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## DETERMINANTS OF BANKING PROFITABILITY IN INDONESIAN REGIONAL DEVELOPMENT BANK

*The aim of this study was to analyze the determinant factors of banking profitability in Indonesian Regional Development Banks. Descriptive and verification methods were used on secondary data from 26 financial statements. The results showed that loan to deposit ratio (LDR) and capital adequacy ratio (CAR) have negative effect but no significant effect on return on assets (ROA); net interest margin (NIM) has positive but not significant effect on return on assets (ROA); operating expenses to operating income (OE/OI) have negative and significant effect on ROA; while non-performing loans (NPLs) have positive and significant effect on ROA.*

*Keywords: capital adequacy ratio; loan to deposit ratio; net interest margin; non-performing loans; ratio of operating expenses to operating income; return on assets; Indonesian Regional Development Bank.*

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## ДЕТЕРМІНАНТИ ПРИБУТКОВОСТІ БАНКУ: ЗА ДАНИМИ ІНДОНЕЗІЙСЬКОГО БАНКУ РЕГІОНАЛЬНОГО РОЗВИТКУ

*У статті проаналізовано фактори, що визначають прибутковість Індонезійського банку регіонального розвитку. Для цього було використано описовий та верифікаційний методи та дані фінансової звітності 26 Індонезійських банків регіонального розвитку. Також було використано метод множинної лінійної регресії. Результати аналізу показали, що співвідношення кредитів до депозитів та достатність капіталу мають негативний, але несуттєвий ефект на рентабельність активів. Чиста процентна маржа має позитивний, але теж незначний ефект на рентабельність активів банку. Співвідношення операційних витрат до операційних прибутків має негативний та суттєвий ефект на рентабельність, в той час як кількість проблемних кредитів має позитивний та суттєвий вплив на рентабельність активів Індонезійських банків регіонального розвитку.*

*Ключові слова: коефіцієнт адекватності капіталу; співвідношення кредитів до депозитів банку; чиста процента маржа; проблемні кредити; співвідношення операційних витрат та операційного прибутку; рентабельність активів; Індонезійський банк регіонального розвитку.*

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## ДЕТЕРМИНАНТЫ ПРИБЫЛЬНОСТИ БАНКА: ПО ДАННЫМ ИНДОНЕЗИЙСКОГО БАНКА РЕГИОНАЛЬНОГО РАЗВИТИЯ

*В статье проанализированы факторы, определяющие прибыльность Индонезийского банка регионального развития. Для этого были использованы описательный и верификационный методы и данные финансовой отчетности 26 Индонезийских банков регионального развития. Также был использован метод множественной линейной регрессии. Результаты анализа показали, что соотношение кредитов к депозитам и достаточность капитала имеют негативный, но незначительный эффект на рентабельность активов. Чистая процентная маржа имеет позитивный, но тоже незначительный эффект на рентабельности активов банка. Соотношение операционных расходов к операционной прибыли имеет негативный и существенный эффект на рентабельность, в то время как количество проблемных кредитов имеет позитивное и существенное влияние на рентабельность активов Индонезийских банков регионального развития.*

*Ключевые слова: коэффициент адекватности капитала; соотношение кредитов к депозитам банка; чистая процентная маржа; проблемные кредиты; соотношение операционных*

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*затрат и операционной прибыли; рентабельность активов; Индонезийский банк регионального развития.*

**Introduction.** Regional Development Bank (BPD) in Indonesia was established with the intent to provide funding for local development efforts in the framework of National Development (Law No. 13, 1962). As one of commercial banks, BPD plays a very important role in the economy, especially in the regional one. The role is mainly seen how wide BPD can apply its intermediary function. In carrying out the intermediation function BPD also has to make profit to sustain its business and provide welfare to shareholders. The indicator measuring the level of bank management ability to make profit as a whole is return on assets (ROA). ROA achieved by BPD as of December 2014 was 2.68% lower than that of national banks (2.85%), and other groups such as state owned banks (3.75%); foreign banks (3.08%); but higher than foreign exchange banks (2.13%); non-foreign exchange banks (2.16%) and joint venture banks (2.11%) (Financial Services Authority, Republic of Indonesia, 2014). Thus, profitability achieved by BPD becomes less optimal. Not optimal profitability of BPD is thought to include the effect of the loans to deposits ratio (LDR), capital adequacy ratio (CAR), net interest margin (NIM), operating expenses to operating income ratio (OEOI), and non-performing loans (NPLs).

