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The influence of CAR, NPF, FDR and BOPO on the performance of banking in Indonesia

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ARTICLE INFO	ABSTRACT
	This article analyzes the influence of CAR, NPF, FDR and BOPO on banking financial performance (ROA) in Indonesia, which is the aim of this research. The sample selection method uses a purposive sampling technique at Sharia Commercial Banks registered with Bank Indonesia (BI) for the 2017-2022 period. The sample in this study consisted of 10 companies with a total sample data of 58. The data analysis technique used was multiple linear regression with the help of SPSS version 25. The results of the study showed that the NPF variable had an effect on financial performance (ROA), while CAR, FDR and BOPO did not. influence on financial performance (ROA). The selection of research objects at Sharia Commercial Banks resulted in limitations in the number of samples in this research. Apart from that, the independent variables in this study can only explain 19.8% of the independent variables.

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Artikel ini menganalisis pengaruh CAR, NPF, FDR dan BOPO terhadap kinerja keuangan (ROA) perbankan di Indonesia merupakan tujuan dari penelitian ini. Metode pemilihan sampel menggunakan teknik *purposive sampling* pada Bank Umum Syariah yang terdaftar di Bank Indonesia (BI) periode 2017-2022. Sampel dalam penelitian ini berjumlah 10 perusahaan dengan jumlah data sampel sebanyak 58. Teknik analisis data yang digunakan adalah regresi linear berganda dengan bantuan SPSS versi 25. Hasil penelitian menunjukkan bahwa variabel NPF berpengaruh terhadap kinerja keuangan (ROA), sedangkan CAR, FDR dan BOPO tidak berpengaruh terhadap kinerja keuangan (ROA). Pemilihan objek penelitian pada Bank Umum Syariah menyebabkan keterbatasan jumlah sampel pada penelitian ini. Selain itu, variabel independen dalam penelitian ini hanya dapat menjelaskan sebesar 19,8% variabel independen.

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1. Introduciton

A country's economic system is closely related to the existence of the banking sector. Banking has a very important role in meeting people's financial needs (Simatupang & Franzlay, 2016). The banking sector functions to collect funds from the public and mobilize public funds by channeling them back in the form of fund utilization or investment activities. Banks have an obligation to maintain public trust by guaranteeing liquidity and operating effectively and efficiently to achieve high profitability. Banking in Indonesia is one of the financial institutions that plays an important role in a country's economy, this is because banking is one of the financial systems that functions as a financial intermediary, namely an institution that has the role of bringing together fund owners and fund users, so bank activities must run smoothly. efficiently on both macro and micro scales.

Banking growth in Indonesia is progressing very rapidly, this is happening in conventional banks and sharia commercial banks. Based on banking statistical data from the Financial Services Authority as of 2021, there are around 107 banks, including 4 state-owned banks, 68 national private banks, 27 regional development banks and 8 foreign private banks.

Based on Bank Indonesia regulation number 6/10/PBI/2004 concerning the health level assessment system for commercial banks, the health level of a bank is the result of a qualitative assessment of various aspects that influence the condition or performance of a bank through quantitative or qualitative assessments of capital and quality factors. assets, management, profitability, liquidity and sensitivity to market risk. The bank's health condition can be seen from its financial reports, whether there has been an increase or decrease. With proper financial report analysis, a bank can further optimize the preparation of future strategic plans in minimizing the financial risks that occur.

Several researchers have conducted research on the influence of CAR, NPF, FDR and BOPO on Financial Performance (ROA). The research results of (Alfian et al., 2021) prove that CAR has an effect on ROA, but (Made et al., 2016) research shows no effect of CAR on ROA. Regarding the NPF variable, research by (Rahmawati et al., 2021) states that NPF has an effect on ROA, but research by (Erlangga & Imron, 2016) states that NPF has no effect on ROA. For the FDR variable, research conducted by (Erlangga & Imron, 2016) states that there is an influence of FDR on ROA, while research by (Pravasanti, 2018) states that FDR has no effect on ROA. Regarding the BOPO variable, research by (Nanda et al., 2019) states that BOPO has an effect on ROA, while research by (Simatupang & Franzlay, 2016) states that BOPO has no effect on ROA.

