

## Sensitive Gap as Impact of Asset Management and its Effect on Financial Performance of Commercial Banks in Indonesia

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**Abstract:** This study aims to determine the control of sensitive gap to the financial performance, by putting some fundamental indicators of financial banking, as exogenous variables such as assets, capitalization, liquidity and short-term credit. This study use secondary data, sourced from the financial statements, based on the years 2001-2013, with a model of Structural Equation Model (SEM) which is processed through Partial Least Square (PLS) methods. The research population is all state-owned commercial banks and national private commercial bank. The research sample consisted of four (4) government banks and 16 (sixteen) common private national banks. These results indicate that productive assets, capitalization, liquidity, short-term loans and the sensitive gap influence on financial performance. Earning assets, capitalization influence the sensitive gap, while liquidity and short-term credit does not affect the sensitive gap.

**Key words:** Productive asst • Capitalization • Liquidity • Short term loans • Sensitive Gap • Bank Financial Performance

### INTRODUCTION

This study aims to determine control of sensitive gap, namely control of assets over debt if changes in interest rates, particularly in debt due to the achievement of financial performance, by putting some indicators of financial fundamentals of banks as exogenous variables such as assets, capitalization, liquidity and short-term credit. The benefits to be achieved in this research is as a grip for bank managers to control the sensitivity of assets to debt maturities, especially if there is a change in interest rates.

The bank's performance is not only measured by the achievement of profitability, but also of the quality of credit. Each bank more cautious in lending, in order to avoid bad credit is high. One way the bank to reduce credit risk is to allocate funds in other instruments such as the placement of funds in the Central Bank, which of course has a low risk level. In general, the bank's financial performance declined due to congestion caused by factors credit banking and customer factors [1]. The high non-performing loans, can lead to a reluctance of banks to extend credit because they have to form large reserves of removal, thus reducing the amount of credit granted by a

bank. Placement of funds in Bank Indonesia can be Bank Indonesia Certificates (SBI), which is an instrument that is safest because it was published by the government through the Bank.

Based on Bank Indonesia report of 2008-2013, the average annual ROA of banks the government during the past six years amounted to 2.85% with an average growth of 8% ROA. The value of the average ROA dominant state banks are affected by the average Bank BRI ROA of 4.21% on average, followed by Bank Mandiri ROA by 3.14% on average next ROA of BNI amounting to 2.26% and the average Bank BTN average ROA of 1.77%.

On average per year ROA national private commercial bank foreign exchange over the last six years (2008-2013) amounted to 2.84% with an average growth of 5.3% ROA. The value of the average ROA dominant state banks are affected by the average ROA Bank BCA amounted to 3.57%, followed by Bank Danamon ROA average of 3.20% ROA Bank CIMB Niaga further by an average of 2.49% and ROA Panin Bank average of 2.10%.

If the financial performance of government banks as measured by ROA linked to productive assets, capitalization, liquidity, short-term credit and slack-sensitive, then the government banks, it is known that the

bank has on average earning assets in the largest at \$ 498 billion and has equity the largest average of Rp 55 trillion, but only able to achieve an average ROA of 3.14% is taken BRI. Whereas if associated with liquid assets and short-term credit, the BRI ranked highest with an average liquid assets of Rp 97 trillion and short-term loans by an average of Rp 235 trillion. Bank Mandiri sensitive slack while the average minus Rp 162 trillion and the average BRI minus Rp 102 trillion by BRI achieve greater ROA of the Bank.

If the financial performance of national private commercial bank foreign exchange, as measured by ROA linked to productive assets, capitalization, liquidity, short-term credit and slack-sensitive, then the national private commercial bank, it can be seen that the BCA had an average earning assets in the largest at \$ 329 trillion and has the largest equity which averaged USD 40, has the largest liquid assets on average of Rp 66 trillion and the largest short-term loans by an average of Rp 146 trillion and is able to achieve an average ROA of 3.57% were also were at first. BRI sensitive slack while the average is minus Rp 122 trillion in the first but still able to achieve ROA greater than other banks.

