



# Analysis Influence Ratio Finance to Profitability *Return On Assets (ROA)* at Commercial Banks in Indonesia

Berliana Agustin Febrianti and Eni Setyowati<sup>(✉)</sup>

Faculty of Economics and Business, University of Muhammadiyah Surakarta, Surakarta,  
Indonesia  
es241@ums.ac.id

**Abstract.** Study this aim for analyze influence ratio finance which includes *net interest margin* (NIM), cost operational to income operations (BOPO) and *loan to deposit ratio* (LDR) to profitability *return on assets* (ROA). Method analysis used is the panel data with *cross section 4* (four) commercial banks in Indonesia include Mandiri Bank, BNI, BRI, and BTN. While the *time series* data for 6 (six) years started from 2016 to with 2021. In collect data, research this using secondary data with method analysis used that is analysis multiple linear regression, test assumptions classic includes normality test, multicollinearity test, test hypothesis and analysis coefficient determination using the Eviews 10 program. Based on results analysis and interpretation of data that has been done, can concluded that *net interest margin* (NIM) and *loan to deposit ratio* (LDR) have influence positive to profitability *return on assets* (ROA). Whereas cost operational to income operational have influence negative to profitability *return on assets* (ROA).

**Keywords:** NIM · BOPO · LDR · Profitability

## 1 Introduction

Banks and money are all something mutual relate. Bank is a business entity whose activities is raise funds for the purpose of for raise funds from community and the distribution of funds aimed at for channel return the funds to public as well as give other banking services [1]. In arrange banking must conducted by professional, so profit earned will high and will influence enhancement profitability banking. Destination ratio profitability or profitability for knowing ability banking in get profit and measure effectiveness management. So that for could maintain appropriateness level ratio profitability, then income banking could cover cost [2]. Company is something established institution with meaning produce goods so that get profit. Not only for continuity life company but also for concern [3]. Condition the economy in Indonesia today this is not stable and the resulting risk company experience difficulty finance. The cause because imbalance between assets owned company with accounts receivable company. So that company in resolve difficulty finance with borrow money or combine all assets owned as well as company will close company for continuity life [4].

© The Author(s) 2024

H. Maulana et al. (Eds.): ICOEBS 2022, AEBMR 247, pp. 36–47, 2024.

[https://doi.org/10.2991/978-94-6463-204-0\\_5](https://doi.org/10.2991/978-94-6463-204-0_5)

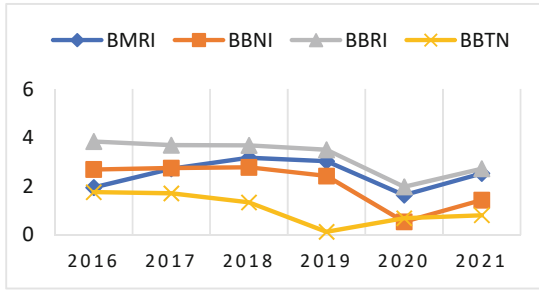
Report finance used as information for company related with position finance for taking decisions by investors or creditor. The role of banking is very important in achievement destination for increase and equalization level life society. Function banking as intermediary in transfer of funds from saver to party related to do investments [5]. Measure bank profitability, *return on assets* (ROA) needs to be used as a guideline, because is indicators used by Bank Indonesia as supervisor banking. Whereas the role of Bank Indonesia as authority monetary with set score *return on assets* (ROA) is 1.5% and it says in condition healthy. On the other hand, if score profitability experience drop so must quick overcome to use increase profitability [6]. In to do activity banking in need trust from Public to use facilitate and support the activity process banking. Performance is results work accomplished banking in the period certain with give description about condition finance banking [7].

According to Imronudin [8] disclose that banking in to do possible expansion give opportunity for growing credit banking. Banking role in growing credit banking Becomes source funding company good conventional bank and Islamic banks. Kamajaya and Kusumawati [9] state that potential investors use ratio finance for give prediction performance finance something company. Good financial performance will take effect to score company also increased. height score company could interesting potential investors for invest in the company, so that will take effect to level price shares and stock returns obtained by investors also increase. According to Indriaty [10] say that government area said have performance good finance if company could fulfill obligation finances and liabilities service to society, now and in the future come.

