

# Analysis of the Effect of Capital, Net Interest Margin, Credit Risk and Profitability in the Implementation of Banking Intermediation

(Study On Regional Development Bank All Over Indonesia In 2012 )

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## Abstract

The aim of this study was to analyze the factors that affect the implementation of banking intermediation include Capital, Net Interest Margin, Credit Risk and Profitability. The methods used are descriptive and verificative, with secondary data from financial statements all over 26 Indonesian Regional Development Banks as a research object's units. Data analysis technique is the multiple linear regression, hypothesis testing while using t - test to examine the effect of partial variables and test - F to examine the effect of variables simultaneously with a significance level of 5 %. Based on the results it is concluded that partial NIM and ROA have positive and significant effects on LDR. NPL has positive effect but no significant effect to LDR. While the CAR has negative effect but no significant effect to LDR. Simultaneously CAR, NIM, NPL and ROA significantly influence the level of influence of LDR with 40.5 % while the remaining 59.5% thought to be influenced by other variables not examined in this study.

**Keywords:** Capital Adequacy Ratio; CAR; Loan to Deposit Ratio; LDR; Net Interest Margin; NIM; Non-Performing Loans; NPLs; Return on Assets; ROA .

## 1. Background

Bank as the depository financial institution holds a very important role in the economy of a country. Bank facilitates the interests of savers with borrowers through products and financial services it offers. Besides from these activities, banks can also provide services that facilitate payments traffic. It can not be denied that the role of banks which can be used as a tool in setting monetary policy is also the primary source of credit to most small businesses and individuals, which will ultimately affect the economic growth of a country (Koch, 2000; Buchory, 2006). The role that financial institutions have played in financial intermediation and growth, namely to mobilize savings and allocate them to the most productive and growth-promoting activities (Mahran, 2012). Banking plays such a major role in channeling funds to borrowers with productive investment opportunities. This financial activity is important in ensuring that the financial system and the economy run smoothly and efficiently" (Mishkin & Eakins, 2006). The combined effects of financial intermediation, which are the externality and inter-sectoral factor productivity differential effects on economic growth are significantly positive and do not appear to depend on the stage of economic development attained (M.O. Odedokun, 1998).

Intermediation function performed by banks through the purchase of surplus funds from economic units (business sector, government and individual / household) to be distributed to deficit economic units (Hempel et al., 1994). In other words, a financial intermediation is the diversion of funds activities from savers (ultimate lenders) to the borrower (the ultimate of borrowers). Implementation of financial intermediation in banking can be seen from the bank's ability to transform the savings are received primarily from household economic units into credit or loans for companies and other parties to make investments in buildings, equipment and other capital goods (Rose, 2002).

In the context of Indonesia's economy, the dominant role of banks remains as compared to other financial institutions. This can be seen from the market share asset indicators of financial industry through the month of June 2013. Banks still dominate the market share, which is equal to 78.24 %, followed by 6.13% for finance companies, 6.15 % for insurance companies, 5.12 % for social insurance companies, 2.70 % for pension funds, 1.09 % for corporate securities and mortgage of 0.57 % . (Infobank Research Bureau, 2013). Especially with regard to banking assets in Indonesia, total assets to the position on July 2013, which has reached Rp 4.510,29 billion invested largely in the form of loans of Rp 3.045,5 1 trillion or 67.52% Especially with regard to banking assets, total assets to the position on July 2013, which has reached Rp 4510.29 billion invested largely in the form of loans of Rp 3045.51 trillion or 67.52 % (Bank Indonesia, 2013). The ratio of credit to gross domestic product (GDP) of the Indonesian banking in 2011 only amounted to 29.6%, is still relatively low compared to 128.6% for Singapore, 117.3% for Malaysia, 81.2% for Thailand and 31.4% for the Philippines. Indonesian banking though still relatively low but contribution of banking play an important role in facilitating the growth of the Indonesian economy (Infobank Research Bureau, 2013).

Regional Development Bank (BPD) in Indonesia was established with the intent to provide funding for

the implementation of local development efforts in the framework of National Development (Law no. 13 1962). Later in the decree of Ministry of Internal Affairs No. 62 in 1999, affirmed that the principal task of developing the economy and the BPD is moving regional development, while the function is:

- (1) Promoting the creation of the level of economic growth and regional development in order to improve the standard of living of the people
- (2) The holder or a regional treasury and financial management areas
- (3) One source of revenue.

However up to this time, in carrying out its duties and functions of the BPD still faces several problems, among which: limited capital; brand awareness community to BPD is still very low; quality of service does not meet the expectations of society; quality and human resources competencies have not been standardized; innovation and product development is still limited; networks office services is still limited; not optimal strategic partnership; structure of public funding is relatively low; composition of the productive loan portfolio is relatively low, and not consolidate information technology (Eko Budiwiyo, 2012).

As one of the commercial banks, BPD plays a very important role in the economy, especially the regional economy. The role is mainly seen how wide BPD can apply intermediary function. Intermediation function performed by BPD through the process of purchasing the surplus funds from economic units (business sector, government and individual/household) to be distributed to deficit economic units. In other words, a financial intermediation is the diversion of funds activities from savers (ultimate lenders) to the borrower (the ultimate of borrowers). One commonly used indicator to measure the implementation of banking intermediation, is the ratio of loans to deposits or loans to deposits ratio (LDR) (Haruna, 2011; Buchory, 2006). The higher this ratio is, the better it means that the bank could carry out intermediation function optimally.

The LDR achieved by the BPD to December 2012 is 78, 57% lower than the national banks (83.58%), and other groups such as state banks (79.84%); private national banks (81.58%); non-foreign exchange banks (82.73%); joint banks (115.63%) and foreign exchange banks (111.21%) (Bank Indonesia, 2013). The achieved low LDR of BPD indicated that the implementation of banking intermediation by BPD has not been optimal. The not optimal implementation of banking intermediation by BPD is thought to include the effect of the Capital Adequacy Ratio (CAR), Net Interest Margin (NIM), Non Performing Loan (NPL), and Return on Assets (ROA).

Based on the phenomenon above, the problem in this research can be formulated into a research question: How the CAR, NIM, NPL, and ROA influence the implementation of banking intermediation? This study aims to analyse the factors that affect the implementation of the intermediation function of banks that allegedly include the effect of the CAR, NIM, NPL and ROA.

## 2. Literature review

### 2.1. Definition, role, function and core activity of bank

Bank is a financial institution whose main activity is receiving public deposits. The funds will be disbursed in the form of loans to communities who need them. Besides taking deposits and giving loans, banks also provide other financial services.

