ABNUS JOURNAL
Your Research Partner

Corelytics: Insights into Business & Accounting Systems (Corelytics)
E-ISSN: 3164-3337 | Vol. 1, No. 2 (2026) | pp. 113-125

The Effect of Credit Effectiveness and Fee-Based Income on Financial Performance

Indah Jaya Br Saragih[1*], Zaharuddin[2], Supriyadi[3]

Accounting Study Program, Faculty of Economics and Business, Panca Sakti University, Bekasi, Central Java[1,2,3]

***Corresponding author:** *indahjaya608@gmail.com* |

Received: 18 March 2026 | Revised: 24 April 2026 | Published: 28 May 2026

Abstract

Purpose: This study examines the effects of credit effectiveness, third-party funds, and fee-based income on the financial performance of banking companies listed on the Indonesia Stock Exchange (IDX) during 2020–2024.

Research Methodology: A quantitative approach with descriptive and verificative methods was employed. Using purposive sampling, 30 banking companies were selected from the IDX. Secondary data obtained from annual financial reports were analyzed using multiple linear regression after classical assumption tests. Financial performance was measured using Return on Assets (ROA), while credit effectiveness was proxied by the receivable turnover ratio, third-party funds by total deposits, and fee-based income by the fee-based income ratio.

Results: The three independent variables jointly have a significant effect on financial performance. Partially, credit effectiveness and third-party funds have positive but insignificant effects on ROA, whereas fee-based income has a positive and statistically significant effect. Fee-based income is the strongest determinant of financial performance among the variables examined.

Conclusions: Financial performance is influenced more by non-interest income generated through banking services than by credit effectiveness or third-party funds. Expanding fee-based services can therefore enhance bank profitability.

Limitations: This study is limited to banking companies listed on the IDX, three explanatory variables, a five-year observation period (2020–2024), and ROA as the sole proxy for financial performance.

Contributions: This study enriches empirical evidence on the determinants of banking financial performance and provides practical insights for bank management, investors, and regulators in developing strategies to improve profitability through the optimization of fee-based income.

Keywords: *Credit Effectiveness, Fee-Based Income, Financial Performance, Return on Assets (ROA), Third-Party Funds.*

How to Cite: Saragih, I. J. B., Zaharuddin, & Supriyadi. (2026). The Effect of Credit Effectiveness and Fee-Based Income on Financial Performance. *Corelytics: Insights into Business & Accounting Systems (Corelytics)*, 1(2), 113-125.

1. Introduction

Financial performance is one of the most important indicators of a bank's ability to generate sustainable profits, maintain financial stability, and create value for stakeholders. It reflects how effectively management utilizes available resources to achieve organizational objectives while complying with regulatory standards and sound banking principles (Buallay, Fadel, Alajmi, & Saudagaran, 2021; Ali, Hussain, Alnoor, Muhsen, & Atiyah, 2024) Strong financial performance enhances investor confidence, strengthens public trust, and supports the long-term competitiveness of banking institutions. Conversely, poor financial performance may reduce investor interest, weaken market confidence, and limit a bank's ability to expand its operations. Therefore, evaluating financial performance has become increasingly important for investors, creditors, regulators, and bank management in making strategic and investment decisions.

Financial performance is commonly assessed through financial statement analysis using various financial ratios that measure profitability, liquidity, efficiency, and solvency (Hamed, 2023; Rakshit, 2023). Among these indicators, Return on Assets (ROA) is widely recognized as one of the most appropriate measures of banking performance because it evaluates the efficiency with which banks utilize their total assets to generate profits (Khalifaturofi, 2023; Yitayaw, 2021). Unlike manufacturing firms that rely heavily on production assets, banks primarily generate income through financial intermediation activities, making ROA a more representative indicator of managerial efficiency and operational effectiveness.

The Indonesian banking industry has experienced significant challenges and structural changes during the 2020–2024 period. The COVID-19 pandemic, digital transformation, changing customer preferences, and increasingly intense competition have compelled banks to improve operational efficiency while diversifying their sources of income. Banks are no longer able to rely solely on traditional interest income derived from lending activities. Instead, they are encouraged to strengthen non-interest income sources, optimize funding structures, and improve credit management to maintain profitability under uncertain economic conditions. Consequently, identifying the determinants of financial performance has become increasingly relevant for ensuring the sustainability and resilience of the banking sector (Islamiah, & Yudiantoro, 2022; Primasari, & Lisiantara, 2024).

One of the key determinants of banking profitability is credit effectiveness. Lending activities represent the primary source of income for commercial banks because interest revenue generated from loans contributes substantially to total earnings (Minh, Thanh, & DENG, 2020; Gnatiuk, Vitalii, & Shkromyda, 2024). However, lending activities also expose banks to considerable credit risk. Effective credit management enables banks to recycle funds more efficiently, minimize non-performing loans, and increase interest income. Credit effectiveness is commonly measured using the receivable turnover ratio, which reflects how efficiently banks manage loan disbursement and repayment. Higher credit effectiveness is theoretically expected to improve profitability by accelerating the circulation of funds and increasing income-generating opportunities (Ekawati, Purwohedi, & Warokka, 2021; Anita, & Christine, 2023; Jolaiya, 2023). Nevertheless, previous empirical findings remain inconclusive, with some studies reporting significant positive effects while others finding insignificant relationships between credit effectiveness and financial performance.