Ratio finance is tool important for company for monitor position finance. Significant results obtained from comparison ratio finance with estimation company. one ratio used is ratio profitability. So that results measurement could used for determine level bank health, categorized including healthy, enough healthy, less healthy, no healthy. Ability company in produce profit could seen from level profitability [11]. Report finance is tools used for evaluate performance finance that contains information results effort from company. Type ratio finance consist from ratio liquidity, ratio solvency and ratio profitability [12].

Analysis report finance used for evaluate condition finance banking for perpetrator business. Aspect in evaluation performance, as following *Capital Adequacy Ratio* (CAR), *Non-Performing Loan* (NPL), *Net Interest Margin* (NIM), *Cost Operational to Income Operations* (BOPO), *Loan to Deposit Ratio* (LDR), *Statutory Reserves* (GWM). *Return On Assets* (ROA) is ratio used for measure ability company get profit. The value of *return on assets* (ROA) is getting big so show performance finance the more fine, so impact on increasing well being holder share [13]. Study this carried out at commercial banks namely Mandiri Bank, BNI, BRI, BTN. Following chart growth *return on assets* (ROA) at commercial banks (Fig. 1).

Based on percentage the graph above about development *return on assets* (ROA) in commercial banks during 2016 to with 2021 which has its ups and downs score that and tend to experience decline. *Return on assets* (ROA) Bank Mandiri highest be in 2018 with score by 3.17%, in previously experience drop by 1.95%, but in 2019 again experience decreased by 3.03% and in 2020 experienced significant decrease by 1.64%. *Return on assets* (ROA) of Bank BNI in 2016 up to in 2019, 2.42% experienced a little decreased, but in 2020 experienced significant decrease reached 0.54% and in next



**Fig. 1.** The growth of return on assets (ROA) at Commercial Banks 2016–2021 period. Source: Financial Services Authority, 2021

experience increase by 1.43% in 2021. *Return on assets* (ROA) of Bank BRI in 2016 is up to 2019 experienced a little decreased, but in 2020 what happened at Bank BRI the value of ROA development that has experienced decrease up to reached 1.98% and in 2021 it has been experience increase. *Return on assets* (ROA) of Bank BTN in 2016 with score *return on assets* (ROA) of 1.76% to 2018 experienced drop by 1.34% and in 2019 experienced significant decrease by 0.13%, but in 2020 and 2021 it experienced increase by 0.69% and 0.81.

## 2 Theoretical Background and Hypotheses Development

### 2.1 Ratio Finance

Ratio finance is activities carried out with compare number on report finance. According to Susanto [14] say that ratio finance is results calculation used for comparison two kinds of financial data mutual banking related by percentage as well as for measure performance bank finance. According to Hidayah and Badruzzaman [12] disclose that ratio finance is tools used in analyze as well as measure performance something company with method analyze report available finance like report balance sheet, report profit loss, and report cash flow. Analysis ratio finance is obtained numbers with connect one post report finance with another post.

### 2.2 Profitability *Return on Assets* (ROA)

Profitability is reflecting element capital capability of a company in produce profit. *Return on Assets* (ROA) is one of the ratio profitability used for measure effectiveness company for produce profit with use its total assets. Profitability level tall company so show that company could utilise the asset get profit more big will influence income company the [12]. Bank profitability in return on assets (ROA). *Return On Assets* (ROA) is ratio comparison among profit clean after tax to total assets. The more big *return on assets* (ROA) shows more performance fine, because level change the more big [15]. According to Ramadanti [16] state that *return on assets* (ROA) is comparison ratio among profit before tax to total assets. *Return on assets* (ROA) is used for tool measuring

banking in get profitability. The higher the *Return On Assets* (ROA) value, the higher the profit generated, meaning the company will earn a profit. Formula for calculate *return on assets* (ROA) or *return on investment* [17]:

$$\text{ROA} = \frac{\text{net profit after tax}}{\text{total assets}}$$

### 2.3 Influence *Net Interest Margin* (NIM) Against *Return on Assets* (ROA)

According to Susanto [14] state that *net interest margin* (NIM) is tools used for measure level bank management, so that produce income from flowers. The greater the *Net Interest Margin* (NIM) achieved by banks, the greater the interest income managed by bank. According to Yunanto [15] state that income obtained from interest received with cost sourced flowers of funds. *Net interest margin* said healthy if score *net interest margin* (NIM) above 2%. Formula for count *net interest margin* (NIM) or [17] as following:

$$\text{NIM} = \frac{\text{net interest income}}{\text{average earning assets}}$$