According to the Law No. 7 of 1992 and amended by Law No. 10 of 1998 about Banking, banks are business entities that raise funds from the public in the form of savings and channel them to the community in the form of credit or other forms in order to improve the living standard of the people.

The role of banks in the economy can be expressed as "...banking plays such a major role in channelling funds to borrowers with productive investment opportunities, this financial activity is important in ensuring that the financial system and the economy run smoothly and efficiently" (Mishkin and Eakins, 2006). The same is expressed as follows "...Commercial banks play an important role in facilitating economic growth. On a macroeconomic level, they represent the primary conduit of Federal Reserve monetary policy. Banks deposit represent the most liquid form of money, such that Federal Reserve efforts to control the nation's money supply and level of aggregate economic activity do so by changing the availability of credit at banks. On a microeconomic level, commercial bank represents the primary source of credit to most small business and many individuals" (Koch, 2000). While other opinions about the role of the bank are as follows: "... A bank can be defined in the term of: (1) the economics function is serves, (2) the services is offers its customer, or (3) the legal basis for its existence. Certainly bank can be identified by the functions they perform in the economy, they are involved in transferring funds from savers to borrowers (financial intermediation) and in paying for goods and services" (Rose and Hudgins, 2008)

For the Indonesian banking bank functions listed in the Law of the Republic of Indonesia No. 7 of 1992 and amended by Law No. 10 of 1998 on Banking, banks are business entities that raise funds from the public in the form of savings and channel them to the public in the form of loans or other forms in order to improve the living standard of the people. In other parts of the act, the bank also provides a variety of services and conveniences that in essence is to meet the needs of people of all financial transactions. The core activities of a bank as a financial institution that are always associated with the transactions or financial activity that occurred

in the community are:

- 1 intermediation (taking deposits and lending money)
- 2 disintermediation (relinquishing the intermediary debtor/creditor position, while retaining a 'broker' role)
- 3 collection and payment system, money transmission
- 4 foreign exchange, foreign trade services
- 5 participation in the money and capital market (Cade, 1997)

## *2.2. Definition and factors of affecting banking intermediation*

In simple terms the role of banks in the economy is to fulfil the desire of ultimate borrowers and the ultimate lenders. However, the role of banks is actually quite complex because there are two interests beside other interests that must be met by a bank and that are those of the owners and the government (regulator). Thus, a bank must be able to balance the various interests (ultimate borrowers, ultimate lenders, owners and regulators) that are sometimes different (Hempel et al., 1994). Given that the banking sector is the intermediary between the parties that have the excess funds and those who need the funds, the reallocation of public funds has important implications for the movement of the economy as a whole. Therefore, the role of banks in the economy is especially from the extent to which the bank can apply its intermediary functions. Financial intermediation is the process of buying funds from surplus economic units (business sectors, government and individual/household) to be distributed to deficit economic units (Hempel et al., 1994). The same is stated by Kidwell and Petterson (2000) which states that intermediation is the process of transformation or direct purchases of a claim with a series of characteristics (maturity, denomination) of DSUs and turn it into a claim indirectly by a different set of characteristics to be sold to SSUs. Meanwhile, according to Gardner (2000), intermediation is a process of transformation from secondary securities into primary securities. Primary securities are the claim of individuals, government and non-financial companies, while the secondary securities are claims against financial institutions.

The implementation of financial intermediation in banking can be seen from the bank's ability to transform savings received primarily from household economic units into credit or loans for companies and others to invest in buildings, equipment and other capital goods (Rose, 2002). The indicators commonly used to measure the extent of intermediation by the banking system has been implemented, namely by looking at the ratio of loans to deposits known as Loans to Deposits Ratio (LDR). An indicator to measure the workings of the banking intermediation function is to look at the Loan to Deposit Ratio (LDR). According Buchory (2006), LDR ratio reflects the ability of banks to extend credit and collect public funds. The higher this ratio is, the better it means that the bank could carry out intermediation function optimally. Vice versa, the lower this ratio means the bank in carrying out its intermediary function is not optimal. Some of the causes have not been optimal implementation of banking intermediation in the region, according to research by Bank Indonesia is caused by: the limited authority of the bank branches in deciding loans, the effect of the financial condition of the internal branch of the credit, the existence of alternative investment of funds, the business climate in the region, the precautionary principle (Abdullah and Suseno, 2003). In this study, the authors estimates that not the optimal implementation of the intermediary function (LDR) by BPD (regional development bank) is caused by the following factors : capital (CAR), credit risk (NPL) and profitability (ROA) .

### *2.2.1. Loan to deposit ratio*

As noted above that the LDR is an indicator in the measurement of banking intermediation. According to the research result Buchory (2006) implementation of financial intermediation function give effect to banking performance. This means that banks will have good financial performance if the bank could apply its intermediary function optimally. For banks in Indonesia, according to Bank Indonesia Circular Letter No. 13/24/DPNP dated October 25<sup>th</sup>, 2011 Subject : Valuation of Level Commercial Bank Soundness and the circular letter No. 15/41 / DKMP Jakarta, October 1<sup>st</sup>, 2013 Subject: Calculation of Minimum statutory Reserved Demand Deposit and Compulsory Demand deposit by Loan to Deposit Ratio in Rupiah. Loan to Deposit Ratio hereinafter referred to as the LDR is the ratio of loans to third parties in exchange Rupiah and foreign currency, excluding loans to other banks, the deposits which include demand deposits, savings and time deposits in Rupiah and foreign currencies, excluding interbank funds. Therefore, a bank's LDR is determined by the bank's ability to collect and distribute funds to third parties in the form of credit. The higher the LDR showed greater use of bank deposits for lending, which means bank has been capable to run intermediary function properly. However, if the LDR is too high can also rise a liquidity risk for banks. The implementation of financial intermediation gives effect to banking performance. This means that banks will have good financial performance if the bank apply its intermediary function optimally.

### *2.2.2. The effect of CAR of the LDR*

Intermediation function can be implemented optimally if supported by adequate capital (Buchory, 2006).

Even though the funds collected by the third party is very large, but if not offset by additional capital the banks will be limited in extending credit. Bank capital is not only important as a source of funds to meet the needs of the bank, but the bank's capital will affect management decisions in the creation of the rate of profit on the one hand and the potential risks on the other. If the bank's strong capital the bank has a strong financial. Under these conditions, the role of capital for banks is very important both as a buffer to accommodate the increased unexpected losses derived from credit, interest rate, liquidity and operational risk as well in order to build public trust. Capital plays a very important role (Culp, 2001), namely as:

- (1) buffer loss (capital loss as a buffer)
- (2) investment Mechanism (capital as an investment mechanism).

