Effect of CAR (Capital Adequacy Ratio), BOPO (Operational Costs on Operational Revenues) and LDR (Loan to Deposit Ratio) to ROA (Return on Assets) PD Bank Pasar Bogor City

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Abstract:- The purpose of this research is to know the effect of CAR, BOPO, and LDR against ROA PD Bank Pasar Bogor city. The research was conducted in PD Bank Pasar Bogor city in 2018. This research is conducted by using quantitative method to obtain information about the problems associated with the analysis of factors that affect the financial performance PD Bank Pasar Bogor city. Primary data obtained directly from data sources with the period of 2010 - 2015. Data analysis techniques using descriptive statistical analysis techniques and inferential statistical analysis techniques. The results of the research show: (1) There is a positive and significant effect of CAR to ROA. This means that ROA is determined by CAR. CAR which will either result in increased ROA and vice versa if CAR low then ROA is also low, (2) There is influence negative and significant BOPO to ROA. This means that ROA is determined by BOPO. BOPO which decreases will lead to increased ROA and vice versa if BOPO increases then ROA will decrease, (3) There is a positive influence and significant LDR to ROA. This means that ROA is determined by the LDR. LDR which increases will result in increased ROA and vice versa if LDR which is low then ROA is also low, and (4) There is influence which are significant CAR, BOPO, and LDR simultaneously to ROA. This means that ROA is determined by CAR, BOPO, and LDR together. CAR, BOPO, and LDR which will either result in increased ROA and vice versa if CAR, BOPO, and LDR are together low then ROA is also low.

***Keywords**:- Capital Adequacy Ratio (CAR), Operational Cost of Operating Income (BOPO), Loan to Deposit Ratio (LDR), Return on Assets (ROA).*

I. INTRODUCTION

Bank is an institution that acts as a *financial intermediary* between parties who have the financial intermediaries with the parties that require funds and as an institution that serves to smooth the flow of payment traffic. The Bank also has a role as the implementation of monetary policy and the achievement of financial system stability, so it needs a healthy banking, transparent and accountable. Banks in running their business raise funds from the community and redistribute them in various investment alternatives. Relating to this fundraising function, banks are often also called trust agencies. In line with the characteristics of its business, the bank is a business segment whose activities are much regulated by the government.

According to Law Number 10 Year 1998 on Banking, banking is anything that concerns about banks, including institutions, business activities, and ways and processes in carrying out its business activities. While the bank is a business entity that collects funds from the public in the form of savings and channeled to the community in the form of credit and or other forms to improve the standard of living of many people. From the definition can be explained that the bank is a company engaged in the field of finance, and its activities must be related to financial problems.

In collecting funds and lending to the public, banks compete both through the provision of facilities / amenity / privileges and through interest rates (cost). Because of competition also, there are times when banks do not heed the prevailing provisions, especially the provisions of banking authorities (Bank Indonesia). In some cases, there is a violation of banking regulations of Bank Indonesia, such as exceedances LLL (Limits Lending) to a company or group of companies, lending, disregarding the principle of prudence *(prudential banking).* This can be detrimental to investors and may have an impact on the country's economy. This can happen because the credit given is stalled so that the bank not only does not earn interest which is the main income of the bank, but also suffer losses on the loan principal. The loan principal provided to the customer is sourced from public funds which must be returned plus interest at maturity. If in the banking system a lot of bad loans, then there could be banking / monetary crisis as happened in Indonesia in 1997 (Kuncoro and Suhardjono, 2011).

The condition of the banking world in Indonesia has undergone many changes over time. These changes are in addition caused by developments outside the world of banks, such as the real sector in the economy, politics, social, law, defense and security. It started in 1983 when various kinds of deregulation started by the government. Deregulation and implementation of policies related to the monetary and real sectors have led to the banking sector having the ability to improve macroeconomic performance in Indonesia. This banking business expanded rapidly in the period 1988-1996. However, in the middle of 1997, the banking industry experienced a complete setback due to the monetary crisis and the economic crisis that hit Indonesia.

The economic crisis that struck Indonesia since the middle of 1997 resulted in all the economic potential decline and bankruptcy (Sari, 2010).

Financial institutions comprise of bank and non-bank financial institutions under the auspices of Bank Indonesia, the Department of Cooperatives and the Department of Pawnshops. Based on Law no. 10 of 1998 on Amendment to Law No.7 / 1992 on banking, bank financial institutions consisting of Commercial Banks and BPRs. Commercial Banks and Rural Banks may choose to execute their business activities because of conventional bank or bank principles based on sharia principles.

