

# The Influence Of Operating Expense To Operating Income, Loantodeposit Ratio, And Fee-Based Income Ratio Towards Operating Income (A Study Of The Banking Sector On The Indonesia Stock Exchange For The 2018-2020 Period)

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**Abstract:** This research aims to examine whether operating expense to operating income (Biaya operasional per Pengeluaran Operasional or BOPO), fee-based income ratio (FBIR), and loan-to-deposit ratio (LDR) partially and simultaneously influence operating income. This is a quantitative verification research, which uses purposive sampling and obtains a sample of 43 banks. Data analysis techniques include linear data panel regression analysis, assisted by Eviews 12 software

**Keywords:** Operating Expense to Operating Income, Loan to Deposit Ratio, Fee-Based Income Ratio, Banking Sector.

Date of Submission: 29-05-2023

Date of Acceptance: 10-06-2023

## I. INTRODUCTION

The soundness level of a bank can be used to measure bank performance and is an important indicator of overall bank performance. In Bank Indonesia Circular Letter (SEBI) Number 6/23/DPNP, one aspect of assessing the soundness of a bank is the efficiency aspect. The efficiency aspect is used to measure the performance of a bank management and find out whether the production factors have been used appropriately and effectively. Considering that the main activity of a bank is to collect and distribute money back to the public, the costs and income that dominate the bank are interest expense and income. The important aspects of achieving operational efficiency are increasing bank productivity and reducing expenses to produce maximum output that will affect profits.

Efficiency can be measured by several methods, such as parametric, non-parametric methods, and ratio analysis. Measurement of bank efficiency by ratio analysis is carried out using financial ratios. Financial ratios that are often used include Operating Expense to Operating Income (BOPO), Net Interest Margin (NIM), Return on Assets (ROA), Loan-to-Deposit Ratio (LDR) or Financing Deposit Ratio (FDR) for Islamic banks, and Fee-Based Income Ratio (FBIR).

It is interesting to study operating income further, particularly related to the trend of operating income at National Commercial Banks (BUN) listed on the Indonesia Stock Exchange. Based on the three-year trend (2018, 2019 and 2020), the Operating Income of National Commercial Banks (BUN) on the IDX tends to spike in 2020 compared to the previous two years (2019 and 2018). In fact, in 2020, Indonesia is experiencing an economic downturn due to the Covid-19 pandemic. The increase in the National Commercial Bank's Operating Income for 2020 can be seen in Table 1 below:

Table 1. 1 Trend in Operating Income, Operating Expense to Operating Income, FBIR, LDR at National Commercial Banks (BUN) (2018-2020)

year	BOPO (%)	FBIR (%)	LDR (%)	Operating Income (Rp.)
2018	84,28	1,337619	78,66	4.426.386.431
2019	88,2	1,611136	80,52	4.389.708527
2000	92,26	5,399535	77,8	5.229.940.377

Source: Reprocessed from IDX data (2028-2020)

Based on the above phenomena, this study aims to examine whether Operating Expense to Operating Income, Fee-Based Income Ratio, and Loan-to-Deposit Ratio partially and simultaneously influence Operating Income.

## II. THEORETICAL FRAMEWORK

The efficiency analysis method uses ratios, namely traditional efficiency measurements, using financial ratios. Financial ratios that are often used in measuring efficiency are Operating Expense to Operating Income, Net Interest Margin (NIM), Return on Assets (ROA), Financing Deposit Ratio (FDR), and Fee-Based Income Ratio (FBIR).

The meaning of the Operating Expense to Operating Income ratio is that any increase or decrease in the amount of Operating Expense to Operating Income will affect the rise and fall of profit before tax, which can ultimately increase or decrease the level of bank profitability (Vernanda & Widyarti, 2016).

The meaning of LDR is the lower the LDR ratio in a bank, the better it is, which means the bank's liquidity is higher. On the other hand, the higher the LDR ratio, the lower the liquidity capacity will be. On the other hand, the higher the LDR ratio, the lower the liquidity capacity. The higher the value of the LDR ratio, the riskier the bank is when customers or depositors withdraw their funds from the bank. The FBIR ratio is calculated per position (not annualized). Analysis was conducted on developing the ratio for 12 months up to the assessment month. FBIR is the higher the ratio value in FBIR, the higher the operating income, excluding interest (Vernanda & Widyarti, 2016).

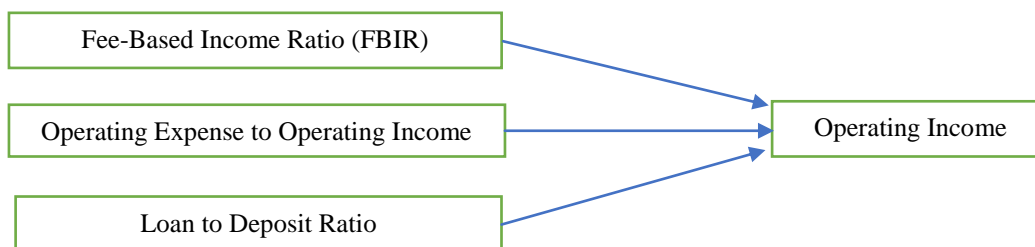


Figure 1 - Research Framework.