Thus, the problem in this research can be formulated into a research question: How LDR, CAR, NIM, OEOI and NPLs influence banking profitability? This study aims to analyze the factors that affect banking profitability, including LDR, CAR, NIM, OEOI and NPLs.

#### **Literature review.**

**1. The role of bank.** The role of banks in the economy can be expressed as channelling funds to borrowers with productive investment opportunities, facilitating economic growth, transferring funds from savers to borrowers or financial intermediation and paying for goods and services (Koch, 2000; Mishkin and Eakins, 2006; Rose and Hudgins, 2013).

In Indonesian banking, 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 standards of people.

**2. Factors affecting banking profitability.** Bank is an organization that combines human efforts and financial resources to carry out the bank functions in order to serve the needs of the community and to make profit for bank owners. The main purpose of banks is reaching the maximum level of profitability in conducting its operational activities. To measure the ability of bank management in gaining profit we use the ratios of return on assets (Dendawijaya, 2009). The larger is bank's ROA the greater is the level of profit that a bank achieved and the better is bank's position in terms of assets use.

**2.1. Return on assets (ROA).** ROA is an important indicator in financial statements which has a variety of uses. The greater is this ratio the better is the performance of banks (Taswan, 2010). According to Bank Indonesia Circular Letter No. 13/24/DNDP 2011 return on assets (ROA) is the ratio to be used as a guide in measuring banks profitability.

*2.2. The effect of LDR on ROA.* 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, 2013). 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 ratio (LDR). According to the research results of Y. Prasanjaya and W. Ramantha (2013), O. Artarina et al. (2013) and A. Vong (2009), LDR has significant effect on ROA. While according M. Arimi (2012) and D. Purwoko et al. (2013) LDR does not have significant positive effect on ROA.

*2.3. The effect of CAR on ROA.* If not supported by additional capital banks are limited in extending credit. A well-capitalized bank is perceived to be of lower risk and such an advantage will be translated into higher profitability (Vong, 2009). 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 strength of bank's capital can be measured by the minimum capital adequacy ratio (CAR). CAR is an indicator of the banks ability to provide funds for expansion and accepting risk loss caused by bank operations. The higher is the CAR, the greater are the financial resources to be used to support the credit intermediation function. R. Mbizi (2012) states there is a significant and positive relationship between commercial bank capitalization and its performance. Y. Prasanjaya and W. Ramantha (2013), O. Artarina et al. (2013), P. Sinha et al. (2014) and T.S. Eng (2013) state that CAR has positive and significant impact on ROA in banking. While M. Arimi et al. (2012), O. Puwoko et al. (2013), R.A. Soyemi et al. (2013) and S.K. Somjit (2013) state that CAR hasn't significant positive effect on ROA.

*2.4. The effect of NIM on ROA.* Net interest margin (NIM) is one of the indicators measuring the performance of bank in generating profits of earning assets or productive assets owned bank. NIM is calculated by comparing the interest income to total earning assets. M. Mujeri et al. (2009) suggested to define net interest margin (NIM) as the difference between interest expenses and interest income per unit of total bank NIM assets. Higher NIM means that the bank has potential gains derived from the difference between interest income resulted in increased earnings and capital as one of financial resources that can be used to support intermediation function especially in credit provision. D. Purwoko et al. (2013), T.S. Eng (2013) and J. Manikam et al. (2013) stated that NIM significant positive effect on ROA.