In general, a bank is a business entity that has the authority and functions to raise public funds to be channeled to those who need the funds. The types of banks that exist in Indonesia include the Central Bank, Commercial Bank, and Bank Perkreditan Rakyat (BPR). Banking firms are business-dependent because of concerns that the money they invest will be abused by the bank, the money will not be managed properly, the bank will be bankrupt and liquidated, and at the time promised the deposit cannot be withdrawn from the bank. Bank is a financial intermediary institution or as an intermediary between the owner of capital with the user of capital as supporting infrastructure to support the smoothness of the economy. In addition, banks have a very important role in society, not just as a source of funds for those who lack the funds or as a place of money for the excess funds but has other functions that are widespread today. Economic progress and higher levels of economic activity have encouraged banks to create products and services that provide satisfaction and convenience such as providing more efficient payment mechanisms in economic activities, providing storage services for valuables and offering financial services others.

Unlike the Central Banks and Commercial Banks, Rural Banks / BPRs are supporting banks that have limited operational areas and funds owned with limited services such as providing limited credit loans, receiving public savings, providing financing under the principle of profit sharing, placement of funds in SBI / Indonesian bank certificates, time deposits, certificates / securities, savings, and so forth.

BPR has a strategic role in the Indonesian economy especially in encouraging the development of micro, small and medium enterprises (MSMEs). Small and medium micro enterprises act as the creators of business and equity of employment. Based on the Law No.10 of 1998 Rural Bank is a bank conducting activities conventionally or based on sharia principles which in its activities do not provide services in its payment traffic. BPR business activities are primarily intended to serve small businesses and communities in rural areas. The legal form of an RB may be a Limited Liability Company, a Regional Enterprise, or a Cooperative.

Business activities undertaken by BPR in general are collecting funds from the public in the form of savings and time deposits, providing credit, providing funding and placement of funds based on sharia principles or not, and placing the funds in the form of Bank Indonesia Certificates, time deposits, certificates of deposit or savings on other banks.

The financial condition of a bank is in the interests of all parties concerned, both owners, managers (management) banks, and the community of bank service users. Information on the condition of a bank may be used by the parties to evaluate bank performance in establishing prudential principles, compliance with prevailing regulations and risk management. The results of the bank's condition assessment can be used as one of the means in determining the business strategy in the future. The existence of Rural Bank is to meet the needs of society in the field of finance with the provisions more easily than other banks.

The number of banks in the city of Bogor quite a lot ranging from the type of government banks, national private banks, regional development banks, and BPR banks. With the number of banks is quite a lot of this then the level of competition between banks in the city of Bogor quite tight. The banks offer a variety of products with varied services to the people of Bogor City. The complete number of banks in Bogor City can be seen in Table 1.1.

Type of Bank / Type of Bank	2011	2012	2013	2014	2015	2016
1. Government / State	4	4	4	4	4	4
2. Private National / Private	29	29	31	30	31	32
3. Regional Development / Development Banks	1	1	1	2	2	1
4. BPR / Rural banks	9	9	7	7	6	7
5. Total number	43	43	43	43	43	44

Table 1. Number of Banks by Type in Bogor City 2009-201 6
Source: Bogor City in Figures, 2016.

Rural Bank (BPR) is one type of bank known to serve the micro, small and medium entrepreneurs. The existence of BPRs is generally close to the people in need. The function of BPR is not only to channel credit to micro, small and medium entrepreneurs, but also to receive savings from the community. Bank Perkreditan Rakyat (BPR) is one form of institution / banking that did not escape the problems caused by the economic crisis. To that end, BPR is required to survive and develop in achieving its objectives. To achieve this, one way to measure whether the BPR has performed in accordance with the principles of sound banking and in accordance with applicable provisions can be seen from the level of health or financial performance of the concerned BPR.

The management of rural banks in the Bogor City area should still be improved, as seen from the number of BPRs in this region quite a lot, so the competition between BPR is very open. Currently there are many banks operating in Bogor City Region, both commercial banks and rural banks that can lead to unhealthy competition. Often bank management takes shortcuts in winning the competition. To maintain its business development in the increasingly fierce competition and to respond to the needs of the community, the management of Rural Bank should pay attention to the level of health covering 3 (three) aspects, namely CAR (Capital *Adequacy Ratio*), BOPO (Operating Cost Ratio against Operating Revenue), and LDR (Loan *to Deposit Ratio*). In addition, BPRs also should improve their skills or expertise in human resources especially in the IT field and improve supervision on operational performance and update inventory of offices that are not feasible so that it can improve the operational performance of employees.