The capital adequacy ratio, liquidity and profitability is a benchmark that is often used in measuring the performance of the bank. Other factors that also affect bank performance is the amount of non-performing loans (non-performing loans) held by banks. Health conditions and the bank's performance can be analyzed with the financial statements. One of the objectives of financial reporting is to provide information to users of financial statements for decision making. Based on Bank Indonesia Regulation Number 3/22/PBI/2001 on Transparency of Financial Condition Bank, the Bank shall prepare and present financial statements in the form and scope as defined in the Regulation of Bank Indonesia, which consists of: (1) the Annual Report; (2) Quarterly Financial Report; (3) Monthly Financial Report; and (4) the Consolidated Financial Statements. Financial statements issued are expected to reflect the actual performance of the bank. From the information that is fundamental can be seen whether the bank has achieved a good level of efficiency, in the sense already utilize, manage and achieve optimal performance by using the resources of existing funds. Banks that have a level of good health can be said to have good performance. By having a good performance public investors will invest their funds in the bank's shares. This suggests the existence of public confidence that the bank can meet expectations.

Banks that received funds from the public will be aware that it has a responsibility to manage assets and resources owned professional funds. Investors who rely on fundamental information, the sources of information used as a basis for decision making is derived from the financial statements, in addition to other non-fundamental information. A financial statement published by the company is a form of communication from management to the owner. The owner of the financial statements can assess the performance of management. From numerous studies, one of the variables that affect the high and low share price is a good financial report. Where a good indicator of whether or not the financial statements one of which is profit. For business analysts, financial analysis is used to analyze the financial position and performance of companies using financial statement information. Investors will analyze the financial statements with financial ratios that are commonly used. Is an important thing for investors to analyze the position and performance of the company at this time to predict the condition of the company in the future.

Banking performance assessment criteria, which are used in this study is different from the criteria applied by Bank Indonesia. Health assessment bank Bank Indonesia version refers to the elements of the Capital, Asset Quality, Management, Earnings, Liquidity and Sensitivity, whereas in this study apply financial ratios commonly used to measure the financial performance of banks. This study did not include elements of the management of a bank because it can not be seen from outside. The reason for choosing Return On Assets (ROA) as the dependent variable on the grounds that ROA is used to measure the effectiveness of the company in generating profits by exploiting its assets. ROA is the ratio between profit after tax to total assets. The greater the ROA shows the better performance of the company, because the rate of return (return) greater. ROA is also a multiplication of net factor income margin by asset turnover. Net Income Margin demonstrate the ability to obtain profit from each sale created by the company, while the asset turnover indicates how much the company is able to create sales of its assets.

The research findings on the relationship between liquidity and financial performance that if a bank's liquidity level is high, the level of profitability will decrease [2]. Conversely, if a low level of liquidity, profitability will rise. Meanwhile Syaharman (2012) concluded that liquidity does not affect the profitability. Thus there is a difference research (research gap) between the data presented with the results of previous studies.

**Literature Review:** Gap Sensitivity is an indicator of the risk of an impact on profitability. Sensitive Gap is a technique first used in asset liability management to manage interest rate risk. The use of this technique started in the 1970s in the United States when a rise in interest rates in 1975-1976 and again from 1979 onwards triggered a banking crisis which later resulted in more than \$ 1 trillion losses when the federal deposit insurance and the Federal Savings and Loan Insurance Corporation was forced to liquidate hundreds of failed institutions were usually lent to long-term fixed rate (such as 30-year mortgages with fixed interest) and borrow for a shorter period of time.

The level of interest sensitive slack classify all assets, liabilities and off-balance sheet transactions in accordance with maturities effective from the perspective of the level of interest. Interest rate sensitive generally experienced slack loan is short-term, because short-term pinjaman can use the effective interest rate if at any time there is a change in interest rates. Sensitive slack is obtained by comparing the amount of assets and liabilities in each period of time at the level of interest sensitive slack table. This comparison provides insights estimate of the interest rate risk in the balance sheet are analyzed.