Based on the description above, there are inconsistencies in the research results of each foreign researcher. Thus, this research aims to re-analyze the influence of CAR, NPF, FDR and BOPO on Financial Performance (ROA). It is hoped that this research can help companies and management understand the bank's financial condition, diagnose managerial and operational problems and become reference material and additional data sources in conducting further research.

2. Literature Review

Agency Theory

Agency theory explains the relationship between business owners and business management (managers). Agency theory is a descriptive theory that attempts to explain the actions of parties involved in contractual relationships regarding changes in accounting measurement methods carried out by the company or management (Supriadi et al., 2021). This theory emerged because of the principle of separation of duties between management and owners.

Signal Theory

Signaling theory is a theory that explains the reasons why companies provide financial information to external parties in relation to information asymmetry between owners and management (Adzim et al., 2021). Signal theory describes how financial information contained in financial reports can provide signals or good news or bad signals about the company.

Return on Assets (ROA)

ROA is the ratio between profit after tax to total assets. According to (Bakti, 2017) ROA is a measuring tool to assess a bank's ability to obtain profits generated by the average total assets of the bank. (Nanda et al., 2019) stated that financial performance is a bank's financial condition in a certain period, where information on financial position and financial performance in the past is often used to predict financial position and performance in the future. For investors, information about a company's profitability can be used to see whether to maintain investment in the company or look for other alternatives.

Capital Adequacy Ratio (CAR)

According to (Rahmawati et al., 2021), CAR (Capital Adequacy Ratio) is a bank performance ratio to measure the adequacy of bank capital to support assets that produce or contain risks. (Alfian et al., 2021) state that CAR is also a ratio that measures a bank's ability to cover opportunities for losses related to credit or securities trading within existing capital. The higher the CAR, the better the bank's ability to bear the risk of each credit or productive asset with a

weighted risk. This is supported by (Simatupang & Franzlay, 2016), (Alfian et al., 2021), (Pramitasari et al., 2021), (Rahmawati et al., 2021), who state that the Capital Adequacy Ratio (CAR) influences performance. financial (ROA).

H1: CAR has an effect on Financial Performance (ROA)

Non Performing Financing (NPF)

According (Rahmawati et al., 2021) Non Performing Financing (NPF) is a financial ratio to measure bank management's ability to manage non-current financing towards the total financing owned. Non Performing Financing (NPF) is a ratio that shows the ability of bank management to manage problematic financing provided by the bank. (Pravasanti, 2018) states that the higher the NPF, the worse the bank's credit, conversely, the lower the NPF, the more profitable the bank will be. The credit risk accepted by the bank is due to the return of credit that has been given. This is supported by research conducted by (Das et al., 2020), (Lutfi & Santosa, 2021), and (Rahmawati et al., 2021) which shows that Non-Performing Financing (NPF) influences financial performance. (ROA).

H2: NPF influences Financial Performance (ROA)

Financing of Deposit Ratio (FDR)

The liquidity ratio is a ratio used to measure a bank's ability to fulfill its short-term obligations (debt) in a timely manner. According to (Pravasanti, 2018) the FDR ratio is used to measure a bank's ability to pay short-term debt and repay its depositors as well as fulfill credit requests submitted by the public in a timely manner. FDR is a comparison between the financing provided by the bank and the third party funds that have been successfully mobilized by the bank. (Rahmawati et al., 2021) stated that the higher the FDR, the higher the funds distributed to third party funds. By disbursing large amounts of third party funds, bank ROA's income will increase. Research conducted by (Erlangga & Imron, 2016), (Simatupang & Franzlay, 2016), (Janah & Siregar, 2018), (Das et al., 2020), (Supriadi et al., 2021), and (Destiani et al., 2023) which states that the Financing to Deposit Ratio (FDR) has an effect on Financial Performance (ROA).

H3: FDR has an effect on Financial Performance (ROA)

Operational Expenses and Operating Revenue Agency (BOPO)

According to (Hermina & Suprianto, 2014) BOPO is the ratio between operational costs and operational income. The operating cost ratio is used to measure the level and distribution of bank costs in carrying out its operational activities. The lower the BOPO, the better, because the bank concerned can cover operational expenses with its operating income. This is supported by research (Hakiim & Rafsanjani, 2016), (Simatupang & Franzlay, 2016), (Janah & Siregar, 2018), (Fadhilah & Supriyogi, 2019), (Nanda et al., 2019), (Das et al., 2020), and (Rahmawati et al.,

2021) which proves that Operating Expenses, Operating Income (BOPO) has an effect on financial performance (ROA).