The same opinion was expressed that the role of capital in the bank are:

- (1) as a tool for achieving the optimal capital structure (capital as a means for achieving the optimum capital structure)
- (2) as security guards bank risk management in order to secure (capital a substitute risk management for banks to ensure safety) (Schroeck, 2002).

Similarly, according to Rose (2002) that the bank capital plays a very important role in supporting the bank's operations and viability in the long term for bank. The strength of a bank's capital can be measured by the minimum capital adequacy ratio or the the CAR. CAR is an indicator of the ability of banks to provide funds for expansion and accepting risk loss caused by the operations of the bank. For banks in Indonesia, according PBI. 14/18/PBI/2012 November 28<sup>th</sup> 2012 subject : Minimum Capital Adequacy shall be at the low as follows:

- a. 8% of the Risk Weighted Assets (RWA) for the Bank's risk profile rating of 1
- b. 9% to less than 10% of the RWA for the risk profile of the Bank with a rating of 2
- c. 10% to less than 11% of RWA for the risk profile of the Bank with a rating of 3
- d. 11% to 14% of RWA for the risk profile of the Bank with a rating of 4 or 5

The higher the CAR, the greater the financial resources that are able to be used to support implementation of the particular credit intermediation function. According to Soedarto (2004) and by Budiawan (2008), CAR has a positive and significant impact on bank credit. And according to Buchory (2006) implementation of financial intermediation influence on the capital structure of the bank. This means that the bank in carrying out the functions of financial intermediation, especially in lending is needed an additional funds from the public and supported by adequate capital. Nasirudin (2005) research results showed that the level of capital adequacy significant effect on LDR in Central Java. Then, according Siringoringo (2012) capital structure simultaneously affect the intermediation function Bank. Furthermore, research results Tangko (2012) showed that the variables CAR significantly influence to LDR. Similarly, the result research of Sitorus (2013) entitled *Analysis of Factors influence of Non - Performing Loans (NPLs) at Go Public Bank at Indonesia Stock Exchange period 2005-2011*, the result of the research indicates that the Capital Adequacy Ratio (CAR), influence the Loan to Deposit Ratio (LDR) . While the study results Mbizi (2012), entitled *An Analysis of the Impact of Minimum Capital Requirements on Commercial Bank Performance in Zimbabwe*, findings revealed that there is a significant and positive relationship between commercial bank capitalization and its performance. Utari research results and Haryanto (2011) the results showed that CAR is not significant positive influence on the LDR with a significance level of  $0.192 > 0.050$ . And the results of Tamtomo research (2012) partially Capital Ratio Adequacy positive and significant effect on LDR.

### 2.2.3. The Effect of Net Interest Margin (NIM) of the Loan to Deposit Ratio (LDR)

As well as Return On Assets (ROA), net interest margin (NIM) being one of the indicators that can be used to measure the performance of the bank to generate profits of the management of earning assets or productive assets owned bank. NIM calculated by comparing the interest income to total earning assets. Fluctuations in market interest rates will lead to higher NIM reached the low bank. Therefore NIM ratios may also reflect the market risk, ie the risk that the bank due to adverse changes in market conditions especially interest rates. Mujeri and Younus (2009) suggested a related concept is the net interest margin (NIM) defined as the difference between interest expenses and interest income per unit of total bank NIM assets. The NIM is treated as an important indicator of intermediation efficiency and the expectation is that NIM would decline as the banking industry matures and competition strengthens.

The higher the better NIM, meaning that the bank has the potential gains derived from the difference between interest income resulted in increased earnings and capital as one of the financial resources that can be used to support intermediation function especially the provision of credit. Research of Sitorus (2013) stated, the result of the research indicates that net interest margin (NIM) influence the Loan to Deposit Ratio (LDR). While the study results Astohar (2012), the results showed interest that Net interest margin (NIM) variables can not strengthen the influence of a variable loan to deposit ratio to changes in foreign exchange earnings on the bank of banks in Indonesia.

#### 2.2.4. *The effect of NPLs of the LDR*

Credit is the greatest asset investment banks. Similarly, loan interest income is the largest source of revenue for banks. If the credit returns fail then the ability of banks to provide new loans will be disrupted. In addition to the bank's revenue would also decrease in interest income due to non-receipt of credit. Besides, the bank also must establish reserves or provisions of problem loans that ultimately will reduce the bank's capital. Though, much capital is needed for credit expansion. The reduced of banks ability to provide credit to interfere with the implementation of the bank intermediation. Credit quality of a bank is indicated by the *NPL*. Thus, *NPL* can be used to measure the ability of banks to *cover* the risk of default of loan repayment by the debtor. Based on Bank Indonesia Circular Letter No. 13/24/DPNP on October 25th, 2011 concerning the Commercial Banks, problem loans are loans to a third party of non bank consist of non performing loan (sub standard), doubtful and loss. The higher the level of *NPLs*, the greater the credit risk borne by the bank. *NPL* rate may affect the level of efficiency of banks. The research Karim, Chan and Hassan (2010) states in Malaysia and Singapore, clearly indicate that higher non-performing loan reduces cost efficiency. Therefore, banks should be able to press a low *NPL* ratio so that the potential benefits to be gained will be even greater, because banks will save the allowance for credit losses or allowance for non-performing assets (PPAP). The low Allowance (PPAP) formed the greater profitability and ultimately improve the bank's capital. According to Sentausa (2009) cited by Pratama (2010), the amount of *NPLs* to be one of the causes of the difficulty banks in lending. Similarly, according to Harmanta and Ekananda (2005) *NPL* is significantly and negatively related to bank credit. Therefore, according to Budiawan (2008) *NPL* has effect negatively and significant on bank credit. Meanwhile, according to Soedarto (2004), *NPLs* effect positively and significant on bank credit. While the study results of Nasirudin (2005) showed that the variable *NPLs* have a significant effect on *LDR*. The research results of Utari and Haryanto (2011) showed that *NPL* has a significant negative influence on the *LDR* with a significance level of  $0.000 < 0.050$ . The same thing was stated Tamtomo (2012) and Tangko (2012) that *NPL* variable effect negatively and significant on *LDR*. Meanwhile, according to Al-Abedallat and Al-Shubiri (2013) research has empirically examined the determinants of credit risk held by Jordanian banks over the 2006 to 2010 periods The credit risk is one of the main risks that seriously affect banks' stability. Meanwhile, according to Sitorus (2013) the result of the research indicates that the *CAR*, *ROA*, *NIM* and *OEOI* that totally influence the *NPL*.