*2.5. The effect of OEOI on ROA.* Ratio of operating expenses to operating income (OEOI) is often used as an indicator to measure the level of bank efficiency. Bank Indonesia Circular Letter No.6/23/DPNP/2005 states that for commercial banks OEOI ratio should range from 94% to 97%. If a bank achieved the ratio of OEOI below 94% then its operational efficiency is very good. P. Sinha et al. (2014), Y. Prasanjaya and W. Ramamtha (2013), M.E. Francis et al. (2013), J. Manikam et al. (2013) and O. Artarina et al. (2013) mentioned that operating efficiency is significantly and positively affecting bank profits. While (Purwoko et al., 2013; Oktaviantari et al., 2013; Chatarine et al., 2014) showed that OEOI has significant negative effect on ROA.

*2.6. The effect of NPLs on ROA.* Credit is the greatest asset for investment banks. Similarly, loan interest income is the largest source of banks revenue. If credit returns

fail then the ability of banks to provide new loans will be disrupted. Besides, the bank must also establish reserves or provisions for problem loans that ultimately reduce bank's profitability. Credit quality of a bank is seen through non-performing loans (NPLs). The higher is the level of NPLs, the greater is the credit risk borne by the bank. NPL rate may affect the level of bank profitability. M.Z. Karim et al. (2010) states in Malaysia and Singapore higher non-performing loan clearly reduces cost efficiency. According to (Adeusi et al., 2014; Sinha et al., 2014; Arimi, 2012; Ahmad et al., 2014; Puwoko et al., 2013; Manikam et al., 2013; Eng, 2013; Artarina et al., 2013) NPL have significant effect on ROA. While according to (Oktaviantari et al., 2013), NPL influence positively but it is not significant towards profitability (ROA).

**3. Hypothesis.** Based on the relationship between research objectives and theoretical framework of the research problem formulation, the hypotheses are as follows:

H1: LDR positively affects ROA.

H2: CAR positively affects ROA.

H3: NIM positively affects ROA.

H4: OEOI negatively affects ROA.

H5: NPL negatively affects ROA.

H6: LDR, CAR, NIM, OEOI, NPLs affect ROA.

**Research method.**

**1. Research method.** The methods used in this research are descriptive and verification ones. Descriptive method is used to analyze and describe the data collected as is without intending to apply general conclusions or generalizations while the verification method aims to determine the relationship between two or more variables. This verification method here is used to test the hypotheses (Sugiyono, 2009).

**2. Type, data source, population, sample and data collection methods.** The data used in this study is secondary data. All LDR, CAR, NIM, OEOI, NPLs and ROA data were obtained from the Indonesian Banking Statistics Volume 13 No. 1 December, 2014. The research population was 26 regional development banks (BPD) as the study object. Data collection method was used to study the documentation.

**3. Operational variables.** This study uses the independent variables, namely LDR, CAR, NIM, OEOI and NPLs and the dependent variable is banking profitability measured by ROA.

**4. Analysis techniques data.** The data analysis technique used in this study is multiple linear regression. First, it is tested to determine whether the assumptions of classical linear regression model doesn't have the problems of normality, multi-collinearity, heterocedastity and autocorrelation. If all of them were fulfilled means that the model has a decent analysis (Gujarati, 2003). To examine the hypothesis T-test was used to determine statistical significance of the effect of independent variables on the dependent variable partialy, F-test – to determine significance of the independent variables on the dependent variable simultaneously. The regression equation used is as follows:

$$Y = a + \beta X_1 + \beta X_2 + \beta X_3 + \beta X_4 + \beta X_5 + e, \quad (1)$$

where  $Y$  – return on assets (ROA);  $a$  – a constant which is the value of the variable  $Y$  when the variable  $X$  is 0 (zero);  $\beta$  – coefficient of the regression line;  $X_1$  – loan to deposits ratio (LDR);  $X_2$  – capital adequacy ratio (CAR);  $X_3$  – net interest margin

(NIM);  $X_4$  – operating expense to operating income (OEOI) ratio;  $X_5$  – non-performing loans (NPLs);  $e$  – residual.