In the analysis, there are criteria that have been set by Bank Indonesia as the Central Bank, namely about how much percentage of financial performance that meets the requirements of the bank to be stated healthy, and not harm / harm the parties concerned. The analysis is quantified as a valuation aspect which is the calculation of financial ratios. Therefore, financial ratios are useful in assessing the financial performance of banks. The larger the scale of bank operations as measured by total assets and the higher the amount of capital from the bank is expected to perform better operation.

One of the obligations and authority of the Central Bank is to maintain and control the health of banks in the banking industry. If a bank is considered to have good health, then the bank will be given the opportunity to expand its business. However, if a bank is considered less healthy, then the Central Bank will conduct stricter supervision to avoid *collapse* of the bank.

PD Bank Pasar Bogor city is a tool of local autonomy in the field of finance and runs its business as Rural Bank in accordance with prevailing banking regulations. PD Bank Pasar Bogor city which is a company owned by the City of Bogor, its existence is expected to become a bank financial institution that can play a role in the efforts of equity distribution of small and medium society. The considerable number of financial institutions that offer various facilities makes it difficult for customers to make their investment choices in a healthy bank. Therefore, the level of financial performance of BPR is very important to attract customers and overcome the increasingly fierce competition. To know the success of RBs, an assessment of the overall health or financial performance of the BPR is required. To know the condition of bank finance in PD Bank Pasar Bogor city used a financial statement analysis which is intended to present important indicators of existing condition as a tool for management decision making to reach the expected goal.

ROA is the ratio that divides between net profit after tax with average assets at the beginning of the period and the end of the period. This ratio is used to see the company's ability to manage each value assets they should generate net profit after tax. The higher the ROA of a company, the better the company's ability to manage its assets.

Analysis of Return on Assets or abbreviated with ROA is an important existence. This ROA is an actual phenomenon related to the ability of PD Bank Pasar Bogor in every management value assets they should generate net profit after tax. Currently no research has been done on the effect of CAR (Capital *Adequacy Ratio*), BOPO (Operating Ratio of Operating Revenue), and LDR (Loan *to Deposit Ratio*) to *Return on Assets* (ROA) in PD Bank Pasar Bogor city. Thus, the authors are interested to raise research with the title " The Influence of CAR (*Capital Adequacy Ratio)*, BOPO (Operating Cost to Operating Income) and LDR (*Loan to Deposite Ratio)* against ROA (Return *on Assets*) PD Bank Pasar Bogor city ".

II. LITERATURE

A. Return on Asset (ROA)

Return on Assets (ROA) is a ratio used to measure the ability of bank management in obtaining profitability and manage the level of business efficiency of the bank. The greater the value of this ratio indicates the level of profitability of the bank business is getting better or healthier (Mahrinasari, 2003). Meanwhile, according to Bank Indonesia, *Return on Assets* (ROA) is a comparison between profit before tax with the average total assets in a period. This ratio can be used as a measure of financial health. This ratio is very important, since the profits derived from the use of assets can reflect the level of business efficiency of a bank. In the framework of the bank's health assessment, BI will provide a maximum score of 100 (healthy) if bank have ROA> 1.5%.

The greater the *Return on Assets* (ROA) of a bank, the greater the level of profit achieved by the bank and the better the bank's position in terms of asset use. Total assets usually used to measure the ROA of a bank is the amount of productive assets consisting of placement of securities such as Bank Indonesia certificates, money market securities, placements in shares of other companies, placements in call money or money market and placement in the form of credit (Dendawijaya, 2001).

- *Capital Adequancy Ratio (CAR)*

Capital Adequacy Ratio is a capital ratio that shows the ability of banks to provide funds for business development and accommodate the possibility of risk of losses incurred in the bank's operations. The greater the ratio the better the capital position (Achmad, 2003).

Capital Adequacy Ratio is the capital adequacy shows the bank's ability to maintain sufficient capital and the ability of bank management to identify, measure, monitor, and control risks that arise that can affect the amount of capital. The calculation of the *Capital Adequacy Ratio is* based on the principle that any planting that contains risks must be provided with a certain percentage of capital to the amount of planting. According Dendawijay (2003) in line with the standards established by the Bank for International

Settlement (BIS), the Indonesian bank requires each bank to provide at least 8% capital from risk-weighted assets (ATMR) (SE BI Number 26/5 / BPPP dated May 29, 1993). But since the end of 1997 the CAR must be achieved at least 9%.

