

When a bank does not hold current assets such as cash and there is an unexpected withdrawal or demand for money, the bank must sell its assets, while selling assets in an urgent and rushed condition can reduce the market value of the asset and eventually the bank must sell assets below the normal price so the bank will incur a loss on the sale of the asset. In this theory cash or cash equivalents play a role in bank stability. Calomiris, Heider, & Heorova (2014) suggest that banks hold cash because cash has advantages compared to other assets, namely cash is an observable and verifiable asset and riskless assets. When a bank holds cash, the bank will eliminate the bank's probability of default because the bank will avoid liquidity risk. Banks that have cash are quite able to gain market trust in their risk management, and thus make banks more attractive and can retain deposits. The use of cash and assets will expand bank loans to be more efficient.

Methodology

Data Sources

The data used in this study are panel data consisting of data on total income, total costs, net interest margin, total assets, current assets, return on assets, and annual equity of banks in Indonesia listed on the Indonesia Stock Exchange from 2013 to 2017. The data sources were obtained from Bloomberg Database, the Indonesian Financial Services Authority Website, and banking websites in Indonesia..

Population and Sample

The population in this study are banks operating in Indonesia, which number 120 banks. Determination of the number of samples used using the purposive sampling method.

In the selection of samples certain criteria are used that are tailored to the objectives of the study. The bank used as samples are conventional commercial banks in Indonesia that presents complete financial reports from 2013 to 2017 and listing in the Indonesia Stock Exchange, which are 42 banks. The banks included are banks listed on the IDX as well as outliers on samples also issued. The total data used is 210 data.

Variables

There are five variables used in this study, namely competition, interest margin, size, liquidity, and bank stability. The bank stability variable is proxied by a z-score which is an inverse proxy for the probability of insolvency of a bank. The Z-score is formulated as follows:

$$Z - score = \frac{ROA - E/TA}{\sigma ROA}$$

Here:

ROA = Ratio of Return On Asset during the observation period

E/TA = Equity to Total Asset namely the average equity divided by total assets

σROA = Standard deviation of ROA

The competition variable is proxied by the lerner index, which is a measure of market power. The lerner index captures more information about the actual behavior of bank pricing as each bank has unique characteristics. Lerner index can be better accommodate the uniqueness of each bank in terms of bank size, geographical operational coverage, products offered, etc., thus ensuring that the level of competition will be different for each bank. The lerner index ranges from 1 to 0. The higher the index value, the higher the market power. When the index value addresses the value of 0, it means that the company does not have market power. Lerner index is formulated as follows:

$$Lerner\ Index = \frac{TR - TC}{TR}$$

Where:

TR = The ratio of total operating income to total assets. Because banks have the opportunity to expand activities into non-interest activities, therefore total operating income is interest and non-interest income.

TC = Total Cost

Variable interest margin is proxied by the ratio of net interest margin, which is formulated as follows:

$$Net\ Interest\ Margin = \frac{Interest\ Income - Interest\ Expenses}{Total\ Assets}$$

Here:

Interest Incomes = Income earned by bank

Interest Expenses = Expenses paid by bank

Total Assets = Assets used to generate interest income

The size is proxied by the logarithm of natural total assets, which is formulated as follows:

$$Size = Ln\ Total\ Assets$$

Liquidity is proxied by the liquidity ratio which is formulated as follows:

$$Liquidity = \frac{Liquid\ Aset}{Total\ Aset}$$

Method Research

Analyzing the data in this study is divided into several stages, namely measure the stability of the banking using the z-score, measurement of the level of competition using the lerner index. Furthermore, multiple linear regression analysis is conducted to test the impact of the independent variables namely competition, interest margin, size, and liquidity on the dependent variable, namely the stability of the bank. To answer the research question, the main model is used as in the research of Martinez-Miera and Repullo (2010), Soedarmono et al., (2011), Jimenez et al. (2013), Yosman Bustaman (2013), namely

$$Bank\ Stability = \alpha + \beta_1 Competition + \beta_2 Net\ Interest\ Margin + \beta_3 Size + \beta_4 Liquidity + \varepsilon$$

Result and Discussion

Result

The coefficient of determination test (R^2) is done to find out the extent to which the independent variables in the regression model are able to explain the dependent variable. R^2 values range from one and zero, the closer to number one means the independent variable used can provide information on the dependent variable with better. The following are the test results of the coefficient of determination.