Another important factor influencing banking performance is the availability of third-party funds (*Dana Pihak Ketiga*/DPK). Third-party funds, consisting primarily of savings, current accounts, and time deposits, constitute the largest source of funding for Indonesian banks (Ekawati et al., 2021). These funds enable banks to perform their intermediary function by channeling public deposits into productive loans and investments. A larger volume of third-party funds generally provides greater liquidity and lending capacity, thereby increasing opportunities to generate higher profits. However, the effectiveness of third-party funds depends on how efficiently banks allocate these funds into productive assets. Excess liquidity or inefficient credit distribution may reduce profitability despite substantial deposit growth. Consequently, empirical studies have produced inconsistent findings regarding the relationship between third-party funds and financial performance (Wikantha, Riasning, & Ekayani, 2023).

In addition to interest income, fee-based income has become an increasingly strategic source of bank revenue. Fee-based Income (FBI) refers to non-interest income earned from banking services such as fund transfers, payment processing, credit card services, foreign exchange transactions, commissions, guarantees, and other financial services (Anita and Christine, 2023; Jolaiya, 2023). As banking services continue to digitalize, fee-based income has grown rapidly and provides a more stable revenue stream that is less vulnerable to fluctuations in interest rates. Diversifying income sources through fee-based services enables banks to improve profitability while reducing dependence on lending activities. Previous studies generally suggest that fee-based income positively influences Return on Assets, although the magnitude and statistical significance vary across countries, banking systems, and research periods (Dang, 2020; Pasha, & Lewaaelhamd, 2024; Ozili, & Outa, 2019).

Although numerous studies have investigated determinants of banking profitability, several research gaps remain. First, previous findings regarding the effects of credit effectiveness and third-party funds on financial performance are inconsistent. Second, most prior studies focus on individual variables rather than simultaneously examining credit effectiveness, funding capability, and fee-based income within a comprehensive framework. Third, the banking industry has undergone substantial structural changes following the COVID-19 pandemic and accelerated digital banking adoption, suggesting that earlier findings may no longer adequately explain current banking performance. These conditions create the need for updated empirical evidence using recent financial data from Indonesian banking companies.

Therefore, this study investigates the effects of credit effectiveness, third-party funds, and fee-based income on the financial performance of banking companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. Specifically, this study addresses whether credit effectiveness significantly affects financial performance, whether third-party funds significantly influence financial performance, whether fee-based income significantly affects financial performance, and whether credit effectiveness, third-party funds, and fee-based income simultaneously influence financial performance. By answering these questions, this study is expected to enrich the literature on banking financial performance and provide practical insights for bank management, investors, and regulators in formulating strategies to improve profitability and strengthen the competitiveness of the Indonesian banking industry.

2. Literature Review and Hypothesis/es Development

2.1 Credit Effectiveness

Credit is the primary business activity of commercial banks and serves as the main source of income through interest earned on loans granted to customers. According to Law No. 10 of 1998 concerning Banking, credit refers to the provision of money or claims equivalent to money based on a lending agreement between a bank and another party, requiring the borrower to repay the debt within a specified period together with interest or profit sharing. Since lending constitutes the largest portion of banks' earning assets, effective credit management is essential for maintaining profitability, liquidity, and financial stability (Abiola-Adams, Azubuike, Sule, & Okon, 2021; Al, & Al, 2021).

Credit effectiveness reflects a bank's ability to manage the lending process efficiently, from loan disbursement to repayment collection. Effective credit management ensures that funds are allocated to productive borrowers, repayments are collected on schedule, and credit risk is minimized. One commonly used indicator of credit effectiveness is the credit turnover ratio (receivable turnover ratio), which measures how frequently credit funds are disbursed and recovered within a given accounting period (Sutrisno, 2022; Setiawan, Putri, Muanas, & Alamsyah, 2023). A higher turnover ratio indicates that loan repayments are collected more rapidly, enabling banks to recycle funds into new lending activities and improve asset utilization. From the perspective of financial intermediation theory, banks perform the intermediary function by channeling funds from surplus units (depositors) to deficit units (borrowers). The effectiveness of this intermediation process determines how efficiently banks generate income from their productive assets. Efficient credit allocation not only increases interest income but also enhances liquidity management and reduces the likelihood of non-performing loans, thereby contributing to stronger financial performance.

High credit effectiveness allows banks to reallocate recovered funds more quickly, increasing lending capacity and expanding opportunities to generate additional interest income. Consequently, efficient credit turnover improves operational efficiency and profitability, which is reflected in higher ROA. Conversely, ineffective credit management may result in delayed repayments, increased credit risk, and lower profitability due to reduced lending capacity and higher provisioning costs (Naili & Lahrichi, 2022). Previous empirical studies generally suggest that credit effectiveness has a positive relationship with financial performance because efficient loan management increases income while optimizing the utilization of bank assets. However, empirical evidence remains inconsistent, as several studies report insignificant effects resulting from differences in sample characteristics, economic conditions, measurement proxies, and observation periods. Therefore, re-examining the relationship between credit effectiveness and financial performance remains relevant, particularly in the context of Indonesian banking companies during the post-pandemic period.