### Result and discussions.

**1. The development of ROA, LDR, CAR, NIM, OEOI and NPLs of Indonesian regional development banks.** On the data until December 31, 2014, the development of ROA, LDR, CAR, NIM, OEOI and NPLs was tracked down for 26 regional development banks operating in Indonesia (Table 1) and it can be described as follows:

- The average value of ROA achieved by BPD until December 31, 2014 was 2.68% lower than that of national banks (2.85%), and other groups such as state owned banks (3.75%) and foreign owned banks (3.08%) but higher than foreign exchange banks (2.13%); non-foreign exchange banks (2.16%); and joint venture banks (2.11%) (Indonesian Banking Statistics, 2014). The lowest value of ROA at 0.01% is belongs to BPD Maluku, while the highest value of ROA at 4.61% was achieved by BPD West Nusa Tenggara.

- The average value of LDR was 89.73%. The lowest value of LDR at 73.80% was achieved by South Sulawesi, while the highest value of LDR at 120.44% was achieved by Central Sulawesi.

- The average value of CAR was 17.79%. The lowest value of CAR at 14.17% belonged to BPD Central Java, while the highest value of CAR at 29.15% got BPD Central Kalimantan. Therefore, the average value of CAR indicates that BPD still has the capital ability to increase intermediation function through lending distribution.

- The average value of NIM was 6.65%. The lowest value of NIM at 4.95% got BPD East Kalimantan, while the highest value of NIM at 10.78% belonged to BPD Maluku. By looking at the average value of NIM is still above that required by Bank Indonesia amounting to 2%. This means that BPD is able to obtain a positive interest margin in its assets management. These factors indicate that BPD still has the ability to improve profitability.

- The average value of OEOI was 78.08%. The highest value of 99.56% OEOI got BPD Maluku and the lowest OEOI of 61.07% got BPD Central Kalimantan. The average OEOI value is still below the tolerance required by Bank Indonesia at 94–96%. This means that, although BPD is able to control its operational efficiency it still has to improve operational efficiency.

- The average value of NPLs was 2.70%. The highest NPL value of 10.36% was achieved by BPD East Kalimantan and the lowest NPLs was 0.35% for BPD Bali. The average value of NPL shows that the credit risk faced by BPD was moderate albeit under tolerance required by Bank Indonesia at 3–5%. This means BPD is able to control the risk in lending but it also the the potential to increase profits from lending.

**2. Multiple linear regression analysis.** Multiple linear regression analysis was used to determine basically the 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). 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:

$$ROA = 1.080 - 0.006X_1 - 0.136X_2 + 0.042X_3 - 1.043X_4 + .077X_5. \quad (2)$$

**Table 1. Development of ROA, LDR, CAR, NIM, OEOI and NPLs  
(of BPDs by December 31, 2014), %**

No.	BPDs	ROA	LDR	CAR	NIM	OEOI	NPLs
1	DI-Aceh	3.13	92.38	17.79	7.64	74.11	2.58
2	North Sumatera	2.60	95.89	14.38	8.14	80.30	5.47
3	West Sumatera	1.94	98.34	15.76	6.56	84.51	2.52
4	South Sumatera	2.13	85.97	16.82	7.91	81.54	7.10
5	Bengkulu	3.70	86.06	17.25	8.39	72.41	0.39
6	Lampung	3.89	112.96	18.87	7.61	69.33	1.06
7	Riau	3.37	77.72	18.27	7.54	70.59	2.79
8	Jambi	3.14	100.83	27.11	6.52	71.45	0.48
9	DKI-Jakarta	2.10	92.57	17.96	6.56	80.26	4.38
10	West Java	1.94	93.18	16.08	6.79	85.94	4.15
11	Central Java	2.84	88.57	14.17	7.56	75.67	0.93
12	DIY-Jogyakarta	2.88	80.34	16.60	7.83	72.64	0.87
13	East Java	3.52	86.54	22.17	6.90	69.63	3.31
14	West Kalimantan	3.19	87.09	19.21	8.95	71.77	0.48
15	East Kalimantan	2.61	78.54	18.11	4.95	80.39	10.36
16	Central Kalimantan	4.09	79.82	29.15	8.74	61.07	0.82
17	South Kalimantan	2.68	91.44	21.12	6.72	75.15	3.86
18	North Sulawesi	2.16	90.10	14.28	9.72	83.70	1.29
19	South Sulawesi	5.07	73.80	22.17	10.59	60.89	1.04
20	Central Sulawesi	3.73	120.44	25.16	9.65	69.27	1.40
21	Southeast Sulawesi	4.13	111.84	23.83	8.68	71.67	2.86
22	Bali	3.92	96.41	20.17	7.68	64.89	0.35
23	West Nusa Tenggara	4.61	99.78	19.34	8.60	66.00	1.46
24	East Nusa Tenggara	4.30	87.69	18.00	5.92	73.83	1.43
25	Maluku	0.01	92.26	17.34	10.78	99.56	2.38
26	Papua	4.57	80.12	16.28	7.59	91.38	7.38
	Minimum	0.01	73.80	14.17	4.95	61.07	0.35
	Maximum	4.61	120.44	29.15	10.78	99.56	10.36
	Average	2.68	89.73	17.79	6.65	78.08	2.70