Table 1. Determination Coefficient Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,704[a]	,495	,483	1,482450542004377	2,106

a. Predictors: (Constant), Liquidity, Competition, Size, NIM

b. Dependent Variable: Z-SCORE

Source: Output SPSS (2018)

Table 1 shows that the value of R^2 is 0.495, while the adjusted R square value is 0.483. It means that the four independent variables such as competition, net interest margin, size, and liquidity explain 48.3% of the stability variable of the bank. While 51.7% (100% - 48.3%) are explained by other factors outside the regression model used. The Standard Error of Estmation (SEE) value is 1,482, the lower the SEE value, the more appropriate the regression model is used to predict the dependent variable.

Simultaneous significance test or statistical test F is a test that aims to determine whether all the independent variables in the regression model have an effect on the dependent variable. The results of the F statistic test are in table 2 below:

Table 2. Simultanous Significance Test

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	344,963	4	86,241	39,242	,000[b]
Residual	351,626	160	2,198		
Total	696,589	164			

a. Dependent Variable: Z-SCORE

b. Predictors: (Constant), Liquidity, Competition, Size, NIM

Source : Output SPSS (2018)

From the test results in table 2 it can be seen that the calculated F value is equal to 39,242 with a significance of 0,000. The test results have a significance value smaller than

0.05, then the independent variable in the regression model can be used to predict the dependent variable. So that it can be said that competition variables, size, net interest margin, and liquidity jointly affect the bank stability variable.

Individual Parameter Significance Test or statistic t aims to determine the extent to which independent variables can influence and explain the dependent variable. Table 3 below explains the results of the t test in this study:

Table 3. Individual Parameter Significance Test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6,317	1,089		5,801	,000		
	Competition	4,082	,598	,443	6,825	,000	,748	1,336
	NIM	52,848	7,892	,427	6,697	,000	,775	1,290
	Size	-,123	,060	-,124	-2,040	,043	,851	1,175
	Liquidity	-,011	,064	-,010	-,178	,859	,971	1,029

a. Dependent Variable: Z-SCORE

Source: Output SPSS (2018)

Table 3 shows that the significance value of the competition variable is 0,000, the variable net interest margin is 0,000, the variable size is 0,000, and the variable liquidity is 0,859. The significance value of competition variables, net interest margin, and size below 0.05, so that it can be acknowledged that competition variables, net interest margin, and size significantly influence bank stability. Whereas, the liquidity variable has a significance of 0.859 whose value is far above 0.05, then the liquidity variable is not significant to the bank stability variable. So that it can be concluded that the bank stability variable is influenced by competition variables, net interest margin, and size with mathematical equations as follows:

$$Stability = 6{,}317 + 4{,}082 Competition + 52{,}848 Net\ Interest\ Margin - 0{,}123 Size - 0{,}011 Liquidity$$

Discussion

Based on the testing of the first hypothesis that has been done, it is known that the regression results show that competition has a positive and significant effect on the stability of the bank. This means that increasing competition in the banking sector will encourage banks to improve banking management performance. Based on the theory of efficiency hypothesis by Demsetz (1973), increasing competition will improve banking efficiency through cost efficiency. Banks are encouraged to minimize costs, offer services at competitive prices so that banks can compete in the industry (Schaeck and Cihák, 2008; Martin, 2017). Banks that are more efficiently rather than their competitors will get higher profits due to low operating costs which will cause bank stability.

The results of testing the second hypothesis provide results that net interest margin has a positive effect on the stability of the bank. This means that the higher the net interest margin, the more stable the bank will be. This result is similar to the research conducted by Bustaman et all., (2017) and Dwumfour (2017) which states that the higher the net interest margin, the higher the income received by the bank. The more income the bank receives reflects the more efficient the bank in managing its productive assets to generate net interest income. Based on efficiency hypothesis, banks that operate more efficiently than their competitors get higher profits. An efficient bank will have better performance in the bank's overall operational activities. Banks can channel funds from third parties in the form of more

loans. The more credit channeled, the bank profits will increase. The higher the bank's profit, the smaller the bank's probability of going bankrupt, the more stable the bank will be (Kingu, Macha, Ghawula, 2018). On the other hand, the higher the bank profitability, the more stable the bank will be because the profit obtained by the bank can be used as a buffer when macroeconomic shocks occur so that the bank will avoid liquidity risk (Bustaman et all., 2017).