2.2 Third-Party Funds

Third-party funds (*Dana Pihak Ketiga*/DPK) represent the primary source of funding for commercial banks and consist of deposits collected from the public in the form of savings accounts, current accounts, and time deposits. Third-party funds constitute the largest portion of bank liabilities and play a crucial role in supporting banking operations. These funds reflect the public's confidence in the banking system and provide the financial resources necessary for banks to perform their intermediary function by channeling deposits into productive lending and investment activities (Nurhfidah, & Sagantha, 2022; Rusdiansyah, & Hayat, 2022).

As financial intermediaries, banks rely heavily on third-party funds to maintain liquidity, expand credit distribution, and sustain business growth. The availability of sufficient deposits enables banks to meet customer withdrawal demands while simultaneously financing productive sectors of the economy. Consequently, the volume of third-party funds is widely regarded as an important indicator of a bank's financial stability, operational capacity, and competitiveness within the banking industry. Banks with a strong deposit base generally possess greater flexibility in managing liquidity risk and responding to fluctuations in market conditions (Nurdiani, Arum, Hasibuan, Silamat, & Anantadjaya, 2023).

From the perspective of financial intermediation theory, third-party funds serve as the foundation of banks' income-generating activities. The larger the amount of deposits collected, the greater the bank's capacity to extend loans, invest in earning assets, and generate interest income. Efficient utilization of these funds contributes to higher profitability by increasing the return generated from productive assets while maintaining adequate liquidity. Therefore, effective management of third-party funds is essential for achieving sustainable financial performance. Higher levels of third-party funds allow banks to expand lending activities and increase interest income, ultimately improving profitability and operational efficiency. Moreover, banks with substantial deposits are generally better positioned to diversify risks, maintain stable cash flows, and withstand economic uncertainty. These advantages contribute positively to financial performance, particularly as measured by ROA, which reflects the efficiency of asset utilization in generating profits (Mangesti, 2019; Uus, 2017).

Although previous studies generally report a positive relationship between third-party funds and financial performance, empirical findings remain inconsistent. Some studies indicate that larger deposits significantly improve profitability through increased lending capacity, whereas others find insignificant effects because deposit growth is not always followed by productive credit distribution. Excess liquidity, conservative lending policies, or unfavorable macroeconomic conditions may reduce the ability of banks to convert deposits into profitable assets. Consequently, further investigation is required to clarify the relationship between third-party funds and financial performance, particularly in the context of Indonesian banking companies during the 2020–2024 period.

2.3 Fee-Based Income

Fee-based income refers to non-interest income generated from various banking services provided to customers, including commissions, transfer services, foreign exchange transactions, payment processing, credit card services, letters of credit, guarantees, and safekeeping services (Anita, & Christine, 2023; Rachmadi, 2022). Unlike interest income, which depends primarily on lending activities, fee-based income is derived from service-based transactions and reflects a bank's ability to create value through operational efficiency, service innovation, and customer relationship management. As banking services become increasingly digitalized, fee-based income has emerged as an important and sustainable source of revenue that supports long-term financial performance.

The growing adoption of digital banking, electronic payment systems, and financial technology has significantly increased the contribution of fee-based income to banks' overall earnings. Income generated from digital transactions, payment gateways, mobile banking, internet banking, and other value-added financial services enables banks to diversify their revenue sources while reducing dependence on traditional interest-based income. This diversification is particularly important during periods of economic uncertainty or declining lending activity, as fee-based income tends to be more stable and less sensitive to fluctuations in interest rate (Sopian, & Pramiudi, 2021; Novika, & Siswanti, 2022). From the perspective of revenue diversification theory, banks that generate income from multiple sources are better positioned to reduce earnings volatility and improve financial stability. Revenue diversification through fee-based services enables banks to spread operational risks across different business activities while enhancing profitability through higher service utilization. Consequently, banks with higher fee-based income generally demonstrate stronger operational efficiency and greater resilience to changes in macroeconomic conditions than banks that rely predominantly on interest income (Nosheen, & Rashid, 2019; Afrin, Skamnelos, & Sarder, 2022).

An increase in fee-based income contributes directly to profitability by expanding non-interest revenue and improving the efficiency of asset utilization. Since this type of income is generated without significantly increasing credit risk, it enhances ROA while reducing banks' dependence on lending activities. Higher fee-based income also reflects stronger customer engagement, broader service utilization, and more effective implementation of digital financial services, all of which contribute positively to financial performance (Dang, 2020; Simatupang, 2021). Previous empirical studies generally report that fee-based income has a positive effect on financial performance, particularly as measured by ROA. Banks with greater proportions of non-interest income tend to achieve higher profitability due to improved operational efficiency and more diversified revenue streams. Nevertheless, the magnitude of this relationship varies across countries, banking systems, and research periods because differences in digital banking adoption, customer behavior, market competition, and regulatory environments influence the contribution of fee-based services to overall profitability. Therefore, examining the effect of fee-based income on the financial performance of Indonesian banking companies remains relevant, particularly in the context of rapid digital transformation during the 2020–2024 period.