#### 2.2.5. *The Effect of ROA of the LDR*

Bank is an organization that combines human effort and financial resources to carry out the functions of the bank in order to serve the needs of the community and to make a profit for the owners of the bank (George Hempel, 1999). Banking profits obtained through bank intermediation process. Analysis of profitability needs to be done to measure the level of business efficiency and profit achieved by a bank. Ratio commonly used to measure and compare the performance of profitability is *ROA*. *ROA* is the major ratio used in analyzing bank profitability. *ROA* is used to assess the ability of bank management in managing all bank assets to create revenue in the form of profit is calculated by comparing net income to average total assets. The higher of the *ROA*, so better of the bank's management to generate profits. The results study of Utari and Haryanto (2011) showed that *ROA* is not significant negative influence on the *LDR* with a significance level of  $0.560 > 0.050$ . While according to Tamtomo (2012), found that *ROA* positive and significant effect on *LDR*.

#### 2.3. *Hypothesis*

Based on the relationship between research objectives and theoretical framework to the formulation of the research problem, the hypothesis are as follows:

- H1: *CAR* positively effect on *LDR*
- H2: *NIM* positively effect on *LDR*
- H3: *NPL* negatively effect on *LDR*
- H4: *ROA* positively effect on *LDR*
- H5: *CAR*, *NIM*, *NPL*, *ROA* effect on *LDR*

### 3. **Research method**

#### 3.1. *Research method*

The methods used in this research are descriptive method and verification method. Descriptive method is a method used to analyze data in a way to describe or depict the data that has been collected as is without intending to apply general conclusions or generalizations while the verification method is a method of research that aims to determine the relationship between two or more variables. This verification method is used to test the truth of a hypothesis. Influence or shape the causal relationship between variables *X* and *Y* can be known from the research method of verification. (Sugiyono, 2009)

### 3.2. Type, data source, population, sample and data collection methods.

Data used in this study is secondary data All Indonesian regional development banks which include CAR, NIM, NPL, ROA and the LDR were obtained from the Indonesian Banking Statistics and Data Center Consultant EKOFIN Publications in 2012 (calculated quarterly). The research population was 26 regional development banks (BPD) serve as the object of study. While the object is observed financial statements position December 31st, 2012. Data collection method used was to study the documentation. Study of documentation is done with the data collection and classification category of written materials related to the research problem.

### 3.3. Operational Variables

This study uses the independent variables, namely CAR, NIM, NPL, ROA and the dependent variable is the implementation of function banking intermediation as measured by the LDR.

### 3.4. Analysis Techniques Data

The data analysis technique used in this study is a multiple linear regression. First, it is tested to determine whether the assumptions of classical linear regression model doesn't have problem of normality, multi-collinearity, heterocedastity and autocorrelation. If all of them were fulfilled means that the model has a decent analysis used (Gujarati, 2003). To examine the hypothesis was used T-test to determine statistical significance of the effect of independent variables on the dependent variable partialy, F-test to determine the statistical significance of the coefficient of multiple significance or F-test to determine significance of the independent variables on the dependent variable simultaneously. Data processing is done by using the software Statistical Package for Social Science (SPSS) version 20.0 for Windows. The regression equation used is as follows:

$$Y = a + \beta X_1 + \beta X_2 + \beta X_3 + \beta X_4 + e$$

Where,

Y = Loan to Deposit Ratio (LDR)

a = A constant which is the value of the variable Y when the variable X is 0 (zero)

$\beta$  = Coefficient of the regression line

X<sub>1</sub> = Capital Adequacy Ratio (CAR)

X<sub>2</sub> = Net Interest Margin (NIM)

X<sub>3</sub> = Non Performing Loans (NPL)

X<sub>4</sub> = Return on Assets (ROA)

e = Residual

## 4. Result and discussions

### 4.1. The development LDR, CAR, NIM, NPL and ROA regional development bank in Indonesia

Based on data until December 2012, the development of LDR, CAR, NIM, NPL and ROA were achieved by 26 regional development banks operating in Indonesia (see Table 1) can be described as follows:

The average value of LDR achieved until December 31, 2012 amounted to 78.57%. That is BPD throughout Indonesia have been able to apply the functions of bank intermediation through fund raising and lending of 78.57%, lower than the national banks (83.58%), and other groups such as state banks (79.84%); private national banks (81.58%); non-foreign exchange banks (82.73%); joint banks (115.63%) and foreign exchange banks (111.21%) (Indonesian Banking Statistics, 2013). But it is still in the range of LDR determined by Bank Indonesia, namely:

1 the lower limit of the LDR target by 78%

2 the upper limit of the LDR target:

a of 100% up to the date of December 1st, 2013

b by 92% from the date of December 2nd, 2013.

The lowest value of LDR at 55.77% is achieved by BPD South Kalimantan, while the highest value of LDR at 113.21% is achieved by BPD South Sulawesi. The average value of CAR achieved until the period December 31, 2012 amounted to 18.33% is above the minimum capital requirement of 8% as required by Bank Indonesia. The highest CAR at 32.29% was achieved by BPD Central Sulawesi and the lowest CAR at 12.30% was achieved by BPD DKI (Jakarta). Therefore, the average value of the CAR indicates that BPD still has the capital ability to increase intermediation function through lending distribution.

The average value achieved NIM period December 31<sup>st</sup>, 2012 amounted to 7.63%. The highest value of 11.99% NIM was achieved by BPD West Nusa Tenggara and the lowest NIM of 5.15% achieved by the BPD South Kalimantan. By looking at the average value of NIM is still above that required by Bank Indonesia amounting to 2%. This means that BPD (Regional Development Bank) is able to obtain a positive interest margin of the management of its assets. Of these factors indicate that the BPD still has the ability to improve the

function of intermediation through lending.

The average NPLs value was 2.13% achieved by period of December 31st, 2012. The highest NPL value of 4.49% was achieved by BPD Central Sulawesi and the lowest NPLs was 0.17% achieved by BPD West Kalimantan. By looking at the average value of the NPL shows that the credit risk was faced by BPD are at moderate albeit under tolerance required by Bank Indonesia at 3%–6%. It means being able to control the risk of BPD lending. Because if NPLs increase will disrupt the BPD's ability to improve the function of intermediation through lending.

The average ROA value was 2.13% achieved by period December 31st, 2012. The highest ROA value was 5.62% achieved by the West Nusa Tenggara and the lowest ROA was 1.27% achieved by the South Kalimantan. By looking at the average ROA value show that all BPD able to get profit from all their assets. The average ROA value is above that required by Bank Indonesia at 1.25%. This means that the income earned from BPD still has the ability to improve the function of intermediation through lending.