Source: Published Financial Statements, December 31, 2014, downloaded May, 3, 2015, processed by the author.

**Table 2. Test results of multiple linear regression coefficients,  
author's via SPSS 20.0**

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.	
	B	Std. error	Beta			
1	(Constant)	1.080	.122		8.884	.000
	LDR	-.006	.069	-.006	-.092	.927
	CAR	-.136	.246	-.048	-.553	.582
	NIM	.042	.058	.053	.720	.473
	OEOI	-1.043	.117	-.858	8.916	.000
	NPLs	.077	.037	.178	2.051	.043

Dependent variable ROA.

The equation above can be explained as follows:

1. Constant value ( $a$ ) of 0.080 means a positive constant value. This shows if LDR ( $X_1$ ), CAR ( $X_2$ ), NIM ( $X_3$ ), OEOI ( $X_4$ ) and NPL ( $X_5$ ), have the value of zero, then ROA ( $Y$ ) increases by 1.080.

2. Regression coefficient for LDR ( $X_1$ ) is -0.006, indicating a negative relationship between LDR ( $X_1$ ) with ROA ( $Y$ ), meaning that if the addition of LDR ( $X_1$ ) for every one unit, while other variables are constant, ROA ( $Y$ ) decrease by 0.006 and vice versa.

3. Regression coefficient for CAR ( $X_2$ ) is -0.136, indicating a negative relationship between CAR ( $X_2$ ) with ROA ( $Y$ ), meaning that if the addition of CAR ( $X_2$ ) for every one unit, other variables being constant, ROA ( $Y$ ) decrease by 0.136 and vice versa.

4. Regression coefficient for variable NIM( $X_3$ ) is 0.042, indicating a positive relationship between NIM ( $X_3$ ) with ROA ( $Y$ ), meaning that if the addition of NIM ( $X_3$ ) for every one unit, other variables being constant, ROA ( $Y$ ) increased by 0.042 and vice versa.

5. Regression coefficient for OEOI ( $X_4$ ) is -1.043, indicating a negative relationship between OEOI ( $X_4$ ) with ROA ( $Y$ ), meaning that if the addition of OEOI ( $X_4$ ) for every one unit, assuming other variables constant, ROA ( $Y$ ) decrease by 1.043 and vice versa.

6. Regression coefficient for NPL ( $X_5$ ) is 0.077, indicating a positive relationship between NPL ( $X_5$ ) with ROA ( $Y$ ), meaning that if there is additional NPL ( $X_5$ ) per unit, other variables being constant ROA ( $Y$ ) increases by 0,077 and vice versa.