2.4 Financial Performance

Financial performance reflects a company's ability to achieve its financial objectives through the efficient and effective management of resources. It represents the overall outcome of managerial decisions in utilizing assets, liabilities, and equity to generate sustainable profitability while maintaining adequate liquidity and solvency (Abiola-Adams, Azubuike, Sule, & Okon, 2021 ; Sutrisno, 2022). For banking institutions, financial performance is particularly important because it indicates the bank's capability to perform its intermediation function, maintain public confidence, comply with regulatory requirements, and create value for shareholders and other stakeholders. Financial performance can be evaluated using various financial ratios that measure profitability, efficiency, liquidity, and capital adequacy. Among these indicators, ROA is one of the most widely accepted measures of banking performance because it assesses the efficiency with which banks utilize their total assets to generate net income. A higher ROA indicates that management is more effective in converting productive assets into profits, whereas a lower ROA suggests inefficiencies in asset utilization and operational management. Consequently, ROA has become the primary profitability indicator used by regulators, investors, and researchers to evaluate bank performance (Purnamasari, & Sitorus, 2023; Yitayaw, 2021).

From the perspective of resource-based theory, financial performance reflects an organization's ability to optimize both tangible and intangible resources to create competitive advantages and superior financial outcomes. In the banking industry, these resources include productive assets, funding sources, information technology, human capital, and service capabilities. Efficient management of these strategic resources enables banks to improve operational efficiency, strengthen profitability, and maintain long-term business sustainability. A bank with strong financial performance demonstrates its ability to allocate resources efficiently, manage financial risks effectively, and generate stable returns while fulfilling the expectations of shareholders, customers, creditors, and regulators. High financial performance also enhances a bank's competitiveness, strengthens market confidence, and supports future business expansion. Conversely, weak financial performance may reduce investor confidence, increase operational risk, and limit the bank's ability to compete in an increasingly dynamic financial environment (Kovalenko, Bolgar, Yevtushenko, & Pestovska, 2019; Almashhadani, & Almashhadani, 2023).

Previous studies suggest that financial performance is influenced by various internal factors, including credit effectiveness, third-party funds, and fee-based income. Effective credit management improves lending efficiency and increases interest income, while adequate third-party funds provide sufficient liquidity to support productive lending activities. Meanwhile, fee-based income contributes to revenue diversification by generating non-interest income that is less dependent on lending activities. Collectively, these factors are expected to improve profitability and enhance ROA, although empirical findings regarding their individual effects remain inconsistent across different banking environments (Khan, 2022; Obeid, 2023). Therefore, examining the combined influence of credit effectiveness, third-party funds, and fee-based income on financial performance remains essential for providing updated empirical evidence on the determinants of banking profitability in Indonesia.

2.5 Research Framework

Referring to the theoretical framework developed by the author, the conceptual framework can be presented as shown in the following figure.

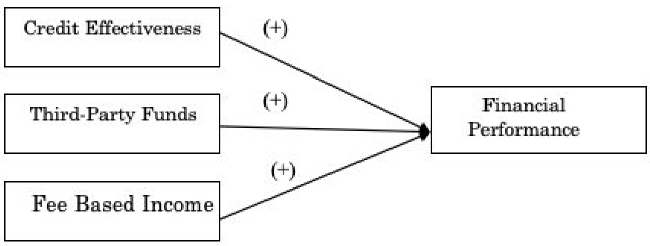

Figure 1. Research Framework

Figure 1 illustrates the research framework developed from the theoretical foundations and previous empirical findings discussed in the literature review. The model proposes that credit effectiveness, third-party funds, and fee-based income individually exert positive effects on financial performance. Accordingly, the framework serves as the foundation for formulating the research hypotheses and examining the determinants of banking financial performance during the 2020–2024 period.

2.6 Hypothesis Development

Based on the definitions, problem identification, previous studies, and the theoretical framework outlined earlier, the research hypotheses are formulated as follows:

H_1: There is a significant positive effect of credit effectiveness on financial performance.

H_2: There is a significant positive effect of third-party funds on financial performance.

H_3: There is a significant positive effect of fee-based income on financial performance.

3. Research Methodology

3.1 Research Design

This study employed a quantitative research approach using descriptive and verificative methods. The descriptive method was applied to describe the characteristics of the research variables, namely credit effectiveness, third-party funds, fee-based income, and financial performance (Sugiyono, 2022). Meanwhile, the verificative method was used to examine the causal relationships between the independent variables and financial performance through statistical hypothesis testing. The study focused on banking companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 observation period.

3.2 Population and Sample

The population consisted of 43 banking companies listed on the IDX. The sample was selected using purposive sampling based on several criteria, including banks that were consistently listed on the IDX during 2020–2024, banks that published complete annual financial statements throughout the observation period, and banks with healthy ROA ratios during the study period. Based on these criteria, 31 banking companies were selected as the final research sample.

3.3 Data Collection

This study utilized secondary data obtained from the annual financial statements of banking companies published on the official IDX) website. To strengthen the theoretical foundation and support the interpretation of the findings, the study also employed a literature review based on books, journal articles, and relevant regulations related to banking performance and financial management.