**Table 1** The development LDR, CAR, NIM, NPL and ROA regional development banks in Indonesia December 31<sup>st</sup>, 2012 (percentage)

| No. | Regional Development Banks | LDR    | CAR   | NIM   | NPL  | ROA  |
|-----|----------------------------|--------|-------|-------|------|------|
| 1.  | DKI - Jakarta              | 73.50  | 12.30 | 5.26  | 3.20 | 1.87 |
| 2.  | West Java                  | 74.09  | 18.11 | 6.76  | 2.07 | 2.46 |
| 3.  | Central Java               | 82.62  | 14.38 | 8.22  | 0.80 | 2.73 |
| 4.  | DIY- Yogyakarta            | 71.89  | 14.40 | 9.02  | 0.84 | 2.56 |
| 5.  | East Java                  | 83.55  | 26.56 | 6.48  | 2.95 | 3.34 |
| 6.  | DI - Aceh                  | 89.89  | 17.82 | 7.87  | 3.30 | 3.66 |
| 7.  | North Sumatera             | 101.90 | 13.24 | 8.49  | 2.86 | 2.99 |
| 8.  | West Sumatera              | 100.35 | 15.12 | 7.26  | 2.69 | 2.65 |
| 9.  | South Sumatera             | 75.98  | 13.55 | 6.50  | 6.82 | 1.90 |
| 10. | Riau                       | 66.49  | 19.56 | 6.72  | 2.95 | 2.95 |
| 11. | Jambi                      | 82.29  | 24.41 | 8.21  | 0.33 | 3.58 |
| 12. | Bengkulu                   | 93.27  | 15.84 | 7.70  | 0.22 | 3.41 |
| 13. | Lampung                    | 91.73  | 19.29 | 6.51  | 0.74 | 2.80 |
| 14. | Bali                       | 80.60  | 16.79 | 7.50  | 0.57 | 4.28 |
| 15. | East Nusa Tenggara         | 93.45  | 16.52 | 8.67  | 1.20 | 3.65 |
| 16. | West Nusa Tenggara         | 108.41 | 12.92 | 11.99 | 1.98 | 5.62 |
| 17. | Papua                      | 71.65  | 19.95 | 5.71  | 0.84 | 2.81 |
| 18. | Maluku                     | 78.61  | 14.72 | 7.85  | 2.67 | 3.25 |
| 19. | North Sulawesi             | 109.62 | 14.70 | 8.66  | 0.81 | 2.95 |
| 20. | South Sulawesi             | 113.21 | 21.91 | 9.53  | 1.39 | 3.99 |
| 21. | Central Sulawesi           | 107.27 | 32.29 | 6.15  | 4.49 | 1.59 |
| 22. | Southeast Sulawesi         | 92.02  | 22.53 | 8.89  | 1.33 | 5.10 |
| 23. | East Kalimantan            | 56.78  | 20.83 | 6.65  | 7.45 | 2.50 |
| 24. | West Kalimantan            | 86.80  | 16.87 | 9.01  | 0.17 | 3.33 |
| 25. | South Kalimantan           | 55.77  | 18.22 | 5.15  | 1.83 | 1.27 |
| 26. | Central Kalimantan         | 71.88  | 23.75 | 7.67  | 0.84 | 3.41 |
|     | Minimum                    | 55,77  | 12,30 | 5,15  | 0,17 | 1,27 |
|     | Maximum                    | 113,21 | 32,29 | 11,99 | 4,49 | 5,62 |
|     | Average                    | 78,57  | 18,33 | 7,63  | 2,13 | 3,10 |

Source: Banking Statistics Indonesia <http://www.bi.go.id/> downloaded May, 9, 2013, processed and Ekofin Consulting (2013)

#### 4.2. Multiple linear regression analysis

Multiple linear regression analysis was used to determine basically dependence of dependent variable with one or more independent variables, with the aim of estimating or predicting the average of population data or average value of the dependent variable based on the value of the independent variable known (Gujarati, 2003). By regression analysis it can be seen whether there is influence between independent variables with the dependent variable. The results of multiple linear regression analysis in this study can be seen in Table 2.

Based on Table 2, the regression equation is as follows :

$$LDR = 0.421 - 038X_1 + 0.355X_2 + 0.619X_3 + 5.052X_4$$

The equation above it can be explained as follows:

1. Constant value (a) of 0.421, which means a positive constant value. This shows if the CAR ( $X_1$ ), NIM ( $X_2$ ), NPL ( $X_3$ ) and ROA ( $X_4$ ), has a value of zero, then the LDR (Y) increase by 0.421
2. Regression coefficient for the variable CAR ( $X_1$ ) is -0.38, indicating a negative the relationship between the CAR ( $X_1$ ) with LDR (Y), meaning that if the addition of CAR ( $X_1$ ) for every one unit, assuming other variables constant, the LDR (Y) decreased by 0.038. And vice versa, if there is a reduction of CAR ( $X_1$ ) of the unit it will increase the LDR (Y) equal to 0.038.
3. Regression coefficient for the variable NIM ( $X_2$ ) is 0.355, indicating a positive the relationship between the NIM ( $X_2$ ) with LDR (Y), meaning that if the addition of NIM ( $X_2$ ) for every one unit, assuming other variables constant, the LDR (Y) decreased by 0.355. And vice versa, if there is a reduction of NIM ( $X_2$ ) of the unit it will increase the LDR (Y) equal to 0.355.
4. Regression coefficient for the variable NPL ( $X_3$ ) is 0.619, indicating a positive relationship between the NPL ( $X_3$ ) with LDR (Y), meaning that if there is additional NPL ( $X_3$ ) per unit, assuming other variables remain the LDR (Y) was reduced by 0,619. And vice versa if there is a reduction in NPL ( $X_3$ ) of the unit it will increase the LDR (Y) equal to 0.619
5. Regression coefficient for the variable ROA ( $X_4$ ) is 5.052 which means it has a positive value, it indicates the direction of the relationship between ROA ( $X_4$ ) with LDR (Y), meaning that if there is additional ROA ( $X_4$ ) of one unit, assuming other variables remain the will add to the LDR (Y) of 5.052. Otherwise any such reduction occurred ROA ( $X_4$ ) by one percent then it will reduce the LDR (Y) equal to 5.052

**Table 2** Test results of multiple linear regression coefficients<sup>a</sup>

| Model      | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|------------|-----------------------------|------------|---------------------------|-------|------|
|            | B                           | Std. Error | Beta                      |       |      |
| (Constant) | .421                        | .094       |                           | 4.475 | .000 |
| 1 CAR      | -.038                       | .304       | -.12                      | -.124 | .902 |
| NIM        | .355                        | .116       | .398                      | 3.051 | .003 |
| NPL        | -.619                       | .752       | .069                      | .822  | .415 |
| ROA        | 5.052                       | 2.041      | .315                      | 2.476 | .015 |

a. Dependent Variable: LDR  
 Sumber : Output SPSS 20.0

### 5.3. Analysis of correlation coefficient and coefficient of determination

Correlation coefficient analysis was used to determine the direction and the strong relationship among the three independent variables. Those are the variable CAR ( $X_1$ ), NIM ( $X_2$ ), NPL ( $X_3$ ), and ROA ( $X_4$ ), with LDR as a dependent variable (Y). (see table 3).