Gap is the difference or the difference between Rate Sensitive Assets (RSA) and Rate Sensitive Liabilities (RSL). RSA is the assets that are sensitive to changes in interest rates, such as: Loans, placements with other banks, securities, short-term nature. While RSL is liability sensitive to changes in interest rates, such as: current accounts, savings, deposits, call money, short-term nature. RSA is the asset may change after 1). The maturity date of the related assets, ie securities and loans that level for a particular outcome / fixed, such as sukuk Ijarah; 2). Peninjauan maturity date for the results (re-pricing date), ie securities are floating rate of profit sharing.

RSL are liabilities that yield may change after 1). Pasivanya maturity date are concerned, for example: time deposits; 2). A specific date according to the agreement, the example interestnya funds associated with less SIBOR / LIBOR; 3). Certain date as desired bank, sample checking services.

Positive Gap, occurs when the RSA more than RSL in a given period, otherwise the negative gap when RSA less than the RSL and zero gap when RSA together with RSL in a given period. If the RSA and RSL are not managed properly, it can lead to the fall of the banks' income (interest Net Income). Therefore, management is seeking regulatory gap RSA and RSL structure by maturity the

result with a goal). Avoid losses of profit sharing rate volatility prevailing in the market; b). Some income within certain risk limits; c). Supporting the need for liquidity management.

Productive assets are all assets in rupiah and foreign currency owned by banks with a view to earn income in accordance with its function, so that credit is one form of productive assets [3]. Management of funds in productive assets is a source of bank revenue used to finance the bank's overall operational costs. Asset quality assessed based on business prospects, financial condition with an emphasis on cash flow and the ability of debtors to pay.

Capitalization is often used to indicate the amount of "securities" in circulation (outstanding) in the form of capital stock (capital stock) and bonds (long-term bonds) [4]. For the purposes or practical purposes, capitalization is often defined as well as the accounting value of the overall amount of capital that is always or regularly used within the company and the stretcher capital in the form of share capital, surplus and long-term debt.

Theories about the management of banking liquidity, almost as old as banking knowledge [5]. Liquidity is the ability of bank management, to provide sufficient funds to meet all of its obligations and commitments that have been issued to its customers at any time [6]. Liabilities arising from the assets eg provision of funds for the withdrawal of the approved loan or withdrawal of concessions drag loans. While the obligations arising from the liabilities side or the liabilities for example the provision of funds for the withdrawal of savings and other deposits by customers.

Credit is bills or debts, arising from lending in the past. Provision of funds or equivalent claims based on a lending agreement or contract between the bank and another party requiring the borrowing party to repay their debts after a certain period with the amount of interest, remuneration or profit sharing.

Productive assets become a significant driver affecting the profitability of banks [7]. In the short term suggests that assets will have an impact on the level of the bank's ability to obtain profitability [8].

Earning assets sensitive gap determine earnings in a bank [9]. The higher the earning assets showed less interest in sensitive slack influence banks [10]. Earning assets one indicator to measure the level of sensitivity of changes in interest rates [11].

Sensitivity gap is determining financial performance [12]. Sensitivity slack at all sensitive to changes in interest rates and productive assets [13]. Under the provisions of the regulations BI No.5 / 2003, a proxy of market risk is

interest rates, thus the ratio of the market can be measured by the difference between the interest rate financing (funding) with interest rate loans granted (lending) or in the form of absolute, which represents the difference between the total interest cost of funding the total cost of borrowing.

Capitalization found to be a significant driver in both the long term and short term [14]. Vong and Chan (2012) [15] which examines the financial structure of the banking industry's performance showed a positive relationship because of the strong capitalization of capital. The results showed that the bank's capital strength is very important in influencing profitability.

Capitalization significant effect on profitability [16]. Capitalization is very influential on the bankruptcy of a bank [17]. The size of the capital owned by a bank can be used to predict whether these banks will be bankrupt or not in the future. So it can be arranged with a logic that insufficient bank capital, the bank can keep operations running efficiently. Currently, the bank is said to be efficient in carrying out its operations, it can be concluded that the bank has a good performance, so the potential for loss can be minimized.