The results of testing the third hypothesis are known that size has a negative effect on banking stability. Bank assets as a proxied of size, derived from third party funds owned by banks must be channeled in the form of credit. These funds if not managed properly in lending can cause problems. Loan officers who are not careful in giving credit, screening too fast, lack of monitoring on loans, inadequate credit risk management, can increase the risk of default (Khanam, Hasan, Mawla, & Khan, 2013; Lis, Pagés, & Saurina, 2000). The risk of default is a serious threat to the bank because the higher the non-performing loan, the lower the bank's profitability and in the long run, it will increase the risk of bank failure (Kingu, Macha, & Gwahula, 2018). So that the greater the assets owned by the bank, the lower the stability of the bank. The research of Louzis, Vouldis, & Metaxas (2012) and Islam & Nishiyama (2016) also found that the greater the size of the bank, the higher the likelihood the bank will suffer a non-performing loan and the higher the probability of bank failure This is supported by the data below.

Table 4. Average of Total Assets, Bank Stability, and Non-Performing Loan Banks for the 2013-2017 period

Variable	2013	2014	2015	2016	2017
Total Assets *(ln total aset)*	17,3743	16,9122	17,0104	17,1051	17,2069
Bank Stability *(z-score)*	7,7574	8,5215	7,5860	4,8841	8,1862
Non performing Loan *(Trillion)*	1.11	1.41	1.65	2.3	2.11

Source : Output SPSS (2018)

Table 4 shows the average total assets and non-performing loans of banks from 2013 to 2017. In 2014 there was a decrease in total assets and followed by an increase in the level of stability of banks. In 2015 and 2016 there was a decrease in total assets and followed by a decrease in stability. The average total assets and non-performing loans have a trend that tends to increase every year. This shows that increasing bank assets can have a negative impact on banks if they can not manage assets properly and efficiently.

Based on the statistical test t that has been done, it is known that liquidity does not have a significant effect on bank stability. This study supports Wagner's (2007) research which found that increasing liquidity in normal conditions did not affect the stability of the bank. The results are not significant because banks in Indonesia are required to maintain adequate liquidity at certain levels. The sample bank used has an average of 8.04, which means that banks in Indonesia hold average assets of 8.04 percent of the total assets owned by the bank. Adequate liquidity aims to maintain the stability of the entire banking system because the liquidity crisis at a bank can spread to other banks and can cause failure throughout the system (Greuning & Bratanovic, 2004). The results of this study are contrary to previous studies conducted by Liu, Molyneux, & Nguyen, (2012) which provide positive results, the results of this study show a negative direction.

The greater the bank's liquidity, it will cause the existence of idle funds or unemployed funds. The existence of idle funds has an impact on the increase in costs that must be borne by the bank to be higher than the bank's income received from the interest in lending.

According to the cash management model inventory by William Baumol (1952) states that the optimal cash needs for the company are the same as managing inventory. The high cash balance held by the company causes the company to lose the opportunity to invest funds into profitable investments. An increase in opportunity cost causes a low return that has a negative effect and will reduce the stability of the bank (Goddard, Molyneux, & Wilsonc, 2008). This is supported by the decreasing amount of bank liquidity from year to year.

Table 5. Average of Liquidity 2013-2017

Variable	2013	2014	2015	2016	2017
Liquidity *(liquid assets to total assets)*	9,0547	8,5657	8,1004	7,2420	6,8884
Bank Stability	7,7574	8,5215	7,5860	4,8841	8,1862

Source : Output SPSS (2018)

Table 5 shows the average liquidity data on banks listed on the Indonesia stock exchange in 2013 until 2017. Liquidity is calculated by the ratio of current assets, namely cash and cash equivalents to total assets. Liquidity at banks in Indonesia has experienced a downward trend from 9.055 percent in 2013 to 6.888 percent in 2017.

Conclusion and Future Research

This research examines the effect of competition, interest margin, size, and liquidity on bank stability. The study was conducted at conventional commercial banks listed on the Indonesia Stock Exchange from 2013 to 2017. The test results showed that the competition proxied by the lerner index had a positive effect on bank stability. The more competitive the banking industry will lead to stable of bank. Competition in the banking sector will encourage bank to improve banking management performance by improving banking efficiency through cost efficiency. Banks that are more efficiently rather than their competitors will get higher profit due to low operating cost which will cause bank stability.

Net interest margin has a positive effect on bank stability. The higher net interest margin reflects the more efficient the bank in managing the bank's productive assets. The better the bank's ability to manage the bank, the higher the profit the bank receives and the more stable the bank will be.

The size variable that is proxied by the logarithm of natual total assets negatively affects the stability of the bank. This is because the larger the size of the bank will further increase the moral hazard manager in running the company. Managers will try to increase the size of the bank to obtain compensation without prioritizing good bank management. Poor managerial can lead to higher bankruptcy probability.