3.4 Variables and Measurement

The dependent variable in this study was financial performance, measured using ROA. The independent variables consisted of credit effectiveness, third-party funds, and fee-based income. Credit effectiveness was measured using the Credit (Accounts Receivable) Turnover Ratio, third-party funds were measured by the total amount of public deposits, and fee-based income was measured using the fee-based income ratio.

3.5 Data Analysis Technique

The collected data were analyzed using descriptive statistics and multiple linear regression analysis. Prior to hypothesis testing, the regression model was evaluated through classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation tests, to ensure compliance with the assumptions of the Ordinary Least Squares (OLS) method. Pearson correlation analysis was also performed to examine the relationships among variables. Hypothesis testing was conducted using the partial t-test to assess the individual effect of each independent variable and the simultaneous F-test to evaluate their joint effect on financial performance. In addition, the coefficient of determination (R^2) was calculated to measure the proportion of variance in financial performance explained by the independent variables.

4. Results and Discussions

The research analyzed 30 banking companies listed on the IDX from 2020 to 2024 to examine the impact of credit effectiveness, third-party funds, and fee-based income on financial performance, measured by ROA. Two banks, Bank Bumi Artha and Bank BTPN Syariah, were identified as outliers due to extreme values and were excluded, leaving a final sample of 30 banks. Data were derived from the banks' annual financial statements published on the IDX website. Descriptive statistics revealed that credit effectiveness had an average value of 1.05, indicating moderate efficiency in credit turnover across the sample banks.

The descriptive analysis of third-party funds (DPK) showed a fluctuating trend over the observation period, with the highest average ratio of 0.98 in Bank Ina Perdana and the lowest 0.71 in Bank BRIsyariah. This suggests that banks maintained varying levels of customer deposits relative to total liabilities, reflecting their differing capacities to mobilize funds from the public. Meanwhile, the Fee-based Income (FBI) ratio also showed fluctuations, with an average of 0.11, the highest being 0.24 at Bank Mega and the lowest 0.01 at Bank Mayapada International, indicating variability in non-interest income contributions to overall profitability.

ROA, as the measure of financial performance, varied significantly among banks. The highest average ROA was 3.94 at Bank Central Asia, while the lowest was 0.35 at Bank Bukopin. Across the five-year period, the average ROA for the sample banks was 1.70, reflecting moderate profitability and asset efficiency. Descriptive statistics also revealed that ROA exhibited the highest standard deviation (1.0859), indicating greater variability in bank performance compared to the other independent variables.

Multiple linear regression analysis showed that credit effectiveness (β=1.494, p=0.277) and third-party funds (β=0.163, p=0.873) did not have a statistically significant effect on ROA, whereas fee-based income (β=6.589, p=0.000) had a positive and significant impact on financial performance. The regression model's R-squared value of 0.162 indicated that the three independent variables jointly explained 16% of the variation in ROA, with 84% of the variation attributed to other factors not included in the study. These results imply that non-interest income is a key driver of profitability among Indonesian banks (Purwanto & Perkasa, 2024).

Simultaneous hypothesis testing (F-test) confirmed that credit effectiveness, third-party funds, and fee-based income together significantly influence ROA (F-statistic = 9.449, p<0.05). Classical assumption tests, including normality, multicollinearity, heteroskedasticity, and autocorrelation, indicated that the regression model met all necessary assumptions. Overall, the study highlights that while traditional banking operations like lending and deposit mobilization show moderate influence, non-interest income through fee-based services plays a critical role in enhancing the financial performance of banks in Indonesia ((Handayani, Widodo, & Budiyono, 2024).

4.1 Discussion

The study analyzed banking data from companies listed on the Indonesia Stock Exchange between 2020 and 2024 to examine the impact of credit effectiveness, third-party funds, and fee-based income on financial performance. The simultaneous regression analysis indicated a significant collective influence of these variables on financial performance, measured by ROA, with an F-statistic of 9.45 and a significance level well below 0.05. This suggests that changes in credit effectiveness, third-party funds, and fee-based income together significantly affect banks' financial outcomes.

Individually, credit effectiveness showed a positive regression coefficient, suggesting that higher credit turnover generally aligns with higher ROA. However, the t-test indicated an insignificant effect, likely due to mismatches between credit turnover and ROA trends. While some previous studies reported a negative or insignificant relationship, variations in research objects, sample sizes, ratios, and study periods may explain these differences. Third-party funds also showed a positive but statistically insignificant relationship with ROA, as banks may accumulate deposits without proportionally increasing credit distribution, potentially limiting interest income and profitability despite theoretical expectations of positive impact.

In contrast, fee-based income demonstrated a significant positive effect on ROA. As non-interest operational income, fee-based income contributes directly to total bank revenues, enhancing profitability. This finding aligns with several prior studies and suggests that banks increasingly rely on diversified revenue streams beyond interest from loans. Overall, the three variables together accounted for only 14% of the variance in financial performance, leaving 86% influenced by other unexamined factors.