Capitalization effect on sensitive gap [18]. Results from this study indicate that the debt ratio theory suitable. Debt helps companies to improve profitability because of the additional equity investment can be used to support operations in the entity. Capitalization of capital is an important aspect for sensitive gap a business unit of the bank [19]. Basically the risk of bank capital calculated using capitalization [20].

Sensitivity gap is banks' exposure to interest rate risk, or the income gap, even with such exposure plays an important role in the transmission of monetary policy [21]. Financial performance in the form of return on assets (ROA) is influenced by the level of sensitivity of the bank's ability to control the gap [22]. It is important for banks to constantly maintain the bank's performance, especially in the movement of the gap [23]. If the bank can maintain good performance, it can increase the value of shares on the secondary market and increase the number of third-party funds.

The size of the bank, asset, bank gross domestic product and inflation will increase the performance of banks while credit risk and liquidity will weaken the bank's performance [24]. efficient liquidity management implications to improve the performance of banks [25]. Optimal liquidity management at the bank will maximize profits [26].

If a bank's liquidity level is high, the level of profitability will decline. Conversely, if a bank is experiencing liquidity levels are low, it will cause increased levels of profitability [27-29].

One of the considerations that affect control of productive assets, to the sensitivity gap is to maintain the liquidity of banks, as it attempts to control the sensitivity negative gap by increasing lending, but on the other hand also perklu maintain bank liquidity conditions to be able to organize the planning [30].

Liquidity still be a primary consideration in the development of capitalization to control upheaval sensitivity gap that occurs in every bank [31]. Control of the sensitivity gap is to memnpertahankan level of liquidity [32].

Short-term loans are set, of course, will also affect the net interest margin, which in turn will affect the composition of the loan to deposit ratio (LDR) [33]. To anticipate the impact of banks to provide credit has some strict rules that must be obeyed by dilaksanakan and prospective debtor, in this case the bank wearing the implementation of prudential banking which is a strategy that must be implemented banks.

Granting loans in a shorter time, will result in a lower cost of funds compared with interest income from loans [34]. There is a positive influence between the period of credit with the net interest margin [35].

The problem in this study is whether the effect of productive assets to slack sensitive assets against financial performance, capitalization of the slack sensitive, the capitalization of financial performance, liquidity against slack sensitive, liquidity on financial performance, slack-sensitive financial performance and portfolio credit on financial performance.

**Research Methods:** The design of this study in terms of the purpose of the research included in the research descriptive associative, for influence and explain the causal relationship between the variables of productive assets, capitalization, liquidity, short-term credit and Gap sensitive to the financial performance of state-owned banks and national private commercial bank foreign exchange in Indonesia.

Unit research analysis, are government banks and national private banks which have their headquarters in Jakarta. terdiri of government bank 4 (four) banks and private national foreign exchange banks in Indonesia as many as 35 (thirty five) bank. Sampling with purposive sampling method is based on criteria which have go

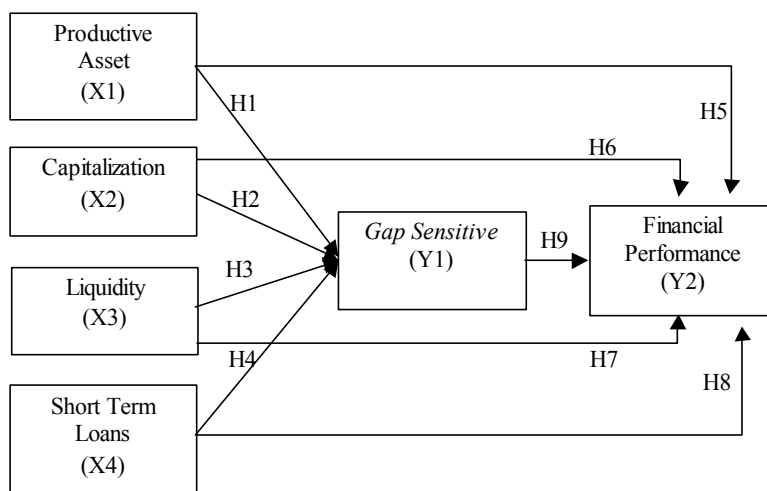


Fig. 1: Research Model

public during the thirteen years from the year 2001-2013, the financial statements have been audited by the firm of the year 2001-2013, published financial statements and notes to the financial statements of the years 2001-2013 and has total assets per December 31, 2013 over Rp 5 trillion. So the study sample consisted of 4 (four) bank pemerintah and 16 (sixteen) years swasta bank.