H4: BOPO has an effect on Financial Performance (ROA)

3. Research Method

This research uses a quantitative research approach. The data used is secondary data obtained from financial reports of Commercial and Sharia Banks that meet the sampling criteria registered with Bank Indonesia (BI). The data sources obtained came from the Bank Indonesia website (www.bi.go.id), the Financial Services Authority website (www.ojk.go.id) and from the websites of each bank. The population in this research is all Commercial and Sharia Banks registered with Bank Indonesia (BI) for the 2017-2022 period. Sampling in this research used a purposive sampling technique. The tests used in this research include the classical assumption test, hypothesis test and coefficient of determination test (R²).

This research uses multiple regression analysis techniques to determine the influence of the independent variable on the dependent variable. This research uses the following regression equation:

$Y = \alpha + \beta1X1 + \beta2X2 + \beta3VX3 + \beta4X4 + e$

Information:

Y	:	*Return On Asset* (ROA)
A	:	Constant
β1, β2, β3, β4	:	Independent Variable Constant
X1	:	*Capital Adequacy Ratio* (CAR)
X2	:	*Non Performing Financing* (NPF)
X3	:	*Financing to Deposit Ratio* (FDR)
X4	:	Operating Expenses Operating Income (BOPO)
E	:	Residual Eror

4. Result and Discussion

Table 1

Results of Autocorrelation Test and Normality Test

Information	Result
Autocorrelation Test *(Durbin Watson)*	2,143
Normality Test (*Central Limit Theorem*)	-

Source: processing data, 2023

Based on table 1 above, the autocorrelation test results show that the DW value (2.143) is greater than dU (1.7259) and less than 4-1.7259 (4-dU). Thus, it can be concluded that the regression model does not have autocorrelation symptoms. To test normality in the table above, use the Central Limit Theorem (CLT) test, namely if the number of observations is large enough (n>30), then the assumption of normality can be ignored. In this study, the number of n was 58 > 30, so it can be concluded that the data is normally distributed.

Table 2

Results of Multicollinearity Test and Heteroscedasticity Test

Information	Multicollinearity Test		Heteroscedasticity Test
	Tolerance	VIF	Sig. (2-tailed)
CAR	0,943	1,060	0,948
NPF	0,795	1,258	0,238
FDR	0,896	1,116	0,920
BOPO	0,923	1,084	0,381

Source: processing data, 2023

The results of the multicollinearity test in table 2 above show that the overall Tolerance Value (TV) value is > 0.1 and the Variance Inflation Factor (VIF) < 10. This means that there are no symptoms of multicollinearity. For the heteroscedasticity test in the table above, the Spearman rho test is used and the overall results show a significance value of > 0.05, which means there are no symptoms of heteroscedasticity.

Table 3
Hypothesis Results

Information	Coefficient	t count	Sig
(Constant)	20849454,14	2,454	0,017
CAR	-0,007	-1,296	0,200
NPF	-0,713	-4,238	0,000
FDR	0,011	1,229	0,225
BOPO	-0,001	-1,242	0,220
R square	0,255		

Adjusted R Square	0,198
F Count = 4,524	Sig. 0,003

Source: processing data, 2023

Based on the results of the multiple linear regression test in table 3 above, the following regression equation is obtained:

ROA=20849454,14−0,007CAR−0,713NPF+0,011FDR −0,001BOPO+ε

The results of hypothesis testing on the Capital Adequacy Ratio (CAR) variable have a significance value of 0.200 or greater than 0.05 (0.200 > 0.05) and the t-count value is smaller than the t-table (-1.296 < 1.67356). So the hypothesis which states that the Capital Adequacy Ratio (CAR) has an effect on Financial Performance (ROA) is not proven or H1 is rejected. This is in line with the results of research conducted by (Erlangga & Imron, 2016), (Hakiim & Rafsanjani, 2016), (Made et al., 2016), (Dewi, 2017), (Janah & Siregar, 2018), (Pravasanti, 2018), (Nanda et al., 2019), (Sofyan, 2019), (Das et al., 2020), (Adzim et al., 2021), (Lutfi & Santosa, 2021), (Astuti, 2022), and (Destiani et al., 2023) who stated that the Capital Adequacy Ratio (CAR) has no influence on financial performance (ROA). The lack of influence of the Capital Adequacy Ratio (CAR) on Financial Performance (ROA) can be caused by management's efforts to maintain the Capital Adequacy Ratio (CAR) level in sharia banking based on the provisions set by the Central Bank, which means the Capital Adequacy Ratio (CAR) level) remains in accordance with the compliance determined by Bank Indonesia (BI). And the capital owned by the bank is invested in illiquid assets so that partially the Capital Adequacy Ratio (CAR) does not have a significant effect on Financial Performance (ROA). Thus, the size of the Capital Adequacy Ratio (CAR) will not affect financial performance (ROA).

Non Performing Financing (NPF) proves that the significance value is 0.000 or smaller than 0.05 (0.000 < 0.05) and the t-count value is greater than the t-table (-4.238 > 1.67356). So the hypothesis which states that Non Performing Financing (NPF) has an effect on Financial Performance (ROA) is proven or H2 is accepted. This is in line with the results of research conducted by (Das et al., 2020), (Lutfi & Santosa, 2021), and (Rahmawati et al., 2021) which shows that Non-Performing Financing (NPF) influences performance. financial (ROA). The high and low Non-Performing Financing (NPF) ratios owned by Sharia Banks affect Financial Performance (ROA). When the Non Performing Financing (NPF) ratio by a bank is higher, the credit disbursed will have a higher level of credit congestion. This indicates that the financing management carried out by the bank in question is poor. Vice versa, the lower the Non-Performing Financing (NPF) ratio, the better the bank's performance in terms of financing management. The

main thing that banks do if Non-Performing Financing (NPF) is high is to evaluate the bank's performance by temporarily stopping financing so that the reduction in Non-Performing Financing (NPF) does not impact the profits or returns obtained by the bank. Thus the Non Performing Financing (NPF) ratio influences Financial Performance (ROA).

The Financing to Deposit Ratio (FDR) variable has a significance value of 0.225 or greater than 0.05 (0.225 > 0.05) and the t-count value is smaller than the t-table (1.229 < 1.67356). So the hypothesis which states that the Financing to Deposit Ratio (FDR) has an effect on Financial Performance (ROA) is not proven or H3 is rejected. This is in line with the results of research conducted by (Hakiim & Rafsanjani, 2016), (Pravasanti, 2018), (Fadhilah & Supriyogi, 2019), (Adzim et al., 2021), (Lutfi & Santosa, 2021), (Pramitasari et al., 2021), (Rahmawati et al., 2021), and (Astuti, 2022), which shows that the Financing to Deposit Ratio (FDR) has no effect on financial performance (ROA). The level of the Financing to Deposit Ratio (FDR) ratio will not be taken into consideration by the bank in obtaining profit or profits. So it can be said that any financing provided does not affect the bank's profits. This is because banks are not able to distribute credit properly while the funds collected are large, which will cause losses to the bank, making financing less effective. Thus, the Financing to Deposit Ratio (FDR) has no influence on Financial Performance (ROA).

The significance value of the Operating Expenses Operating Income (BOPO) variable is 0.220 or greater than 0.05 (0.220> 0.05) and the t-count value is smaller than the t-table (-1.242<1.67356). So the hypothesis stating that Operating Expenses, Operating Income (BOPO) has an effect on Financial Performance (ROA) is not proven or H4 is rejected. This is in line with the results of research conducted by (Dewi, 2017), (Sofyan, 2019), (Adzim et al., 2021), (Alfian et al., 2021), (Lutfi & Santosa, 2021), (Pramitasari et al., 2021), (Astuti, 2022), and (Destiani et al., 2023) which show that Operating Expenses Operating Income (BOPO) has no effect on financial performance (ROA) . In this research, the high and low levels of Operating Expenses and Operating Income (BOPO) will not be taken into consideration by the bank in obtaining profitability. The high ratio of Operating Expenses to Operating Income (BOPO) indicates an inability to manage the sources of funds and assets owned to obtain profits. This can be caused by an increase in operational costs which is not followed by an increase in operational income. The increase in Operating Expenses, Operating Income (BOPO) indicates that it is becoming more inefficient because the greater the operational costs incurred exceed operational income, resulting in a decrease in bank profits. Thus, Operating Expenses, Operating Income (BOPO) has no influence on Financial Performance (ROA).