The study has both theoretical and practical implications. Theoretically, it reinforces previous research showing that credit effectiveness, third-party funds, and fee-based income jointly influence financial performance, although their individual effects vary in significance. Practically, the findings can guide investors in evaluating banks' conditions and inform bank management about key ratios to monitor, such as Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR), Net Interest Margin (NIM), Non-Performing Loan (NPL), Operating Expenses to Operating Income (BOPO), to optimize ROA. Limitations include the focus on only three independent variables, a small sample of 30 banks, and a five-year observation period, suggesting that broader studies may provide a more comprehensive understanding of banking performance factors.

5. Conclusions

The study concludes that credit effectiveness, third-party funds, and fee-based income collectively have a significant impact on financial performance, as measured by Return on Assets (ROA), for banks listed on the Indonesia Stock Exchange between 2020 and 2024. While these variables influence financial outcomes together, their individual effects differ. Credit effectiveness and third-party funds show positive but statistically insignificant effects on ROA, likely due to other factors influencing financial performance or imbalances between deposited funds and credit distribution. In contrast, fee-based income demonstrates a positive and significant effect, reflecting its role in increasing non-interest operational income and overall bank profitability. Overall, the model explains only 14% of the factors affecting financial performance, indicating that many other variables remain influential.

Theoretically, the study suggests that future research could expand the range of variables beyond credit effectiveness, third-party funds, and fee-based income to capture a more comprehensive view of what drives bank performance. Other factors such as CAR, NPL, LDR, NIM, BOPO, cash turnover, and management practices could provide additional explanatory power. Extending the research period beyond the five years studied would also offer more current insights and account for changes in financial ratios over time. Practically, the findings offer guidance for investors, indicating that higher credit effectiveness suggests strong opportunities for banks to reinvest funds, while a larger amount of third-party deposits reflects public trust in the bank. Additionally, increasing fee-based income directly contributes to profitability and improved ROA, providing a useful metric for evaluating bank performance. Investors can use these insights to make more informed decisions regarding bank investments.

Acknowledgement

The authors would like to express their sincere gratitude to the Faculty of Economics and Business, Universitas Panca Sakti Bekasi, for providing academic support throughout this research. The authors also appreciate the Indonesia Stock Exchange (IDX) for providing publicly accessible financial statement data used in this study. Finally, the authors thank the editors and anonymous reviewers for their valuable comments and constructive suggestions, which have significantly improved the quality of this manuscript.

Author Contributions

IJBS contributed to the conceptualization, methodology, data collection, formal analysis, investigation, and writing of the original draft. Z contributed to the research design, supervision, methodology validation, and critical review of the manuscript. S contributed to data interpretation, manuscript editing, visualization, and final review. All authors discussed the results, approved the final version of the manuscript, and agreed to be accountable for all aspects of the work.

Conflict of Interest

The authors declare that there are no financial, professional, institutional, or personal conflicts of interest that could have influenced the research, analysis, interpretation of data, or publication of this manuscript. The authors have no competing interests to disclose.

References

Abiola-Adams, O., Azubuike, C., Sule, A. K., & Okon, R. (2021). Optimizing balance sheet performance: Advanced asset and liability management strategies for financial stability. *International Journal of Scientific Research Updates*, *2*(1), 55-65. https://doi.org/10.53430/ijsru.2021.2.1.0041

Afrin, S., Skamnelos, I., & Sarder, W. (2022). Drivers of intermediation costs, financial repression and stability. *Journal of Economics and Finance*, *46*(2), 283-307. https://doi.org/10.1007/s12197-022-09569-9

Al Zaidanin, J. S., & Al Zaidanin, O. J. (2021). The impact of credit risk management on the financial performance of United Arab Emirates commercial banks. *International Journal of Research in Business and Social Science*, *10*(3), 303-319. https://doi.org/10.20525/ijrbs

Ali, J., Hussain, K. N., Alnoor, A., Muhsen, Y. R., & Atiyah, A. G. (2024). Benchmarking methodology of banks based on financial sustainability using CRITIC and RAFSI techniques. *Decision Making: Applications in Management and Engineering*, *7*(1), 315-341. https://doi.org/10.31181/dmame712024945

Almashhadani, M., & Almashhadani, H. A. (2023). The influence of technological capacity and financial capacity on promoting firm competitiveness and firm performance. *Journal of Humanities, Social Sciences and Business*, *3*(1), 125-141. https://doi.org/10.55047/jhssb.v3i1.847

Anita, G., & Christine, D. (2023). The influence of electronic banking transactions on fee base income in conventional banking listed on the Indonesia stock exchange for the 2018-2021 period. *JASa (Jurnal Akuntansi, Audit Dan Sistem Informasi Akuntansi)*, *7*(2), 293-301. https://doi.org/10.36555/jasa.v7i2.2267

Buallay, A., Fadel, S. M., Alajmi, J., & Saudagaran, S. (2021). Sustainability reporting and bank performance after financial crisis: Evidence from developed and developing countries. *Competitiveness Review: An International Business Journal*, *31*(4), 747-770. https://doi.org/10.1108/CR-04-2019-0040

Dang, V. D. (2020). Bank performance and the relationship between lending and fee-based activities in an emerging market. *Malaysian Journal of Economic Studies*, *57*(2), 213-231. https://doi.org/10.3316/informit