**3. Analysis of correlation coefficient and coefficient of determination.** Correlation coefficient analysis was used to determine the direction and the relationship between 5 independent variables. Those are LDR ( $X_1$ ), CAR ( $X_2$ ), NIM ( $X_3$ ), OEOI ( $X_4$ ) and NPLs ( $X_5$ ) with ROA as a dependent variable ( $Y$ ). From Table 3, it can be concluded that the independent variable with the dependent variable has the value of correlation ( $R$ ) 0.758, meaning that the correlation (relationship level) is strong (Sugiyono, 2009). While the coefficient of determination analysis was used to determine the contribution effect of independent variables to dependent variable. From Table 3,  $R^2$  value was 0.574, or 57.4% indicating that LDR ( $X_1$ ), CAR ( $X_2$ ), NIM ( $X_3$ ), OEOI ( $X_4$ ) and NPLs ( $X_5$ ) accounted for 57.4% of ROA ( $Y$ ), while the remaining 42.6% thought to be influenced by other variables which are not examined here.

Table 3. **Correlation coefficient and coefficient of determination, model summary, author's via SPSS 20.0**

Model	R	R square	Adjusted R square	Std. error of the estimate
1	.758	.574	.552	.0720395

**4. Partial significance test (t-test).** To examine the hypotheses on the significance of the partial model the t-test is used. It is intended to determine the effect of independent variables (LDR, CAR, NIM, OEOI and NPLs) partially to the dependent variable (ROA). The influence of 5 independent variables to ROA as an independent variables is shown in Table 2, columns 6 and 7, which can be explained as:

1. *Effect of LDR on ROA.* Partial test results between LDR with ROA show that t-test value of -.092 is less than t-table (2.074) with the significant value of 0.927 which is above 0.05. This means that LDR does not effect on ROA. Thus, H1 on LDR

positive effect upon ROA is rejected. The test results are in line with the previous research (Arimi, 2012; Purwoko et al., 2013) who showed LDR has not significant positive effect on ROA. This is also contrary to the results of (Prasanjaya and Ramantha, 2013; Artarina et al., 2013; Vong et al., 2009) which states that LDR has positive and significant impact on ROA in banking.

2. *Effect of CAR on ROA.* Partial test results between CAR and ROA show the t-test value of  $-0.553$  being less than t-table ( $2.074$ ) with the significant value of  $0.582$  which is above  $0.05$ . This means that CAR does not effects on ROA. Thus, H2 stating CAR positive effect on ROA is rejected.

The test results are in line with the previous research by (Arimi, 2012; Puwoko et al., 2013; Soyemi et al., 2013; Somjit, 2013) who stated that CAR does not have significant positive effect on ROA. This is also contrary to the research results of (Mbizi, 2012; Prasanjaya and Ramantha, 2013; Artarina et al., 2013; Sinha et al., 2014; Eng, 2013) which states that CAR has positive and significant impact on ROA in banking.

3. *Effect of NIM on ROA.* Partial test results between NIM with ROA show the t-value of  $0.720$  is less than the t-table one ( $2.074$ ) with significant value of  $0.473$  which is above  $0.05$ . This means that NIM does not effect ROA. Thus, the H3 which states NIM positive effect on ROA is rejected. The results are contrary to the previous research conducted by (Purwoko et al., 2013; Eng, 2013; Manikam et al., 2013) which states that NIM has significant effect on bank profitability.

4. *Effect of OEOI on ROA.* Partial test results between OEOI to LDR show the t-test value of  $-8.916$  is greater than the t-table ( $2.074$ ) with a significant value of  $0.000$  which was below  $0.05$ . This means that OEOI effect on ROA is significant. Thus, H4 which states OEOI negatively effect on ROA is accepted. The test results are in line with (Purwoko et al., 2013; Oktaviantari et al., 2013; Chatarine et al., 2014) which stated that OEOI has negative significant effect on profitability (ROA). This is contrary to the research results by (Sinha et al., 2014; Prasanjaya and Ramantha, 2013; Francis, 2013; Manikam et al., 2013; Artarina et al., 2013) which stated that OEOI has significant effect on ROA.