## III. METHODOLOGY

This is a verification quantitative research. This research paradigm is postpositivist, which adheres to a deterministic philosophy by assuming that (possible) causes determine effects or outcomes (Creswell & Creswell, 2018).

The sample was selected with inclusion criteria from this population, namely all banks included in National Commercial Banks (BUN) listed on the IDX with financial reports from 2018 to 2020. Meanwhile, the exclusion criteria, or those excluded from this population, were Sharia Commercial Banks (BUS), Business Units Sharia (UUS), and Sharia People's Financing Bank (BPRS). Based on these criteria, three banks do not have complete data, namely PT Bank IBK Indonesia Tbk (AGRS), PT Bank MNC Internasional Tbk (BABP), and PT Bank Mestika Dharma Tbk. Therefore, the number of samples was 43 banks. Data analysis techniques include linear data panel regression analysis with the help of Eviews 12 software. Data analysis techniques include linear data panel regression analysis, assisted by Eviews 12 software. Determining the appropriate method or model, among Random Effect Model (REM), Fixed Effect Model (FEM), or Common Effect Model (CEM), is carried out with the sensitivity test Chow Test, Hausman Test and Lagrange Multiplier Test

## IV. RESULTS AND DISCUSSIONS

The Chow test selects the most suitable model to estimate panel data between the common or fixed effect models. If the probability of chi-squares is smaller than the significance level, FEM will be used. The Hausman test is used to select the most suitable model for estimating panel data between fixed effect or random effect models. If the probability of chi-squares is smaller than the significance level, FEM will be selected. The LM test selects the most suitable model for estimating panel data, between random or common effect models. If the probability of chi-squares is smaller than the significance level, REM will be selected. The results of the sensitivity test can be seen in Table 2 below.

Redundant Fixed Effects Tests			
Equation: MODEL_FEM			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	128.812149	(42,81)	0.0000
Cross-section Chi-square	535.487447	42	0.0000
Correlated Random Effects - Hausman Test			
Equation: MODEL_REM			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	14.575980	3	0.0022

Table 3. The results of the FEM model data panel test.

Periods included: 3				
Cross-sections included: 43				
Total panel (unbalanced) observations: 127				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.53794	0.382752	32.75731	0.0000
X1	0.006147	0.003152	1.950158	0.0546
X2	-0.020228	0.003972	-5.092537	0.0000
X3	0.008035	0.004621	1.738691	0.0859
R-squared	0.987817	F-statistic		145.9431
Adjusted R-squared	0.981048	Prob(F-statistic)		0.000000

Based on the sensitivity test results, the FEM model will be selected

The decision is made as follows (Ghozali, 2012: 99): Comparing the calculated t value with the t value according to the t table. If the calculated t value is greater than the t table,  $H_0$  is rejected, and  $H_a$  is accepted (alternative hypothesis). On the other hand, this can be determined by the significance of the probability, that is, if the t value is  $<5\%$ , then  $H_0$  is rejected, and  $H_a$  is accepted. Based on Table 3, a hypothesis test will be carried out for each independent variable as follows:

- Operating Expense to Operating Income positively influences Operating Income.  
The results show a significant probability value of more than 0.05, equal to 0.0546 or simplified to 0.06, so  $H_0$  is accepted. In other words, Operating Cost per Operating Income does not significantly affect Operating Income.
- Loan-to-Deposit Ratio (LDR) positively influences Operating Income.  
This can be seen from the significant probability value of 0.0000, which is less than 0.05, which means that  $H_a$  is accepted. In other words, the Loan-to-Deposit Ratio has a significant positive influence on Operating Income.
- Fee-Based Income ratio (FBIR) has an influence on Operating Income.  
Table 3 determines the significance probability value of more than 0.05, which means the Fee-Based Income ratio has no influence on Operating Income.
- Operating Expense to Operating Income (BOPO), Loan-to-Deposit Ratio (FDR), and Free Based Income Ratio (FBIR) simultaneously have a positive influence on Operating Income.  
This is indicated by the probability value of F of 0.000, which is less than 0.05, so  $H_a$  is accepted. Operating Expense to Operating Income (BOPO), Loan-to-Deposit Ratio (FDR), and Free Based Income Ratio (FBIR) simultaneously have a positive influence on Operating Income.
- The coefficient of determination  
The coefficient of determination ( $R^2$ ) relates to the independent variable affecting the dependent variable, which can be seen in Table 4.3, where the Adjusted R-squared value is 0.981048. This means that 98.11% of the variation in changes in operating income is influenced by Operating Expense to Operating Income

(BOPO), Loan-to-Deposit Ratio (FDR), and Fee-Based Income Ratio (FBIR), while the remaining 1.89 is influenced by other factors.

## V. CONCLUSION

Operating Expense to Operating Income partially has no significant influence on Operating Income, while Loan-to-Deposit Ratio (LDR) (X2) has a positive influence on Operating Income, and the Fee-Based Income ratio does not influence Operating Income. Simultaneously, Operating Expense to Operating Income, Loan-to-Deposit Ratio (FDR), and Fee-Based Income Ratio (FBIR) have a positive influence on Operating Income. The Adjusted R-squared value is 0.981048, which means that 98.11% of the variation in changes in operating income is influenced by Operating Expense to Operating Income, Loan-to-Deposit Ratio (FDR), and Fee-Based Income Ratio (FBIR), while the remaining 1.89 is influenced by other factors.

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