Research conducted by Harun [13], Setiawan [18], Susanto [14] give proof empirical that *net interest margin* (NIM) has influence positive to profitability *return on assets* (ROA). Based on explanation the could formulated hypothesis as following:

H<sub>1</sub> = *Net interest margin* (NIM) has an effect positive to profitability *return on assets* (ROA)

### 2.4 Influence *Cost Operational to Income Operations* (BOPO) Against *Return on Assets* (ROA)

*Cost operational to income operations* (BOPO). *Cost operational* is fees incurred by the bank for operate activity business which consists of from cost interest, fees marketing, cost power work and costs operation other. Whereas *income operational* is income earned from placement of funds in form credit. *Cost value operational to income* increasingly operational small will show the more efficient activity business carried out [19]. Ratio *cost operational to income operational* (BOPO) formulated as following:

$$\text{BOPO} = \frac{\text{operating costs}}{\text{operating income}} \times 100\%$$

Research conducted Kurniasari [2], Setiawan [18], Matindas [19] give proof empirical that *cost operational to income operational* (BOPO) effect significant with score negative to profitability *return on assets* (ROA). Based on explanation the could formulated hypothesis as following:

H<sub>2</sub> = *Cost operational to income operational* take effect significant score negative to profitability *return on assets* (ROA) of the company.

## 2.5 Influence *Loan to Deposit Ratio (LDR) to Return on Assets (ROA)*

According to Harun [13] state that *loan to deposit ratio (LDR)* is ratio used in comparison between credit issued by the company banking with total funds from party the third collected by banks. Party funds third such as current accounts, deposits and savings. The value of the *loan to deposit ratio (LDR)* is getting high, then will take effect to enhancement *non performing loans (NPL)*. On the other hand, if occur *non performing loans*, then the bank will bear burden loss.

Research conducted by Lestari [20], Maulana [21] give proof empirical that *loan to deposit ratio (LDR)* no take effect significant to profitability return on assets (ROA). Whereas according to Octavian [22] give proof that *loan to deposit ratio (LDR)* has an effect negative to profitability *return on assets (ROA)*. Based on explanation the could formulated hypothesis as following:

$H_3 =$  *Loan to deposit ratio (LDR)* no take effect significant with score positive to profitability *return on assets (ROA)* of the company.

$H_4 =$  *Loan to deposit ratio (LDR)* has an effect negative to profitability *return on assets (ROA)*.

## 3 Research Method

Study this use study quantitative and data used secondary data sourced from Financial Services Authority [23] and companies issuing bank report financial as of 31 December 2016–2021 period. Data used in study this is panel data, combined from *cross section* data and *time series data*. *Cross section* data study this totaling 4 (four) companies banking namely Bank Mandiri (BMRI), Bank BNI (BBNI), Bank BRI (BBRI) and Bank BTN (BBTN). While the *time series* data that uses 2016 to with 2021. The dependent variable used in study this that is profitability *return on assets (ROA)*. Whereas variable free (*independent*) in study this that is *net interest margin (NIM)*, cost operational to income operations (BOPO) and *loan to deposit ratio (LDR)*. Data analysis used the Eviews 10 program. According to Gujarati [24]. Method analysis regression *Ordinary Least Square (OLS)* with multiple linear regression model. Form model equation as following:

$$ROA_{it} = \beta_0 + \beta_1 NIM_{it} + \beta_2 BOPO_{it} + \beta_3 LDR_{it} + \varepsilon_{it}$$

Description:

- ROA : *Return on assets (%)*
- NIM : *Net Interest Margin (%)*
- BOPO : *Cost operational to income operational (%)*
- LDR : *Loan to deposit ratio (%)*
- $\varepsilon$  : Error term
- $\beta_0$  : Constant
- $\beta_1 \beta_2 \beta_3$  : Coefficient of each variable
- i : data *cross section* (four company banking)
- t : time series data (2016–2021)

## 4 Results

### 4.1 Assumption Test Classic

#### Normalist Test (Jarque Bera)

Jarque Bera Uji test used for test residual normality. Based on Table 1 can is known that H0 Jarque Bera. test is a normally distributed residual. While the residual HA is distributed not normal. H0 no rejected if JB value  $> \alpha$  while H0 is rejected if JB value  $< \alpha$ . Table 1, seen score the probability of JB is 0.0044 ( $< 0.10$ ) so H0 is rejected. So could concluded that the residuals are not normally distributed.

#### Heteroscedasticity Test (White)

White test used for test Autocorrelation. Based on Table 1 can is known that the H0 of the White test is no there is heteroscedasticity in the model. While HA is there is heteroscedasticity in the model. H0 no rejected if JB value  $>$  while H0 is rejected if JB value  $< \alpha$ . Table 1, seen score the probability of the White Test is 0.3827 ( $> 0.10$ ) so H0 is not rejected. So could concluded that no there is heteroscedasticity in the regression model.

#### Autocorrelation Test (Breusch Godfrey)

Breusch Godfrey test used for test autocorrelation. Based on Table 1 can is known that the Breusch Godfrey test H0 is no there is autocorrelation on Breusch Godfrey test model and HA is there is autocorrelation on the model. H0 no rejected if JB value  $>$  while H0 is rejected if JB value  $< \alpha$ . Table 1, seen score the probability of Breusch Godfrey is

**Table 1.** Estimated Result Assumption Classic

$ROA_{it} = 5.4975 + 0.3215 NIM_{it} - 0.080 BOPO_{it} + 0.013 LDR_{it}$
<p>(0.0000) (0.0000) (0.0011)</p>
<p>R<sup>2</sup> = 0.9880; DW-stat. = 1.7397; F-stats. = 549.6023; Prob. F-stats. = 0.0000</p>
<p>(1) Normality (Jarque Bera) JB (1) = 10.8187 Prob. JB (1) = 0.0044</p>
<p>(2) Autocorrelation (Breusch Godfrey) X<sup>2</sup> (2) = 0.3009; Prob. X<sup>2</sup> (2) = 0.8926</p>
<p>(3) Heteroscedasticity (White) X<sup>2</sup> (9) = 10.2976; Prob. X<sup>2</sup> (9) = 0.3827</p>
<p>(4) Multicollinearity (VIF) NIM = 1.9687; BOPO = 2.0395; LDR = 1.2424</p>
<p>(5) Specifications (Ramsey Reset) F (1.19) = 8.0682; Prob. F (1.19) = 0.0105</p>

Source: processed data Eviews 10

**Table 2.** Estimated Results Panel Data Linear Regression

Variable	CEM	FEM	BRAKE
C	5.4975	6.4445	5.4975
NIM	0.3215	0.2494	0.3215
BOPO	-0.0806	-0.0868	-0.0806
LDR	0.0133	0.0125	0.0133
Adjusted R <sup>2</sup>	0.9862	0.98826	0.98622
F-stat	549,602	323,751	549,602
Prob. F-stat	0.0000	0.0000	0.0000

Model Selection Test  
 (1) Chow  
 Cross Section F (3,17) = 2,1613; Prob. F(3,17) = 0.0514  
 (2) Hausman  
 Cross-section random  $\chi^2(3) = 6.4839$ ; Prob.  $\chi^2 = 0.0903$

Source: secondary data, Eviews 10

0.8926 ( $>0.10$ ) so  $H_0$  is not rejected. So could concluded that no there is autocorrelation on the model.

### Multicollinearity Test (VIF)

Based on Table 1, that score *centered Variant Inflation Factor* (VIF) shows the same value, is *net interest margin* (NIM) of  $1.9687 < 10$ , cost operational to income operational (BOPO) of  $2.0395 < 10$  and *loan to deposit ratio* (LDR) of  $1.2424 < 10$ . So could concluded that the independent variable is not cause multicollinearity in model regression.