5. *Effect of NPLs on LDR.* Partial test results between NPL to LDR shows the t-value of  $2.051$  is less than the t-table ( $2.074$ ) with a significant value of  $0.043$  being below  $0.05$ . This means that NPLs effects on ROA are significant. Thus, H5 which states NPLs negatively effect ROA is accepted. This mean NPLs in BPD has a significant effect on the bank profitability because the average NPLs rate in BPD is relatively small. NPLs is relatively small indicating that credit risk faced by small BPD is a result of good credit management. The test results are in line with the results of (Adeusi et al., 2014; Sinha et al., 2014; Arimi, 2012; Ahmad et al., 2014; Puwoko et al., 2013; Manikam et al., 2013; Eng, 2013; Artarina et al., 2013) who stated that NPL has significant negative effect on ROA. This is contrary to the research results of (Oktaviantari et al., 2013) who stated NPL influence positively but not significantly profitability (ROA).

5. *Simultaneous significant test (F-test).* F-test was conducted to determine the effect of independent variables simultaneously on the dependent variable. Simultaneous influence of 5 independent variables on the dependent variables is shown in Table 5. According to F-test calculations in Table 4, F-count was  $26.426$  greater than the F-table ( $2.7700$ ) with a significance value (sig) of  $0.000$ , below  $0.05$ .



This means that the independent variables (LDR, CAR, NIM, OEOI and NPLs) have simultaneous significant effect on the dependent variable (ROA). Thus, H<sub>6</sub> which states LDR, CAR, NIM, OEOI and NPLs effect ROA is accepted. The test results are in line with the previous research of (Prasanjaya and Ramamtha, 2013) who stated that CAR, OEOI, LDR and firm size (according to their F-test) influence profitability. According to D. Purwoko et al. (2013) the coefficient of determination, which shows the magnitude of OEOI, NPL, NIM, CAR and LDR influence on ROA is 73.1%, while the rest of 26.9% is explained by other causes outside the model. Then J. Manikam et al. (2013) showed OEOI, NIM and NPL have significant effect on bank profitability. And T.S. Eng (2013) showed NIM, LDR and NPL have significant on ROA. As of L.P.K. Oktaviantari et al. (2013), NPL influences positive but not significantly on profitability (ROA). The OEOI influences negatively significant towards profitability (ROA), and LDR influences positively significantly on profitability (ROA). Y. Prasanjaya and W. Ramantha (2013) F-test results show that CAR, BOPO, LDR and firm size significantly influence profitability; O. Artarina et al. (2013) the research results show that simultaneously CAR, LDR, BOPO, and NPL have significant effect on ROA.

Table 4. Simultaneous test results (F-Test), author's

ANOVA						
Model		Sum of squares	Df	Mean square	F	Sig.
1	Regression	.686	5	.137	26.426	.000
	Residual	.509	98	.005		
	Total	1.194	103			

Dependent variable ROA; Predictors: (constant), LDR, CAR, NIM, OEOI, NPLs.

**Conclusion.** On this background, the formulation of the problem, hypotheses, methods and research results and discussion, some conclusions can be drawn:

1. In 2014 Regional Development Bank in Indonesia was able to create a banking profitability as measured by ROA amounting to 2.68% lower than the national banks, state owned and foreign banks but higher than that of foreign exchange banks, non-foreign exchange and joint venture banks. The lowest value of ROA was achieved by BPD Maluku, while the highest value of ROA was achieved by BPD West Nusa Tenggara.

2. According to our test results LDR and CAR have negative but not significant effect on ROA; OEOI has negative significant effect on ROA; NPLs has positive significant effect on ROA. While simultaneously the variables of LDR, CAR, NIM, OEOI and NPLs significantly influence ROA.

3. The amount of contribution or the influence variable of LDR, CAR, NIM, OEOI and NPLs to the dependent variable of ROA is 57.4% while the remaining 42.6% thought to be influenced by other variables not examined in this study.

**Recommendations.** The above results helped us find that the BPD Indonesia in 2014 determinants of bank profitability for most significant were operating efficiency and non-performing loans. Therefore, these two factors have to be really well managed in addition to other determinants of bank profitability.

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