B. BOPO

Operational Cost Ratio to Operating Income (BOPO) is often called the efficiency ratio used to measure the bank's management capability in controlling operational costs against operating income. The smaller this ratio means more efficient operational costs incurred by the bank concerned (Almilia and Herdiningtyas, 2005). The success of the bank is based on a quantitative assessment of bank profitability can be measured by using the ratio of operating expenses to operating income (Kuncoro and Suhardjono, 2002). This is due to any increase in operations will berakbiat on declining profit before tax and will eventually lower the profit or profitability (ROA) of the bank concerned. According to Dendawijaya (2001) based on the provisions of Bank Indonesia the amount of normal BOPO ranges between 94% -96%.

- *Loan to Deposit Ratio (LDR)*

Liquidity management is one of the complex problems in the operations of the bank, it is because the funds managed by banks largely funding communities that are short-term and can be withdrawn at any time. The liquidity of a bank means that the bank has sufficient resources available to meet all obligations (Siamat, 2005).

In general, the activities of a bank are directed at efforts to increase revenue by minimizing risks. Conventionally, many banks prioritize lending activities to achieve these goals, but in fact many banks are bankrupt because of it. Lending activities could dominate the use of the funds of a bank for credit affects the activity of banks, the assessment of the health of banks, the level of customer confidence and the level of achievement of profit. The problems that often arise in the investment of funds in the field of credit will involve: the amount of funds that can be used (*sensitive* or not), the arrangement of the type of credit composition (outsiders, insiders , guaranteed or not), composition based on maturity (short, medium or long), the preparation of human source of funds in *Asset Liability management Committee* (ALCO), which holds together the management process to achieve a high level and pattern of stable growth in *NIM, ROA, ROE, ROI.*

According to Dendawijaya (2001) *Loan to Deposit Ratio* (LDR) states how far the ability of banks to repay the withdrawal of funds made by depositors by relying on credit given as a source of liquidity. In other words, to what extent credit grants to customers, credit can offset the bank's obligation to immediately meet the demand of depositors who want to withdraw the money that has been used by banks to provide credit. This ratio is also an indicator of vulnerability and ability of a bank. Some banking practitioners agree that the safe limit of loan to deposit ratio of a bank is about 80%. However, tolerance limits range from 85% to 100% (Dendawijaya, 2001).

III. METHODOLOGY

This research was conducted by using quantitative methods to obtain information about the problems associated with the analysis of factors that affect the financial performance of PD BPR Bank Pasar Bogor city. In the implementation of the analysis approach is descriptive and correlational using historical data in the form of financial statements. This type of data consists of primary data and secondary data. Primary data is obtained directly from the data source. The period of primary data is 2010 - 2015. Secondary data is obtained through notes, reports, journals, other publications. This research is fully using primary data. Secondary data in the form of PD Profile of BPR Bank Pasar Bogor city.

Dependent Variable, i.e. ROA (Return *on Assets*) PD BPR Bank Pasar Bogor city shown by ratio which divide between net profit after tax with average asset at beginning of period and end of period. Independent Variables, namely CAR (Capital *Adequacy Ratio*), BOPO (Operating Ratio of Operating Revenue), and LDR (Loan *to Deposit Ratio*) PD BPR Bank Pasar Bogor city.

IV. RESULT AND DISCUSSION

Testing the relationship between CAR and ROA shows that there is a positive relationship between CAR and ROA, the relationship value $r_{y.1}$ = 0, 483. The degree of relationship strength between CAR and ROA including the category " medium " in as right that the value of $r_{y.1}$ = 0, 483 lies between a value of 0, 4 00-0, 5 99 (moderate). The result of significance test shows that t_{count} value = 7,103 and t value $_{table}$ = 2,776 at Sig = 0,05 and N - 2 or 6 - 2 = 4. These results indicate that the value of $t_{arithmetic}$ = 7.103 > t value of the $_{table}$ = 2.77, meaning that the relationship between CAR and ROA is significant. These results show that the relationship between CAR and ROA is positive and significant. Furthermore, to know how significant contribution or contribution of existence of CAR to ROA hence done by analysis by using coefficient of determinism. The result of determination coefficient analysis is $r^2 = (r_{y.1})^2$ = (0, 483) ^{2} x 100% = 23,3 %. These results indicate that the contribution or contribution of CAR is 23.3% to ROA. The results of this study prove that the magnitude of CAR indirectly affect the ROA because profit is a component forming ROA ratio. Thus, the greater the CAR will affect the greater ROA of the bank.