The data used in this research is secondary data obtained from financial statements. All data is measured in a scale ratio. Variables used in this study using unobserved variables, namely:

$X_1$  = Productive assets, are all funds that are placed and generate revenue

$X_2$  = Capitalization is measured by using the formula :

$$\text{Capitalization} = \frac{\text{Equity t} - \text{Equity t}}{\text{Equity t}} \times 100\%$$

$X_3$  = Liquidity, is the ability of bank management to provide sufficient funds to meet all liabilities are measured using the formula:

$$\text{Cash ratio} = \frac{\text{Likuid Asset}}{\text{Likuid Passiva}} \times 100\%$$

$X_4$  = Short-term credit, is the sum of short-term loans disbursed by each bank as measured by the formula:

$$\text{KJP Ratio} = \frac{\text{Saldo Kredit Jangka Pendek}}{\text{Total Saldo Kredit yg Disalurkan}} \times 100\%$$

$Y_1$  = Sensitive Gap, which theoretically is the difference between Rate Sensitive Assets (RSA) and Rate Sensitive Liability (RSL). RSA are assets that are sensitive to interest, such as: Loans, placements with other banks, securities, short-term nature. While RSL is liability sensitive interest, such as: current accounts, savings, deposits, call money, short-term nature. measured by :

$$\text{Gap sensitive} = \text{RSA} - \text{RSL}$$

$Y_2$  = Financial performance indicators measured by Return on Assets (ROA) and Net Interest Margin (NIM) in accordance with PBI No. 13/1 / PBI / 2011 on Assessment for Commercial Banks and SE 13/24 / DPNP dated October 25, 2011 measured by:

$$\text{ROA} = \frac{\text{Earning Before tax}}{\text{Average of Total Asset}}$$

To analyze the relationship between variables used analytical technique of Structural Equation Model (SEM) based variance with the approach of Partial Least Square (PLS). The research model can be presented as in the following picture (Figure 1):

## RESULT AND DISCUSSION

In this research will be testing the validity and reliability of each latent variable that is variable environmental, behavioral, health services and health status with the help of software Smart PLS. Size reflexive

Tabel 1: Correlations Among Variables.

	Productive Asset	Capitalization	Financial Performance	Short Term Loans	Liquidity	Sensitive Gap
Productive Asset	1,0000					
Capitalization	-0,1600	1,0000				
Financial Performance	0,0517	0,4996	1,0000			
Short term loans	0,0795	-0,2835	-0,2964	1,0000		
Liquidity	0,5071	-0,0642	0,2835	-0,2345	1,0000	
Sensitive gap	0,5047	0,3119	0,1657	-0,1241	0,2280	1,0000

Sources: Data Processing with *Smart PLS*

Tabel 2: Reliability Test

	AVE	Composite Reliability ( $\rho_c$ )	R Square ( $r^2$ )	Cronbachs Alpha (CA)
Productive asset	1,000	1,000		1,000
Capitalization	1,000	1,000		1,000
Financial performance	1,000	1,000	0,362	1,000
Short term loans	1,000	1,000		1,000
Liquidity	1,000	1,000		1,000
Sensitive gap	1,000	1,000	0,420	1,000