Based on Table 3, it can be concluded that the variable the CAR ( $X_1$ ), NIM ( $X_2$ ), NPL ( $X_3$ ), and ROA ( $X_4$ ), with LDR dependent variable has a value of correlation (r) 0.636, meaning that the correlation (relationship level) the CAR ( $X_1$ ), NIM ( $X_2$ ), NPL ( $X_3$ ), and ROA ( $X_4$ ), with LDR dependent variable (Y) are in strong correlation (Sugiyono, 2009). While the coefficient of determination analysis was used to determine the contribution effect of CAR ( $X_1$ ), NIM ( $X_2$ ), NPL ( $X_3$ ), and ROA ( $X_4$ ), with LDR dependent variable (Y) as a dependent variable (Y) expressed as a percentage. Analysis of the coefficient of determination is squaring the correlation value ( $R^2$ ) and based on Table 3 that the  $R^2$  value was 0.405. So when multiplied by 100%, the contribution or effect of variable CAR ( $X_1$ ), NIM ( $X_2$ ), NPL ( $X_3$ ), and ROA ( $X_4$ ), with LDR dependent variable (Y) is 40.5% indicating that CAR ( $X_1$ ), NIM ( $X_2$ ), NPL ( $X_3$ ), and ROA ( $X_4$ ) accounted for 40.5% of the LDR (Y), while the remaining 59.5% thought to be influenced by other variables not examined.

**Table 3.** Test results correlation coefficient and coefficient of determination model summary<sup>b</sup>

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .636 <sup>a</sup> | .405     | .381              | .1008946                   |

Sumber : Output SPSS 20.0

### 4.4. Partial significance test (t-test)

To examine hypotheses on the significance of the partial model used t-test. It is intended to determine the effect of independent variables (CAR, NIM, NPL and ROA) partially to the dependent variable (LDR). Partially, the influence of the three independent variables to the LDR as an independent variables, shown in the Table 4 partial test results (t-test), it can be argued that:

1. Effect of CAR on the LDR

Partial test results between the CAR with an LDR shows the t-test value of  $-0.124$  less than t-table (1.983) with a significant value of 0.902 which is below 0.05. This means that the CAR effects on LDR. Thus hypothesis H1 stating CAR positive effect on LDR is rejected.

The test results are in line with previous research conducted by Utari and Haryanto (2011) which states that CAR does not have significant positive effect on the LDR with a significance level of  $0.192 > 0.050$ . However, contrary to the results of research Soedarto (2004); Nasirudin (2005); Buchory (2006); Budiawan (2008); Tangko (2012); Tamtomo (2012); Mbizi (2012) and Sitorus (2013) which states that CAR has positive and significant effect as an indicator on the implementation of banking intermediation function.

2. Effect of Net Interest Margin (NIM) of the Loan to Deposit Ratio (LDR).

Partial test results between Net Interest Margin (NIM) with loan to deposit ratio (LDR) shows the t-value of 3.051 count is greater than t-table (1.983) with a significant value of 0.003 which is below 0.05. This means that the Net Interest Margin (NIM) affect the Loan to Deposit Ratio (LDR). Thus the hypothesis H2 which states NIM positive effect on LDR is acceptable. The test results are in line with previous research conducted by Sitorus (2013) which states that the result of the research indicates that net interest margin (NIM) influence the Loan to Deposit Ratio (LDR). However, contrary to the Astohar (2012) research results, which states that the results showed net interest variables cannot strengthen the influence of a variable loan to deposit ratio to changes in earnings on bank foreign exchange bank in Indonesia.

3. Effect of NPL on the LDR

Partial test results between NPL to LDR shows the t-value of 0.822 less than the t-table (1.983) with a significant value of 0.413 which is above 0.05. This means that the NPL do not affect the LDR. Thus the hypothesis H3 which states NPL negatively effect the LDR, is rejected. This mean NPL in BPD did not have a significant impact on the implementation of banking intermediation by BPD because the average NPL rate in BPD is relatively small. NPL is relatively small indicating that the credit risk faced by small BPD as a result of good credit management. The test results are in line with the research results of Soedarto (2004) that states NPLs positive and but not significant effect on bank credit. However, in contrast to previous research conducted by Pratama (2010), Harmanta and Ekananda (2005), Nasirudin (2005), Utari and Haryanto (2011), Tamtomo (2012) and Tangko (2012) that partially, NPLs variable has negative effect and significant to the LDR. Meanwhile, according to Budiawan (2008) which states that NPL no significant and negative effect on bank credit.

4. Effect of ROA on LDR

Partial test results between ROA with the LDR shows the t-test value of 2.476 is greater than t-table (1.983) with a significant value of 0.015 which is below 0.05. This means that the ROA effect on LDR. Thus hypothesis H4 which states ROA has a positive effect on LDR is acceptable. The test results are in line with previous research conducted by Tamtomo (2012) which states that the ROA has positive and significant effect on LDR. However, in contrast to the Utari and Haryanto (2011) which states the results showed that ROA is not significant and has negative effect on the LDR with a significance level of  $0.560 > 0.050$

**Table 4.** Partial test results (t-test)

| Model      | t-count | t-table | Sig  | Description     |
|------------|---------|---------|------|-----------------|
| (Constant) | 10.556  |         | .000 |                 |
| 1 CAR      | -.124   | 1.983   | .902 | Not Significant |
| NIM        | 3.051   | 1.983   | .003 | Significant     |
| NPL        | .822    | 1.983   | .413 | Not Significant |
| ROA        | 2.476   | 1.983   | .015 | Significant     |

a. Dependent Variable: LDR  
 Sumber : Output SPSS 20.0

4.5. Simultaneous significant test (F-test)

F - test was conducted to determine the effect of independent variables (CAR, NIM, NPL and ROA) together (simultaneously) to the dependent variable (LDR). Simultaneous influence of the four independent variables to the independent variables LDR is shown in Table 5. Based on the results of the F-test calculations in Table 5, F-count was 16.831 larger than the F-table (2.661) with a significance value (sig) of 0.000 is smaller than 0.05. This means that the independent variables (CAR, NIM, NPL and ROA) simultaneously significant effect to