This study has a low R2 value of 0.495, while the adjusted R square value is 0.483. This means that the independent variables examined can only explain the variable of bank stability by 48.3 percent. The next researcher is expected to add other variables such as diversification, foreign bank penetration, credit risk, macroeconomic variables, and efficiency (Bustaman et all., 2017; Dwumfour, 2017). In addition, researchers can expand the research by comparing the types of banks in Indonesia. The results of the study emphasize that net interest margin and competition are important factor that influences bank stability so that banks in Indonesia need to maintain efficiency in bank operations. Government institutions (Central Bank) must control the benchmark interest rate for banks and oversee competition between banks.

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Appendix

SPSS test results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,704[a]	,495	,483	1,482450542004377	2,106

a. Predictors: (Constant), Liquidity, Competition, Size, NIM

b. Dependent Variable: Z-SCORE

Source : Output SPSS (2018)

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	344,963	4	86,241	39,242	,000[b]
Residual	351,626	160	2,198		
Total	696,589	164			

a. Dependent Variable: Z-SCORE

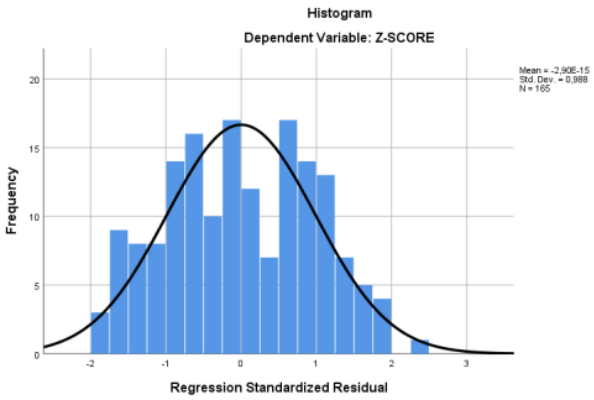
b. Predictors: (Constant), Liquidity, Competition, Size, NIM

Source : Output SPSS (2018)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6,317	1,089		5,801	,000		
	Competition	4,082	,598	,443	6,825	,000	,748	1,336
	NIM	52,848	7,892	,427	6,697	,000	,775	1,290
	Size	-,123	,060	-,124	-2,040	,043	,851	1,175
	Liquidity	-,011	,064	-,010	-,178	,859	,971	1,029

a. Dependent Variable: Z-SCORE

Source : Output SPSS (2018)

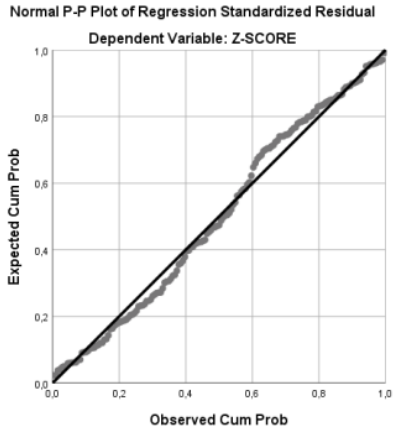


Source : Output SPSS (2018)

Coefficient Correlations[a]						
Model			Liquidity	Competition	Size	NIM
1	Correlations	Liquidity	1,000	-,031	-,109	-,059
		Competition	-,031	1,000	-,243	-,388
		Size	-,109	-,243	1,000	-,151
		NIM	-,059	-,388	-,151	1,000
	Covariances	Liquidity	,004	-,001	,000	-,030
		Competition	-,001	,358	-,009	-1,831
		Size	,000	-,009	,004	-,072
		NIM	-,030	-1,831	-,072	62,278

a. Dependent Variable: Z-SCORE

Source : Output SPSS (2018)



Source : Output SPSS (2018)

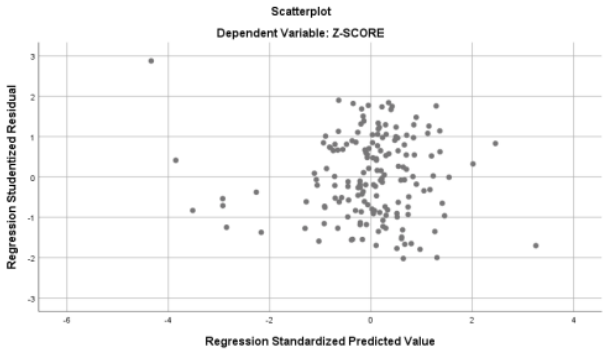
One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		165
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	1,46426028
Most Extreme Differences	Absolute	,068
	Positive	,058
	Negative	-,068
Test Statistic		,068
Asymp. Sig. (2-tailed)		,058[c]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Source : Output SPSS (2018)



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