Sources: Data Processing with *Smart PLS*

Tabel 3: Validity test

			Loading ( $\lambda$ )	Sample Mean	Standard Error	T Statistics	Keterangan
Productive asset	>	Kinerja Keuangan	-0,0169	-0,0114	0,0891	0,1897	Tidak Valid
Capitalization	>		0,4925	0,4914	0,0586	8,4033	Valid
Liquidity	>		0,3040	0,2977	0,0847	3,5907	Valid
Short term loans	>		-0,0841	-0,0811	0,0635	1,3240	Tidak Valid
Sensitive gap	>		0,6112	0,6237	0,0653	9,3623	Valid
Productive asset	>	Senjangan Sensitif	0,3814	0,3843	0,0725	5,2596	Valid
Capitalization	>		-0,0768	-0,0836	0,0825	0,9300	Tidak Valid
Liquidity	>		-0,0825	-0,0828	0,0778	1,0598	Tidak Valid
Short term loans	>		-0,0169	-0,0114	0,0891	0,1897	Tidak Valid

Sources: Data Processing with *Smart PLS*

individual is said to be valid if it has a value of loading ( $\lambda$ ) with latent variables to be measured  $\geq 0.5$ , if one indicator has a value of loading ( $\lambda$ )  $< 0.5$ , the indicator should be discarded (dropped) because it would indicate that the indicator is not good enough for accurately measure latent variables.

Here is the output of correlation between the latent variable structural equation path diagram on the PLS using the Smart PLS software. Short-term credit is negatively related to slack sensitive while others are exogenous variables are positively related. In terms of correlation with financial performance, it is only short-term credit is negatively correlated, whereas others are positively related variables.

**Reliability Test:** A variable is sufficient reliability if the variable has a value of Composite Reliability is greater than 0.6. Here are the results of testing the reliability of each latent variable with the help of software Smart PLS. Based on the results of the above table, it can be concluded that for the latent variables exogenous Total Assets, Capitalization, Liquidity and Credit Short-term value AVE  $> 0.5$  and  $\rho_c = 0.7$  as well as latent variables

endogenous health status has a value of  $RD > 0.5$  and  $\rho_c = 0.7$  it can be concluded that all the latent variables used to have a fairly good reliability or able to measure konstruksnya.

Based on the structural model can be evaluated by looking at the value of  $R^2$  on endogenous variables and parameters of the path coefficients (path coefficient parameter). showed that the exogenous variables and affect sensitive slack variable of 42% means that other variable by 58% more decisive. Then the effect on the financial performance of 42%, meaning 58% determined by other variables.

The validity of test results based on Table 6 with indicators each having a value of loading ( $\lambda$ )  $= 0.5$  and has a T-statistic values  $> 1.96$  at significance level  $\alpha = 0.05$ . It can be concluded that the value of the relationship variable loading indicator total assets with a valid and significant slack sensitive determine slack construct Sensitive, while the validity of all the variables construct teradap financial performance turns out everything is not valid.

Figure 2 is the output path diagram on the PLS structural equation using software SmartPLS.