## 4.2 Panel Data Regression Test

Based on Table 2, the hausman test shows  $H_0$  is the selected model *random effects model* (BRAKE);  $H_A$  is the chosen model *fixed effect model* (FEM). Table 2 shows that p-value (probability)  $\chi^2$  is 0.0903, then  $H_0$  is rejected. So that could concluded that the selected model that is *fixed effects models*. *Fixed effect model* (FEM) selected as the best model based on the Chow test and Hausman test.

## 4.3 Multiple Linear Regression Test

See Table 3.

**Table 3.** Multiple Linear Regression Results

Variable	Coefficient	Std.Error	t-stat	Prob
C	5.4975	0.4941	11.1256	0.0000
NIM	0.3215	0.0268	11.9932	0.0000
BOPO	-0.0806	0.0039	-20,2044	0.0000
LDR	0.0133	0.0035	3.8163	0.0011

Source: processed data, Eviews 10

## 5 Discussion

### **Influence *Net Interest Margin (NIM) Against Profitability Return On Assets (ROA)***

Result of testing regression that has been done, so that produce score coefficient *net interest margin (NIM)* of 0.3215 with influence probability of  $0.0000 < 0.10$  to *return on assets (ROA)* showing that score *net interest margin (NIM)* which is worth positive and influential significant to profitability *return on assets (ROA)*. Based on research conducted by Ramadanti [16], Nurhasanah [25], Zulhelmi [6] give proof that the variable *net interest margin (NIM)* is positive and influential significant to profitability *return on assets (ROA)*. If there is an increase *net interest margin (NIM)*, it will affect the increase in banking profitability. *Net interest margin (NIM)* which has influence positive and significant to *return on assets (ROA)* marked with banking in Indonesia for period research has succeed maximizing income flower so that influence profitability.

### **Influence Cost Operational to Income Operations (BOPO) Against Profitability Return On Assets (ROA)**

Result of regression is carried out, so that produce score coefficient cost operational to income operational of -0.0806 with influence probability of  $0.0000 < 0.10$  to *return on assets (ROA)* showing that score cost operational to income operational value (BOPO) negative and significant to profitability *return on assets (ROA)*. Based on research conducted by Oktaviani [22], Maulana [21], Matindas [19] give proof that the variable cost operational to income rational (BOPO) which has a negative and influential value significant to profitability *return on assets (ROA)*. Based on research that has been done, then could be marked that cost operational to income operations at the company increase so will influence more profit big so that no efficient in operate activity its operations.

### **Influence Loan to Deposit Ratio (LDR) to Profitability Return On Assets (ROA)**

Result of regression is carried out, so that produce score coefficient *loan to deposit ratio (LDR)* of 0.0133 with influence probability of  $0.0011 < 0.10$  to profitability *return on assets (ROA)* which shows that *loan to deposit ratio (LDR)* is worth positive and significant to profitability *return on assets (ROA)*. Based on research that has been performed by Setiawan [18], Harun [13], Yunanto [15] give proof that the variable *loan to deposit ratio (LDR)* which is worth positive and influential significant to profitability *return on assets (ROA)*. Based on research that has been done, then could be marked



that *loan to deposit ratio* (LDR). So that could showed that the more tall bank *loan to deposit ratio* (LDR), then credit that will distributed the more big.

### 5.1 Significance Test Results Simultaneous (F Test)

Significance test simultaneous using the F test. Research that has conducted there is three variables, namely *net interest margin* (NIM), fees operational to income operations (BOPO) and *loan to deposit ratio* (LDR). Formulation hypothesis the test is  $H_0: \beta_1 = \beta_2 = \beta_3 = 0$ , *net interest margin* (NIM), cost operational to income operations (BOPO), *loan to deposit ratio* (LDR) together no take effect to profitability *return on assets*;  $H_A: \beta_1 \neq \beta_2 \neq \beta_3 \neq 0$ , interest margin (LDR), cost operational to income operations (BOPO), *loan to deposit ratio* (LDR) together take effect to profitability *return on assets* (ROA). Based on Table 1, it shows that score profitability the F statistic in the model has value  $0.0000 < 0.10$ ; so  $H_0$  is rejected. In conclusion, that *net interest margin* (NIM), cost operational to income operations (BOPO), *loan to deposit ratio* (LDR) together take effect simultaneous to profitability *return on assets* (ROA).