Ekawati, N., Purwohedi, U., & Warokka, A. (2021). The Influence of Risk Management, Third-Party Funds and Capital Structure on Banking Sector Financial Performance in Indonesia and Thailand with Corporate Governance as Moderating Variable in 2015-2019. *Accounting & Finance/Oblìk ì Fìnansi, (94)*. https://doi.org/10.33146/2307-9878-2021-4(94)-71-80

Gnatiuk, T., Vitalii, S., & Shkromyda, N. (2024). Trade credit: Some issues of accounting and analysis of accounts receivable. *Journal of Vasyl Stefanyk Precarpathian National University*, *11*(2), 79-90. https://doi.org/10.15330/jpnu.11.2.79-90

Hamed, R. (2023). The role of internal control systems in ensuring financial performance sustainability. *Sustainability*, *15*(13), 10206. https://doi.org/10.3390/su151310206

Handayani, P. N., Widodo, S., & Budiyono, I. (2024). Factors affecting the profitability of Islamic Commercial Banks for the period 2018-2022. *Kompartemen: Jurnal Ilmiah Akuntansi, 86-98*. https://doi.org/10.30595/kompartemen.v22i1.18945

Islamiah, N. I., & Yudiantoro, D. (2022). Pengaruh perputaran kas, perputaran persediaan, dan perputaran piutang terhadap profitabilitas perusahaan manufaktur yang terdaftar di BEI tahun 2019-2021. *Al-Mal: Jurnal Akuntansi dan Keuangan Islam*, *3*(2), 177-197. https://doi.org/10.24042/al-mal.v3i2.12146

Jolaiya, O. F. (2023). Effect of non-interest income on the financial performance of deposit money banks in Nigeria. *International Research Journal of Economics and Management Studies IRJEMS*, *2*(4). https://doi.org/10.56472/25835238/IRJEMS-V2I4P174

Khalifaturofi'ah, S. O. (2023). Cost efficiency, innovation and financial performance of banks in Indonesia. *Journal of Economic and Administrative Sciences*, *39*(1), 100-116. https://doi.org/10.1108/JEAS-07-2020-0124

Khan, S. (2022). Determinants of banks profitability: An evidence from GCC countries. *Journal of Central Banking Theory and Practice*, *11*(3), 99-116. https://doi.org/10.2478/jcbtp-2022-0025

Kovalenko, V. V., Bolgar, T. M., Yevtushenko, O. A., & Pestovska, Z. S. (2019). Competitiveness of banks in the modern conditions of financial market development. *Financial and credit activity problems of theory and practice*, *2*(29), 3-12. https://doi.org/10.18371/fcaptp.v2i29.171731

Mangesti Rahayu, S. (2019). Mediation effects financial performance toward influences of corporate growth and assets utilization. *International Journal of Productivity and Performance Management*, *68*(5), 981-996. https://doi.org/10.1108/IJPPM-05-2018-0199

Minh, S., Thanh, T., & DENG, X. (2020). Analysis of the impact from non-interest income to the operational efficiency of commercial banks in Vietnam. *Management Science Letters*, *10*(2), 455-462. https://doi.org/10.5267/j

Naili, M., & Lahrichi, Y. (2022). The determinants of banks' credit risk: Review of the literature and future research agenda. *International journal of finance & economics*, *27*(1), 334-360. https://doi.org/10.1002/ijfe.2156

Nosheen, & Rashid, A. (2019). Business orientation, efficiency, and credit quality across business cycle: Islamic versus conventional banking. *Are there any lessons for Europe and Baltic States?. Baltic Journal of Economics*, *19*(1), 105-135. https://doi.org/10.1080/1406099X.2018.1560947

Novika, W., & Siswanti, T. (2022). Pengaruh Perputaran Kas, Perputaran Piutang Dan Perputaran Persediaan Terhadap Profitabilitas Pada Perusahaan Manufaktur–Subsektor Makanan Dan Minuman Yang Terdaftar Di Bei Periode Tahun 2017-2019. *Jurnal Ilmiah Mahasiswa Akuntansi*, *2*(1), 43-56. https://doi.org/10.35968/c0vrca50

Nurdiani, T. W., Arum, R. A., Hasibuan, R. P. A., Silamat, E., & Anantadjaya, S. P. (2023). The Effect of Return, Cost, Financing Factors and Risk on Profitability of Sharia Banks in Indonesia. *JEMSI (Jurnal Ekonomi, Manajemen, dan Akuntansi)*, *9*(2), 266-275. https://doi.org/10.35870/jemsi.v9i2.941

Nurhfidah, N., & Sagantha, F. (2022). Pengaruh Dana Pihak Ketiga, Kecukupan Modal dan Likuiditas Terhadap Pembiayaan Mudharabah dengan Pembiayaan Bermasalah Sebagai Variabel Moderasi Pada Perbankan Syariah di Indonesia Tahun 2017–2021. *Journal of Islamic Accounting Competency*, *2*(2), 85-101. https://doi.org/10.30631/jisacc.v2i2.1341

Obeid, R. (2023). Factors affecting return on assets (ROA) in the banking sector of selected Arab countries: Is there a role for financial inclusion and technology indicators. *International Journal of Economics and Finance*, *15*(9), 1-1. https://doi.org/10.5539/ijef.v15n9p1