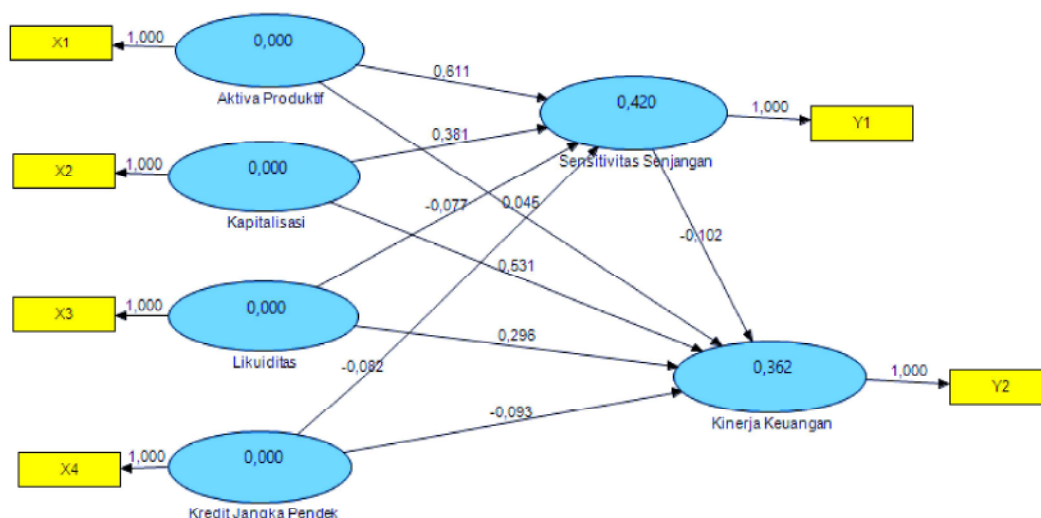


Fig. 2: Path Diagram

## CONCLUSION

Based on data analysis and discussion of the results of the study it can be concluded as follows:

- There is no effect between the Total Assets of the Financial Performance of the T-statistic value  $0.1897 < 1.96$  with a loading factor  $-0.0169$ , correlation of  $+0.0517$ , caused by an increase in credit that has not been proper placement or less consider the risk jam or pose a higher billing costs. On the other hand fixed assets were placed very selective so that distribution is very low resulting interest margins to decrease costs..
- There is the influence of the capitalization of the Financial Performance of the T-statistic values  $8.4033 > 0.4925$   $1.96$  with loading factor, correlation  $+0.4996$ , it happens due to the capitalization of capital directed to more productive credit pembeian
- There is the influence of liquidity to financial performance with the value of T-statistics  $3.5907 > 0.3040$   $1.96$  with loading factor, correlation  $+0.2835$ , because liquidity is minimal and speculative to anticipate a loss, even more channeled to productive credit.
- There is no influence of short-term credit to the financial performance with the value of T-statistics  $1.3240 < 1.96$  with a loading factor  $-0.0841$ ,  $-0.2964$  correlation and thus in general although the bank has helped the government to channel capital loan work short-term but not maximum contributes to the performance gains compared to the long-term credit.
- There is the influence of the gap is sensitive to financial performance with the value of T-statistics slack Sensitive  $9.3623 > 0.6112$   $1.96$  with loading factor, correlation  $+0.1657$ , it happens because in general the bank has anticipated credit's due.
- There is influence between the Total Assets of the slack Sensitive to the value of T-statistics  $9.3623 > 1.96$  with a loading factor  $+0.6112$ ,  $+0.5047$  correlation, meaning most productive asset is an asset sensitive that even a bank earning assets increased continuously demonstrated a positive influence to be sensitive to changes slack.
- There is influence between capitalized on slack Sensitive to the value of T-statistics  $5.2596 > 1.96$  with a loading factor  $+0.3814$ ,  $+0.3119$  correlation, meaning high sensitivity is not predicted by the amount of capitalization, due to the capitalization gained in the short term.
- There is no influence between the liquidity of the slack Sensitive T-statistic value  $0.9300 < 1.96$  with a loading factor  $-0.0768$ ,  $+0.2280$  correlation, meaning not an assurance of liquidity in anticipation of the sensitivity of the asset to debt maturities.
- There is no influence between short-term credit to the slack Sensitive T-statistic value  $1.0598 < 1.96$  with loading factor is  $0.0825$ ,  $-0.1241$  correlation. In general, short-term credit is much safer to anticipate the sensitivity of assets to debt maturity, because time is shorter jangka.

Referring to the results and conclusions of the above, then we can give recommendations to the various parties as follows:

- Provision of credit can be anticipated between the withdrawal of the bill with the maturity schedule of savings and deposits of third parties.
- Industry market conditions and government policies in the monetary field is very sensitive, so that management can bank lending if the Indonesian monetary conditions warrant a more stable rate change sensitivity.
- Liquidity is maintained, tetapi not a guarantee to maintain the stability of the changes in interest on deposits maturing.
- Research about financial performance based on slack sensitive, can not rely on the capitalization of capital in the short term, but by placing the assets in the short term is much safer.
- Under conditions of high sensitivity and negative should be necessary deepening of research in order to keep running lending short-term and long-term credit, but with sensitive controls much faster.

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