### Significance Test Results Partial (t-test)

Significance test Partial using the t test used for test each variable in study There are NIM, BOPO, LDR.  $H_0: \beta_1 = 0$  *net interest margin* (NIM) no take effect to profitability *return on assets* (ROA);  $H_A: \beta_1 = 0.0000$  *net interest margin* (NIM) effect positive to *return on assets* (ROA). Probability statistical significance  $t 0.0000 < 0.10$ , so  $H_0$  is rejected. So that *net interest margin* take effect positive to profitability *return on assets* (ROA).  $H_0: \beta_2 = 0$  cost operational to income operational (BOPO) no take effect to profitability *return on assets* (ROA);  $H_A: \beta_2 = 0.0000$  cost operational to income operational (BOPO) effect positive to *return on assets* (ROA). Probability statistical significance  $t 0.0000 < 0.10$ , so  $H_0$  is rejected. So that cost operational to income operational (BOPO) effect negative to profitability *return on assets* (ROA).  $H_0: \beta_3 = 0$  *loan to deposit ratio* (LDR) no take effect to profitability *return on assets* (ROA);  $H_A: \beta_3 = 0.0000$  *loan to deposit ratio* (LDR) has an effect positive to *return on assets* (ROA). Probability statistical significance  $t 0.0000 < 0.10$ , so  $H_0$  is rejected. So that the loan to deposit ratio has an effect positive to profitability *return on assets* (ROA).

### 5.2 Coefficient Test Results Determination

Coefficient determination ( $R^2$ ) shows the estimated predictability of the model. Based on Table 1, the value of  $R^2$  of 0.9880, which means that 98.80% of the variation of the return on assets (ROA) profitability variable can be explained by the variable net interest margin (NIM), cost operational to income operations (BOPO), loan to deposit ratio (LDR). The rest, 1.20% which is influenced by variables that do not there is in the estimated model.

## 6 Conclusion

Based on results the research above, the return on assets (ROA) profitability is 98.80% which means that influenced by net interest margin (NIM), costs operational to income operations (BOPO), loan to deposit ratio (LDR). On the other hand, 1.20% yield analysis

that is influenced by variables that do not there is in the estimated model. Based on research data analysis and testing hypothesis with coefficient regression of 0.3215 effect *net interest margin* (NIM) against profitability *return on assets* (ROA) at four commercial banks in Indonesia from 2016 to 2021 are positive and significant. Inside study this *net interest margin* (NIM) has probability 0.0000, where value more small from 0.10 which means that the net interest margin has an effect positive. Study It also performs hypothesis testing cost operational to income operational with coefficient -0.0806 and influential significant. While the variable *loan to deposit ratio* which has coefficient 0.0133 and influential significant.

Study this aim for study ratio finance with variable *net interest margin* (NIM), cost operational to income operations (BOPO), *loan to deposit ratio* (LDR) to profitability *return on assets* (ROA). Based on research concluded that, *net interest margin* (NIM) has an effect significant and valuable positive to profitability *returns on assets*. *Net interest margin* used for measure ability management banking in manage assets to be earn income flower clean. Cost operational to income operational (BOPO) effect significant and negative. BOPO used for measure level efficiency banking in to do operational. *Loan to deposit ratio* (LDR) has an effect significant and valuable positive. Loan to *deposit ratio* used for measure banking in pay return withdrawal of funds.

Banking for management is expected to comply with regulations issued by Bank Indonesia in order to maintain banking stability. Banking for the community, are expected to be careful in choosing the bank to be chosen to store funds.

**Acknowledgment.** Writer realize that solved article this no free from help from various party. Writer say accept love to the University of Muhammadiyah Surakarta which has get permission study as well as writer say accept love to *International Conference on Economics and Business Studies* (ICOEBS) which has give receptacle for author.