dependent variable (LDR). Thus the H5 hypothesis which states CAR, NIM, NPL and ROA effect on LDR is acceptable. The test results are in line with previous research conducted by Prayudi (2011) that the variable CAR, NPL, OEOI, ROA and NIM with the F test, simultaneously affect the LDR. Furthermore, according to Siringoringo (2012) research results, that is simultaneously affect the capital structure of the Bank intermediation function. And Tangko (2012) research results, showed that the variables CAR and NPL have significantly influence on LDR, and NPL variable has a significant negative effect on LDR. Similarly, the results of research Sitorus (2013) which states that the CAR, ROA, NIM and OEOI influence the LDR. Nasirudin (2005) states that CAR and NPL have a significant effect on LDR. While Tamtomo (2012) found that during the research period partially, variable of CAR and ROA ratio is positive and significant effect on LDR of a company, NPLs has negative effect and significant on LDR of a company, while the third party funds no effect on LDR of a company. The research results showed that the CAR variables significantly influence to LDR and NPL variable and has a significant negative effect on LDR. But according to Utari and Haryanto (2011), the results showed that the five independent variables (CAR, NPL, ROA, OEOI and GWM) influence by 24.4% against the level of liquidity proxy LD, and the CAR does not have significant positive influence on the LDR with a significance level of  $0.192 > 0.050$ , NPL has a significant negative influence on the LDR with a significance level of  $0.000 < 0.050$ . ROA does not significant negative influence on the LDR with a significance level of  $0.560 > 0.050$ , and OEOI has a significant positive effect on the LDR with a significance level of  $0.001 < 0.050$ .

**Tabel 5** Simultaneous test results (F-test)

| ANOVA <sup>a</sup> |            |                |     |             |        |                   |
|--------------------|------------|----------------|-----|-------------|--------|-------------------|
| Model              |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
| 1                  | Regression | .685           | 3   | .171        | 16.831 | .000 <sup>b</sup> |
|                    | Residual   | 1.008          | 100 | .010        |        |                   |
|                    | Total      | 1.693          | 103 |             |        |                   |

a. Dependent Variable: LDR

b. Predictors: (Constant), ROA, CAR, NPL, NIM

## 5. CONCLUSION

Based on the background, the formulation of the problem, hypotheses, methods and research results and discussion, some conclusions can be drawn as follows:

1. In 2012 BPD (Regional Development Bank) throughout Indonesia are able to carry out banking intermediation function as measured by the Loan to Deposit Ratio (LDR) of 78.57%, still lower than the national banks and other banks, but still within the range of the LDR is determined by Bank Indonesia. Lowest LDR value reached by the BPD South Kalimantan, while the highest LDR value achieved by the BPD South Sulawesi.
2. Based on the test results partially that variable of NIM and ROA have positive and significant effects to LDR. NPL has positive effect but no significant effect to LDR. While the CAR has negative effect but no significant effect to LDR. While based on the test results simultaneously that variable of CAR, NIM, NPL, and ROA significantly influence to LDR variable
3. The amount of the contribution or influence variable of CAR, NPL and ROA to the dependent variable of LDR is 40.5% while the remaining 59.5% thought to be influenced by other variables not examined in this study.

## REFERENCES

- Abedafattah Zuhair Al-Abedallat and Faris Nasir Al-Shubiri, 2013. *Analysis The Determinants of Credit Risk in Jorfaianan Banking : An Empirical Study*. Journal Management Research and Practice, Volume 5 Issue 3 / September 2013. pp: 21-30. ISSN 2067- 2462
- Amriani, Riski Fitri, 2012. *Analysis of the Effect of CAR, NPL, ROA AND NIM Against LDR On State-owned Bank in Indonesia Period 2006-2010*, Thesis, Management Department Faculty of Business and Economic, Hasanuddin University, Makasar
- Astohar, 2012. *The Role of Net Interest Margin (NIM) in Strengthen Effect on the Loan to Deposit Ratio (LDR) of changes in Earnings On a Devisa Bank Registered in Indonesian Bank 2006-2009*. Economic Focus Journal, STIE (Economic School) Pelita Nusantara Semarang, No. 1 Volume 7, June 2012, ISSN 19076304.
- Bank Indonesia, Bank Indonesia Regulation (PBI) No. 14/18/PBI/2012 on November 28<sup>th</sup>, 2012 on The Minimum Capital Adequacy of Commercial Banks, Capital for Commercial Banks Headquartered in Indonesia.