5. Conlusions

Based on the data analysis results and the discussion of this research that have been presented regarding the analysis of CAR, NPF, FDR and BOPO registered with Bank Indonesia (BI) on the Financial Performance (ROA) of Sharia Commercial Banks in 2017-2022, it can be concluded as follows:

a. The Capital Adequacy Ratio (CAR) effect on Financial Performance (ROA) is not proven or H1 is rejected.

b. Non Performing Financing (NPF) has a proven effect on Financial Performance (ROA) or H2 is accepted.

c. The Financing to Deposit Ratio (FDR) effect on Financial Performance (ROA) is not proven or H3 is rejected.

d. Operational Expenses Operational Income (BOPO) has no effect on Financial Performance (ROA) or H4 is rejected.

6. Acknowledgment

7. References

Adzim, F., Mira, Muhaimin, Muttiarni, & Andayani, S. (2021). Effect Rasio Keuangan Terhadap Kinerja Keuangan Pada Pt. Bank Rakyat Indonesia Syariah Tbk Periode. *Jurnal Ekonomi & Ekonomi Syariah*, *4*(2), 1368–1380. https://doi.org/10.36778/jesya.v4i2.559

Alfian, M., Pratiwi, A., & Bima, S. (2021). Pengaruh CAR, BOPO, NPL dan LDR terhadap ROA pada PT BANK RAKYAT INDONESIA (Persero) TBK. *Bisnis Dharma Andalas*, *23*(2), 299–307. www.idx.co.id

Astuti, R. P. (2022). Pengaruh CAR, FDR, NPF, Dan BOPO Terhadap Profitabilitas Perbankan Syariah. *Jurnal Ilmiah Ekonomi Islam*, *8*(3), 3213. https://doi.org/10.29040/jiei.v8i3.6100

Bakti, N. S. (2017). ANALISIS DPK, CAR, ROA DAN NPF TERHADAP PEMBIAYAAN PADA PERBANKAN SYARIAH. *Jurnal Bisnis & Manajemen*, *17*(2), 15–28.

Das, N. A., Husni, T., Rahim, R., & Elfarisy, F. (2020). THE INFLUENCE OF CAR, NPF, FDR AND BOPO TO RETURN ON ASSET IN INDONESIA ISLAMIC BANK ON THE

INDONESIAN STOCK EXCHANGE. In *Jurnal Ilmiah Manajemen* (Vol. 418, Issue 4). http://www.ejournal.pelitaindonesia.ac.id/ojs32/index.php/PROCURATIO/index

Destiani, I. R., Mayasari, I., Tamara, D. A. D., & Setiawan, S. (2023). Pengaruh CAR, NPF, FDR dan BOPO terhadap Profitabilitas BPRS di Indonesia. *Journal of Applied Islamic Economics and Finance*, *3*(2), 356–372. https://doi.org/10.35313/jaief.v3i2.3766

Dewi, A. S. (2017). PENGARUH CAR, BOPO, NPL, NIM, DAN LDR TERHADAP ROA PADA PERUSAHAAN DI SEKTOR PERBANKAN YANG TERDAFTAR DI BEI PERIODE 2012-2016. *Jurnal Pundi*, *01*(03), 223–236.

Erlangga, O. P., & Imron, M. (2016). PENGARUH TOTAL AKTIVA, CAPITAL ADEQUACY RATIO (CAR), FINANCE TO DEPOSIT RATIO (FDR) DAN NON PERFORMING FINANCING (NPF) TERHADAP RETURN ON ASSETS (ROA) BANK UMUM SYARIAH DI INDONESIA PERIODE 2010-2014. *Jurnal Ekonomi Syariah Teori Dan Terapan*, *3*(7), 561–574.

Fadhilah, A. R., & Supriyogi, N. (2019). PENGARUH FDR, NPF DAN BOPO TERHADAP RETURN TO ASSET PADA PERBANKAN SYARIAH DI INDONESIA1. *Jurnal Ekonomi Syariah Teori Dan Terapan*, *6*(12), 2369–2380.