**Author Contribution.** Writer contribute to the title article entitled “Analysis Ratio Finance to Profitability Return On Assets (ROA) at Commercial Banks in Indonesia”. Finding study this will contribute with method following:

For the academic community, research this could give knowledge about knowledge banking in get profit and measure effectiveness.

## References

1. Kasmir, *Dasar-Dasar Perbankan*. Edisi Revisi 2008. PT Raja Grafindo Persada: Jakarta, 2014.
2. R. Kurniasari, “Analisis Biaya Operasional Dan Pendapatan Operasional (BOPO) Terhadap Return on Assets (ROA) Pada Pt Bank Tabungan Negara (Persero) Tbk.,” *J. Prespektif*, vol. 15, no. 1, pp. 71–78, 2017.
3. N. Susanti, I. Latifa, and D. Sunarsi, “The Effects of Profitability, Leverage, and Liquidity on Financial Distress on Retail Companies Listed on Indonesian Stock Exchange,” *J. Ilm. Ilmu Adm. Publik J. Pemikir. dan Penelit. Adm. publik*, vol. 10, no. 1, pp. 45–52, 2020, doi: <https://doi.org/10.26858/jiap.v10i1.13568>.

4. I. N. Islami and W. Rio, "Financial Ratio Analysis to Predict Financial Distress on Property and Real Estate Company listed in Indonesia Stock Exchange," *JAAF (Journal Appl. Account. Financ.*, vol. 2, no. 2, pp. 125–137, 2018, doi: <https://doi.org/10.33021/jaaf.v2i2.550>.
5. E. Kusumawati, "Determinan Manajemen Laba: Kajian Empiris Pada Perusahaan Manufaktur Go Publik Di Bursa Efek Indonesia," *Ris. Akunt. dan Keuang. Indones.*, vol. 4, no. 1, pp. 25–42, 2019, doi: <https://doi.org/10.23917/reaksi.v4i1.6935>.
6. Zulhelmi and R. B. Utomo, "Pengaruh CAR, BOPO, NIM, NPL, dan LDR Terhadap Profitabilitas Perbankan Umum Milik Pemerintah di Indonesia pada Tahun 2011–2013," *J. Ekon.*, vol. 1, no. 1, pp. 95–109, 2017.
7. R. Stephani, M. Adenan, and A. Hanim, "Analisis Pengaruh Rasio Keuangan Terhadap Kinerja Bank Umum di Indonesia," *e-Journal Ekon. Bisnis dan Akunt.*, vol. 4, no. 2, pp. 192–195, 2017, doi: <https://doi.org/10.19184/ejeba.v4i2.5825>.
8. Imronudin, "Pertumbuhan Ekonomi dan Pertumbuhan Perbankan Syariah," *Benefit J. Manaj. dan Bisnis*, vol. 4, no. 2, pp. 189–197, 2019.
9. B. Kamajaya and E. Kusumawati, "The effect of Liquidity, Solvency, Activity, and Profitability on Stock Return," in *Proceeding of The URECOL*, 2022, pp. 125–137.
10. N. Indriaty, D. Setiawan, and Y. Ariessa Pravasanti, "the Effects of Financial Ratio, Local Size and Local Status on Financial Distress," *Int. J. Econ. Bus. Account. Res.*, vol. 3, no. 01, pp. 38–42, 2019, doi: <https://doi.org/10.29040/ijebar.v3i01.381>.
11. P. A. Mahardhika and D. P. Marbun, "Pengaruh Current Ratio dan Debt To Equity Ratio Terhadap Return On Assets," *Widyakala J. Pembang. Jaya Univ.*, vol. 3, pp. 23–28, 2016.
12. A. A. Hidayah and F. H. Badruzzaman, "Pengaruh Rasio Keuangan terhadap Profitabilitas pada Perusahaan," *J. Ris. Mat.*, vol. 1, no. 1, pp. 21–29, 2021, doi: <https://doi.org/10.29313/jrm.v1i1.105>.