Test the relationship between BOPO with ROA indicates that there is a negative relationship f between BOPO and ROA, the relation value $r_{y.2}$ = - 0, 382. The degree of relationship strength between BOPO and ROA is "weak" because the value of ry.2 = -0.382 is between 0,200 - 0,399 (weak). Significance test results showed that the value of $_t$ = 7.826 and t_{table} = 2,776 on the level of Sig = 0.05 and N - 2 or 6-2 = 4. These results indicate that the value of $t_{arithmetic}$ = 7.826 > t_{table} value = 2.77, meaning that the relationship between BOPO and ROA is significant. Thus, it can be concluded there is a significant negative relationship between BOPO with ROA. The result of determination coefficient analysis is $r^2 = (r_{y.1})^2$ = (- 0, 382) ^{2} x 100% =

14,6 %. These results indicate that the contribution or contribution of BOPO existence is 14.6% of ROA. According to Bank Indonesia, operating efficiency is measured by comparing total operational costs with total operating income or often called BOPO. So, it can be arranged a logic that the operating efficiency variables proxied by BOPO negatively affect the *Return on Assets* (ROA). The results of this study prove that BOPO negatively affect *Return on Assets* (ROA).

Testing the relationship between LDR and ROA shows that there is a positive relationship between LDR and ROA, the relation value $r_{y.\,3}$ = 0, 680. The degree of relationship strength between LDR and ROA is "strong" because the value of ry.3 = 0.680 is between 0.600 - 0.799 (strong). Significance test results showed that the value of $_t$ = 9.854 and t_{table} = 2,776 on the level of Sig = 0.05 and N - 2 or 6-2 = 4. These results indicate that the value of $t_{arithmetic}$ = 9,854 > t value of the $_{table}$ = 2.77, it means that the relationship between LDR and ROA is positive and significant. Thus, it can be concluded there is a significant positive relationship between LDR with ROA. The result of determination coefficient analysis is $r^2 = (r_{y.1})^2 = (0, 680)^2$ x 100% = 46,2 %. These results indicate that the contribution or contribution of LDR is 46.2% of the ROA. The results of this study prove that the increase in profit, then the *Return on Assets* (ROA) will also increase, because the profit is a component that form *Return on Assets* (ROA). So, *Loan Deposit Ratio* (LDR) has a positive and significant effect on *Return on Assets* (ROA). High LDR in this case does not exceed the specified limit, it will raise the profitability derived from credit interest income so it can be concluded that the LDR has a positive effect on ROA.

Test the relationship between CAR, BOP O, and LDR Simultaneously with ROA with multiple correlation test then obtained correlation coefficient value of R = 0, 840. Correlation coefficient value R = 0, 840 is + and correlation value $\neq$ 0. This result indicates that there is a positive relationship between CAR, BOPO, and LDR Simultaneously with ROA. The degree of relationship strength between CAR, BOPO, and LDR together with ROA including the category of "very strong" in as right that the value of R = 0, 840 lies between a value of 0, 8 from 00 to 1.00 (very strong). The result of significance test shows that the value of $F_{arithmetic}$ = 130,578 and F value $_{table}$ = 19,16 at level of α = 0,05. These results indicate that the value of $F_{arithmetic}$ = 130.578 > value F_{table} = 19.16, meaning that the relationship between CAR, BOPO, and LDR Simultaneously with ROA is significant. The result of the analysis is the determination coefficient $R^2 = (R)^2 = (0, 840)^2$ x 10 0% = 70.5%. The results of this study indicate that the contribution or contribution of the existence of CAR, BOPO, and LDR Simultaneously is 70.5% of ROA. Thus, it is proven that CAR, BOPO and LDR simultaneously affect the ROA. This means that if CAR, BOPO, and LDR simultaneously increase then ROA will increase. Conversely, if CAR, BOPO and LDR simultaneously decreases then ROA will decrease. Thus, CAR, BOPO and LDR can simultaneously predict ROA.

V. CONCLUTION

There is a positive and considerable influence of CAR to ROA. This means that ROA is determined by CAR. CAR which will either result in increased ROA and vice versa if CAR low then ROA is also low. There is influence negative and significant BOPO to ROA. This means that ROA is determined by BOPO. BOPO which decreases will lead to increased ROA and vice versa if BOPO increases then ROA will decrease. There is a positive and significant impact LDR to ROA. This means that ROA is determined by the LDR. LDR which increases will result in increased ROA and vice versa if the LDR which is low then the ROA is also low. There is influence which are significant CAR, BOPO, and LDR simultaneously to ROA. This means that ROA is determined by CAR, BOPO, and LDR together. CAR, BOPO, and LDR which will either result in increased ROA and vice versa if CAR, BOPO, and LDR are together low then ROA is also low.

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