Hakiim, N., & Rafsanjani, H. (2016). Pengaruh Internal Capital Adequency Ratio (CAR), Financing to Deposit Ratio (FDR) Pengaruh Internal Capital Adequency Ratio (CAR), Financing To Deposit Ratio (FDR), dan Biaya Operasional Per Pendapatan Operasional (BOPO) dalam Peningkatan Profitabilitas Industri Bank Syariah di Indonesia. *Jurnal Aplikasi Manajemen*, *14*(1), 161–168. www.bi.go.id

Hermina, R., & Suprianto, E. (2014). ANALISIS PENGARUH CAR, NPL, LDR, DAN BOPO TERHADAP PROFITABILITAS (ROE) PADA BANK UMUM SYARIAH. *Jurnal Akuntansi Indonesia*, *3*(2), 129–142.

Janah, N., & Siregar, P. A. (2018). PENGARUH RASIO KEUANGAN TERHADAP PROFITABILITAS PERBANKAN SYARIAH INDONESIA. *At-Tawassuth*, *3*(1), 621–641.

Lutfi, A., & Santosa, M. (2021). Analisis pengaruh CAR, BOPO, NPF dan FDR terhadap profitabilitas bank umum syariah di Indonesia. *Business and Economics Conferenc*, 519–535. https://journal.unimma.ac.id

Made, N., Uthami, I., Warsa, P., & Ketut Mustanda, I. (2016). *PENGARUH CAR, LDR DAN NPL TERHADAP ROA PADA SEKTOR PERBANKAN DI BURSA EFEK INDONESIA*. *5*(5), 2842–2870

Nanda, A. S., Hasan, A. F., & Aristyanto, E. (2019). Pengaruh CAR dan BOPO Terhadap ROA pada Bank Syariah pada Tahun 2011-2018. *Perisai: Islamic Banking and Finance Journal*, *3*(1), 19–32. https://doi.org/10.21070/perisai.v3i1.2160

Pramitasari, M., Ridwan Basalamah, M., & Irma Hatnety, A. (2021). Pengaruh Car, Npf, Bopo, Dan Fdr Terhadap Kinerja Keuangan (Studi Pada Bank Umum Syariah di Indonesia Tahun 2015-2019). *E-Jurnal Riset Manajemen*, *10*(5), 108–121. www.fe.unisma.ac.id

Pravasanti, Y. A. (2018). Pengaruh NPF dan FDR Terhadap CAR dan Dampaknya Terhadap ROA Pada Perbankan Syariah di Indonesia. *Jurnal Ilmiah Ekonomi Islam*, *4*(03), 148. https://doi.org/10.29040/jiei.v4i03.302

Rahmawati, U. A., Balafif, M., & Wahyuni, S. T. (2021). Analisis Pengaruh CAR, NPF, FDR, BOPO, dan NOM Terhadap Kinerja Keuangan (ROA) Pada Bank Umum Syariah Periode 2015-2019. *Bharanomics*, *2*(1), 93–106. https://doi.org/10.46821/bharanomics.v2i1.194

Simatupang, A., & Franzlay, D. (2016). Capital Adequacy Ratio(CAR), Non Performing Financing (NPF), Efisiensi Operasional (BOPO) dan Financing to Deposit Ratio (FDR) Terhadap Profitabilitas Bank Umum Syariah di Indonesia. *Jurnal Adiminstrasi Kantor*, *4*(2), 466–485.

Sofyan, M. (2019). Faktor-Faktor Yang Mempengaruhi Profitabilitas Bank Perkreditan Rakyat (BPR) di Provinsi Jawa Timur. In *Jurnal Inspirasi Bisnis dan Manajemen* (Vol. 3, Issue 1). http://jurnal.unswagati.ac.id/index.php/jibm

Supriadi, A., Hasanudin, A. I., & Uzliawati, L. (2021). Pengaruh Corporate Governance, Financing To Deposit Ratio Dan Non-Performing Financing Terhadap Kinerja Keuangan Perbankan Syariah Dengan Capital Adequacy Ratio Sebagai Variabel Intervening. *Jurnal Riset Akuntansi Tirtayasa*, *6*(2), 93–105.