13. U. Harun, "Pengaruh Ratio-Rasio Keuangan CAR, LDR, NIM, BOPO, NPL Terhadap ROA," *J. Ris. Bisnis dan Manaj.*, vol. 4, no. 1, pp. 67–82, 2016.
14. N. Susanto, Heri & Kholis, "Analisis Rasio Keuangan Terhadap Profitabilitas Pada Perbankan Indonesia," *Ebbank*, vol. 7, no. 1, pp. 11–12, 2016.
15. Y. Yunanto, F. Suhariadi, and P. Yulianti, "Analisis Rasio Keuangan Perbankan Terhadap Profitabilitas," *e-Jurnal Akunt.*, vol. 29, no. 2, pp. 716–726, 2019, doi: <https://doi.org/10.24843/EJA.2019.v29.i02.p17>.
16. F. Ramadanti and E. Setyowati, "Pengaruh NPL, LDR, BOPO dan Nim Terhadap Roa Pada PT. Bank Mandiri (Persero) Tbk Tahun 2013–2021," *EKOMBIS Rev. J. Ilm. Ekon. dan Bisnis*, vol. 10, no. 2, pp. 695–706, 2022, doi: <https://doi.org/10.37676/ekombis.v10i2>.
17. E. Kusumawati, R. Trisnawati, and F. Achyani, *Analisis Laporan Keuangan (tinjauan kasus dan riset empiris)*. Surakarta: Muhammadiyah University Press, 2018.
18. A. Setiawan, "Analisis pengaruh tingkat kesehatan bank terhadap return on asset," *J. Lentera Akunt.*, vol. 2, no. 2, pp. 1–13, 2016.
19. A. M. Matindas, S. S. Pangemanan, and D. P. E. Saerang, "Pengaruh Capital Adequacy Ratio (Car), Bopo Dan Non Performing Loan (Npl) Terhadap Kinerja Keuangan Perbankan Di Indonesia," *Going Concern J. Ris. Akunt.*, vol. 10, no. 1, pp. 52–66, 2015, doi: <https://doi.org/10.32400/gc.10.1.7367.2015>.
20. W. D. Lestari and R. G. Setianegara, "ANALISIS PENGARUH NIM, BOPO, LDR, DAN NPL TERHADAP PROFITABILITAS (Studi Kasus Pada Bank Umum Yang Listed Di Bursa Efek Indonesia Periode 2014–2018)," *Keunis*, vol. 8, no. 1, pp. 82–92, 2020, doi: <https://doi.org/10.32497/keunis.v8i1.2136>.
21. P. Maulana, S. Dwita, and N. Helmayunita, "Pengaruh CAR, NPL, LDR dan BOPO Terhadap Return ON Assets (ROA) pada Bank yang Terdaftar di Bursa Efek Indonesia Tahun 2017–2019," *J. Eksplor. Akunt.*, vol. 3, no. 2, pp. 316–328, 2021, doi: <https://doi.org/10.24036/jea.v3i2.355>.

22. S. Oktaviani, Suyono, and Mujiono, "Analisis Pengaruh CAR, BOPO, LDR, NIM dan Ukuran Perusahaan Terhadap Profitabilitas Bank yang Terdaftar Di Bursa Efek Indonesia Tahun 2012–2017," *J. Ilm. Akunt.*, vol. 218, no. 2, pp. 218–231, 2019, [Online]. Available: <http://www.ejournal.pelitaindonesia.ac.id/ojs32/index.php/BILANCIA/index>
23. "Laporan Keuangan Perbankan," 2021. <https://www.ojk.go.id/id/kanal/perbankan/data-dan-statistik/laporan-keuangan-perbankan/Default.aspx> (accessed Feb. 20, 2009).
24. D. N. Gujarati and C. Santoso, *Dasar-Dasar Ekonometrika*, Edisi keli. Salemba Empat, 2015.
25. D. Nurhasanah, "ANALISA PENGARUH RASIO KEUANGAN TERHADAP PROFITABILITAS PADA PERUSAHAAN PERBANKAN PERIODE 2016–2018," *J. Keunis (Keuangan dan Bisnis)*, vol. 9, no. 1, pp. 85–95, 2021.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