Ozili, P. K., & Outa, E. (2019). Bank earnings management using commission and fee income: The role of investor protection and economic fluctuation. *Journal of applied accounting research*, *20*(2), 172-189. https://doi.org/10.1108/JAAR-02-2018-0030

Pasha, R., & Lewaaelhamd, I. (2024). A comparative study on bank income diversification: Which non-interest income component is beneficial?. *Journal of Chinese Economic and Foreign Trade Studies*, *17*(1), 49-74. https://doi.org/10.1108/JCEFTS-12-2023-0065

Primasari, L. C., & Lisiantara, G. A. (2024). Pengaruh Perputaran Kas, Perputaran Piutang, dan Perputaran Persediaan terhadap Profitabilitas. *JIMAT (Jurnal Ilmiah Mahasiswa Akuntansi) Undiksha*, *15*(03), 571-582. https://doi.org/10.23887/jimat.v15i03.66697

Purnamasari, S., & Sitorus, R. R. (2023). Pengaruh Non Performing Loan (NPL), Loan To Deposit Ratio (LDR) dan Return On Asset (ROA) terhadap Harga Saham pada Industri Perbankan. *JIIP-Jurnal Ilmiah Ilmu Pendidikan*, *6*(12), 9741-9750. https://doi.org/10.54371/jiip.v6i12.3302

Purwanto, S. ., & Perkasa, D. H. (2024). ANALISIS TRANSFORMASI BANK DIGITAL YANG TERDAFTAR DI BURSA EFEK INDONESIA. *Jurnal Revenue : Jurnal Ilmiah Akuntansi*, *4*(2), 622-633. https://doi.org/10.46306/rev.v4i2.342

Rachmadi, F. (2022). FEE BASED INCOME IN MODERATING THE EFFECT OF RESTRUCTURING CREDIT, CREDIT, AND DEPOSITS ON PROFIT PERFORMANCE OF CONVENTIONAL COMMERCIAL BANKS. *Jurnal RAK (Riset Akuntansi Keuangan)*, *7*(2), 161-178. https://doi.org/10.31002/rak.v7i2.431

Rakshit, B. (2023). Assessing the effects of cost, revenue and profit efficiency on bank performance: Empirical evidence from Indian banking. *International Journal of Organizational Analysis*, *31*(5), 1867-1898. https://doi.org/10.1108/IJOA-06-2021-2802

Rusdiansyah, M., & Hayat, A. (2022). Pengaruh Non Performing Loan, Net Interest Margin, Beban Operasional Berbanding Pendapatan Operasional dan Fee Based Income terhadap Laba Perusahaan (Studi Kasus Pada Bank Pembangunan Daerah Di Indonesia Periode 2015-2020). *Fair Value: Jurnal Ilmiah Akuntansi Dan Keuangan*, *4*(8), 3674-3682. https://doi.org/10.32670/fairvalue.v4i8.1422

Setiawan, H., Putri, M. A., Muanas, M., & Alamsyah, R. (2023). Pengaruh Perputaran Kas, Perputaran Piutang Dan Perputaran Persediaan Terhadap Profitabilitas: Studi Kasus pada Perusahaan Makanan dan Minuman yang Terdaftar di Bursa Efek Indonesia Periode 2017-2019. *Jurnal Ilmiah Akuntansi Kesatuan*, *11*(1), 175-186. https://doi.org/10.37641/jiakes.v11i1.1723

Simatupang, M. K. (2021). Pengaruh Perputaran Piutang dan Perputaran Kas Terhadap Profitabilitas Periode 2014-2018. *Jurnal Khatulistiwa Informatika*, *8*(1), 14-24. https://doi.org/10.31294/moneter.v8i1.8974

Sopian, M. A., & Pramiudi, U. (2021). Pengaruh Efektivitas Kredit Dan Fee Base Income Terhadap Kinerja Keuangan Perbankan. *Jurnal Ilmiah Akuntansi Kesatuan*, *9*(2), 347-358. https://doi.org/10.37641/jiakes

Sugiyono. (2022). *Metode Penelitian Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.

Sutrisno. (2022). *Manajemen Keuangan Teori, Konsep dan Aplikasi, Edisi Pertama, Cetakan Ketujuh*. Yogyakarta: Ekonisia.

Uus Ahmad, Husaeni. (2017). Analisis Pengaruh Dana Pihak Ketiga dan Non Performing Financing Terhadap Return On Asset pada BPRS di Indonesia. *Jurnal Ekonomi Syariah. Volume*, *5*(1), 2017. https://doi.org/10.21043/equilibrium

Wikantha, N. P., Riasning, N. P., & Ekayani, N. N. S. (2023). Pengaruh Perputaran Kas, Perputaran Piutang, Perputaran Persediaan, Perputaran Modal Kerja Dan Likuiditas Terhadap Profitabilitas. *Jurnal Riset Akuntansi Warmadewa*, *4*(2), 37-42. https://doi.org/10.22225/jraw.4.2.8472.37-42

Yitayaw, M. (2021). Firm-specific, industry-specific and macroeconomic determinants of commercial banks' lending in Ethiopia: Panel data approach. *Cogent economics & finance*, *9*(1), 1952718. https://doi.org/10.1080/23322039.2021.1952718