- Bank Indonesia, Circular Letter (SE) No.13/24/DPNP on October 25<sup>th</sup>, Subject : Valuation of Level Commercial Bank Soundness
- Bank Indonesia, Circular Letter (SE) No. 15/41 / DKMP, October 1<sup>st</sup>, 2013 Subject: Calculation of Minimum statutory Reserved Demand Deposit and Compulsory Demand deposit by Loan to Deposit Ratio in Rupiah.
- Bank Indonesia, Publication of Banking Financial Statement / [www.bi.go.id](http://www.bi.go.id) / downloaded on February 4<sup>th</sup>, 2013.
- Bank Indonesia, Indonesian Banking Statistics, Volume 11, No.. 7, June 2013.a registered in Indonesian bank Bank 2006-2009, Economic Focus Journal, STIE (Economic School) Pelita Nusantara Semarang, Edition No. 1 Volume 7, Juni 2012, ISSN: 19076304
- Buchory, Herry Achmad, 2006. *The Influence of Financial Intermediary Function Implementation, Risk Management Application and Bank Capital Structure on Banking Financial Performance*, Disertasi Fakultas Ekonomi, Universitas Padjadjaran Bandung.
- Buchory, Herry Achmad, 2014. *Analysis of factors affecting implementation of banking intermediation function: study on regional development bank all over Indonesia in 2012*. Proceeding SIBR 2014 Conference on Interdisciplinary Business and Economics Research, 7th-8th February 2014, Kuala Lumpur, Malaysia. Paper No. K14-157, p. 1-22.
- Budiwiyono, Eko, 2012. *BPD (Regional Development Bank) For Strength In Accelerating Implementation of Regional Autonomy: Prospects and Problems*, Papers Presented at the National Seminar on Indonesian Economist Association, Yogyakarta, 2012.
- Budiawan. 2008. *Analysis of Factors Affecting the Distribution of Credit in Rural Bank (BPR) Case Study at Bank Indonesia Banjarmasin*. Thesis, Magister Management Study Program of Diponegoro University Semarang
- Cade, Eddie. 1997. *Managing Banking Risk*. London : Gresham Books, Cambridge.
- Culp, Christopher L. 2001. *The Risk Management Process, Business Strategy and Tactics*. New York : John Wiley & Sons, Inc.
- Ekofin Konsulindo, Banking & Financial Consultants, 2013. Indicators and Directory of Indonesian Banking in 2012, Jakarta.
- Gardner, Mona J., Dixie L. Mills, Elizabeth S. Cooperman, 2000. *Managing Financial Institutions : An Assets/Liability Approach*. New York : Dryden Press.
- Graddy, Duane B., Austin Spencer, William H. Brunsen, 1985. *Commercial Banking and The Financial Services Industry*. First Edition. Virginia : Reston Publishing Company Inc., A Prentice-Hall Company.
- Granita, Jen Kharisa, 2011. *Influence Analysis of deposits, CAR, ROA, NPL, NIM, BOPO, Interest Rates, Inflation and Exchange Rate Against LDR (Studies in National Private Exchange Bank 2002-2009 period)*. Thesis in Bachelor Program Economic Faculty Diponegoro University, Semarang
- Gujarati, Damodar, 2003. *Basic Econometric*, Fourth Edition. NewYork : Mc. Graw-Hill Book Co.
- Harmanta and Mahyus Ekananda. 2005. *Disintermediation Function Post-Crisis Banking in Indonesia 1997: Factor of Demand or Supply Loans, A Model Approach to Disequilibrium*. Bulletin of Monetary Economics and Banking, Bank Indonesia, June 2005, Volume 8 No. 1, p 51 – 78.
- Haruna, Muhammad Auwalu, 2011. *Determinant of Cost of Financial Intermediation in Nigeria's Pre-consolidated Banking Sector*, Department of Accounting Ahmadu Bello University, Zaria, Nigeria
- Hempel, George H., Simonson Donald G., Coleman Alan B., 1994. *Bank Management Text and Cases*, Fourth Edition. New York : John Wiley & Sons, Inc.
- Karim, Mohd Zaini and Sok-Gee Chan, 2008. *Bank Efficiency and Non Performing Loans in Malaysia and Singapore*, Proceeding of Applied International Business Conference 2008. P. 948 – 958.
- Keputusan Menteri Dalam Negeri No. 62 year 1999 on Guidelines for Organization and Work of Regional Development Banks
- Kidwell, David. S, Richard I. Petterson, 2000. *Financial Institution, Market and Money*. New York : Dryden Press.
- Koch, Timothy W., 2000. *Bank Management*, International Edition. Orlando : The Dryden Press, Harcourt Brace College Publishers.
- Mahran, Hatim Ameer, 2012. *Financial Intermediation and Economic Growth in Saudi Arabia: An Empirical Analysis, 1968-2010*. Journal Modern Economy Volume 3. Issue 5 (Sept. 2012): p. 626-640.
- Mbizi, Rangga (2012). *An Analysis of the Impact of Minimum Capital Requirements on Commercial Bank Performance in Zimbabwe*, International Journal of Independent Research and Studies – IJIRSISSN: 2226-4817; EISSN: 2304-6953 Vol. 1, No.4 (October, 2012) 124-134
- Mishkin, Frederic S. and Stanley G. Eakins, 2006. *Financial Market & Institutions*, Fifth Edition, New York : Pearson, Addison Wesley
- Nasirudin, 2005. *Analysis of Factors Affecting the Loan to Deposit Ratio (LDR) at Rural Bank in Region Job Bank Indonesia Semarang*. Thesis Magister Management Study Program of Diponegoro University

- Semarang.
- Oktaviantari, Luh Putu Eka and Ni Luh Putu Wiagustini, *Effect of Banking Risk To Profitability on Rural Banks in Badung*, Economic Faculty Udayana University, Bali, Indonesia
- Odedokun, M.O. (1998). *Financial intermediation and economic growth in developing countries*, Journal of Economic Studies, Vol. 25 Issue : 3 p. 203 – 224.
- Pratama, Billy Arma, 2010. *Analysis of Factors Affecting Bank Lending Policy (Study on Commercial Banks in Indonesia Period 2005-2009)*. Thesis, Master Program in Management, Diponegoro University, Semarang
- Prayudi, Arditya, 2011. *Pengaruh Capital Adequacy Ratio (CAR), Non Performing Loan(NPL), BOPO, Return On Asset (ROA) dan Net Interest Margin(NIM) terhadap Loan to Deposit Ratio (LDR)*, [online] <http://www.papers.gunadarma.ac.id/index.php/mmanagement/article/.../14225>, download May, 9, 2013.
- Rose, Peter, S., 2002. *Commercial Bank Management*. Chicago : Richard D. Irwin, Inc.
- Rose, Peter S. and Sylvia Hudgins, 2008. *Bank Management & Financial Services*, Sixth Edition. Mc. Graw – Hill International Edition, Chicago.
- Schroeck, Gerhard, 2002. *Risk Management and Value Creation*. New Jersey : John Wiley & Son, Inc.
- Siringoringo, Renniwaty, (2012). *Characteristics and Functions of Banking Intermediation in Indonesia*. Bulletin of Monetary Economics and Banking, Bank Indonesia, Volume 15 No. 1, July 2012. p. 61 – 83. JEL Classification : G21, G32
- Sitorus, Vera Yohana, 2013. *Analysis of Factors influence Non Performing Loan (NPL) at Go Public Bank at Indonesia Stock Exchange period 2005 -2011*, © 2013 sciencegate.ch,Point Software AG, Zürich.
- Soedarto, M. (2004) *AnalisisFaktor - Factor that Affects Distribution Rural Credit Bank (BPR (Rural Bank) Case Study in Work Area Bank Indonesia Semarang)*, Thesis Magister Management Study Program Diponegoro University Semarang.
- Sugiyono (2009), *Research Methods*, Jakarta: Salemba Empat.
- Supriyanto, Eko.B., (2012). *Indonesian Banking Challenges in 2013*, Bureau of Research Infobank, Jakarta.
- Tamtomo, Handy Setyo, and Hersugondo 2012. *Effect of CAR, NPL, ROA Against LDR Indonesia Banking Company*, Students' Journal of Accounting and Banking, Stikubank University, Semarang, Volume 1, No. 1, 2012. , Abstract, p. 1
- Tangko, Irene Lastry Fardani, 2012. *Analysis of Effect of Capital Adequacy Ratio (CAR) and Non-Performing Loans (NPL) of the Loan to Deposit Ratio (LDR) in the state-owned bank in Indonesia*, Thesis Management Departemen Economic and Business Faculty, Hasanudin University Makasar.
- Utari, Mita Puji and Haryanto, A. Mulyo (2011). *Analysis of Effect of CAR, NPL, ROA and BOPO on LDR (Case Studies in National Private Exchange Bank in Indonesia Period 2005-2008)*. Undergraduate thesis, Diponegoro University Semarang.
- Undang-Undang (LAW) No. 7 year 1992 as amended in LAW No. 10 1998 on Banking
- Undang-undang (LAW) No. 62 year 1999 Main Provisions of the Regional Development Banks

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