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Determination of NPF on the Sustainability of BPRS Microfinance: : non-Performing Financing (NPF) in BPRS

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Abstract

This study examines how non performing financing (NPF) in BPRS in Banten and West Java is impacted by operational efficiency (BOPO), liquidity (FDR), Islamic financial inclusion, and governance (GCG). Panel data regression analysis is used in this study's quantitative technique to evaluate the influence of independent factors on the dependent variable. A total of 175 panel observations were utilized in the analysis, which was based on the findings of panel data regression analysis on 35 BPRS from 2019 to 2023. The observations were made during a five-year period using yearly or quarterly panel data. NPF is significantly impacted positively by BOPO and FDR, but negatively by GCG and finance. The four factors together accounted for 28.03 percent of the variance in NPF. In order to track the sustainability of Islamic microfinance, this emphasizes the significance of efficiency, risk assessment, financial knowledge, and governance. This study aims to offer insights that could enhance the stability and governance of BPRS, particularly in regions characterized by significant institutional density and challenges related to financial inclusion. This study combines four main variables simultaneously in measuring NPF as an indicator of microfinance sustainability, offering a more comprehensive approach compared to previous partial studies.

Keywords: BOPO: NPF; FDR; GCG; Islamic financial inclusion

Abstrak

Penelitian ini menganalisis bagaimana pembiayaan non-performing (NPF) di BPRS Banten dan Jawa Barat dipengaruhi oleh efisiensi operasional (BOPO), likuiditas (FDR), inklusi keuangan islam, dan tata kelola (GCG). Analisis regresi data panel digunakan dalam teknik kuantitatif penelitian ini untuk mengevaluasi pengaruh variabel independen terhadap variabel dependen. Sebanyak 175 observasi panel digunakan dalam analisis, yang didasarkan pada temuan analisis regresi data panel pada 35 BPRS dari tahun 2019 hingga 2023. Observasi dilakukan selama periode lima tahun menggunakan data panel tahunan atau triwulanan. NPF secara signifikan terdampak positif oleh BOPO dan FDR, tetapi negatif oleh GCG dan inklusi keuangan. Keempat faktor ini bersama-sama menyumbang 28,03 persen varians dalam NPF. Dalam rangka melacak keberlanjutan keuangan mikro Islam, hal ini menekankan pentingnya efisiensi, penilaian risiko, pengetahuan keuangan, dan tata kelola. Studi ini bertujuan untuk memberikan wawasan yang dapat

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meningkatkan stabilitas dan tata kelola BPRS, terutama di wilayah yang memiliki kepadatan institusional yang tinggi dan tantangan terkait dengan inklusi keuangan. Studi ini menggabungkan empat variabel utama secara bersamaan dalam mengukur NPF sebagai indikator keberlanjutan mikrofinansial, menawarkan pendekatan yang lebih komprehensif dibandingkan studi parsial sebelumnya.

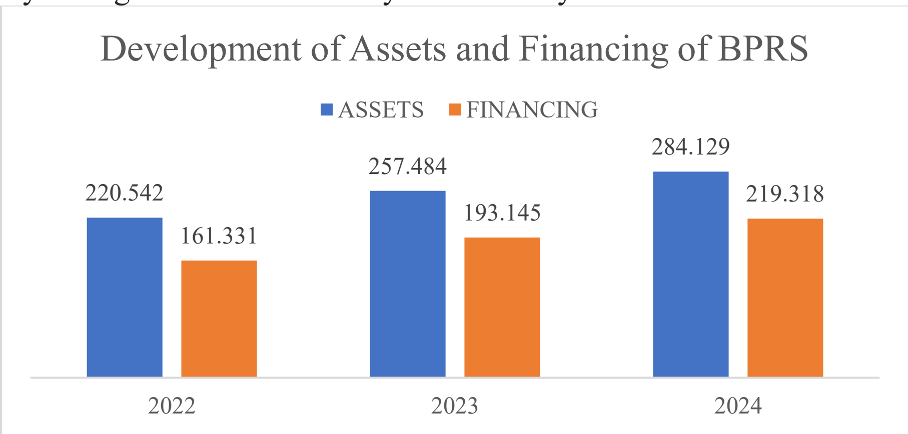
Kata Kunci: BOPO; NPF; FDR; GCG; Inklusi Keuangan Islam

1. INTRODUCTION

Microfinance can yield beneficial spillover effects, as its influence extends beyond merely uplifting the economic and social status of the borrower.. (Hermes & Robert Lensink, 2011). The microfinance business in Indonesia has grown a lot, especially through Sharia Microfinance Institutions (MFIs) such Sharia People's Financing Banks (BPRS). BPRS plays a big part in making sure that everyone in Indonesia has access to financial services. It does this by giving microloans to people who don't have access to official financial institutions.. (Quinones, B. and Remenyi, 2014 ; Fianto et al., 2018).

BPRS aims to provide financing based on sharia principles, helping to develop the business capacity of customers. (Littlefield et al., 2003) Also increases social efficiency due to stronger social orientation. (Fersi et al., 2023) . This is important for MFIs that have the dual objectives of achieving financial sustainability and reaching the poor. (Widiarto & Emrouznejad, 2015)

According to data from the Financial Services Authority (OJK), the BPRS industry has performed significantly better over the past three years. From Rp 220.5 billion in 2022 to Rp 284.1 billion in 2024, BPRS's total assets grew. In the meantime, Rp 219.3 billion was disbursed, up from Rp 161.3 billion. This that BPRS plays a larger role in the country's financial system.



Source: OJK (2025)

NPF is an important indicator of the sustainability of Syariah Rural Credit Bank (BPRS) in Indonesia. The relationship between NPF and the sustainability of these banks is multifaceted, involving various internal and external factors. NPF has a significant negative impact on the operational sustainability of BPRS. High NPF indicates poor financial health, which can weaken the bank's ability to sustain

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its operations in the long term (Siswanti et al., 2024 ; Kumar et al., 2020) . High levels of NPF are associated with increased financial risk, especially in larger Islamic banks and banks outside of more developed regions such as Java. This is due to the high risk attached to profit and loss sharing contracts, which are more prone to default (Widarjono et al., 2020) . So that Sharia Rural Banks (BPRS) must use strategies to reduce the impact of Non-Performing Financing (NPF) on their financial stability.

Non-Performing Financing (NPF) poses a substantial risk to the financial stability of BPRS, which is influenced by various internal, sectoral, and macroeconomic factors. One that affects NPF is BOPO (Operating Expenses to Operating Income), several studies found BOPO and other factors significantly affect NPF in Islamic banks (Siswanti et al., 2024) (Widarjono et al., 2020) (Roswinna et al., 2023) . Another study shows that high BOPO has a negative impact on the market share of Islamic banks, which is indirectly related to the increase in NPF. This is caused by operational inefficiencies that can reduce financial performance and increase the risk of financing default (Aminah et al., 2019) . BPRS in Indonesia tends to be inefficient in terms of the BOPO ratio. For example, research conducted on several Islamic banks in Indonesia shows that their operational efficiency ratios range from 89.73% to 94.16%, indicating a low level of efficiency (Puteh et al., 2018) .

During 2024, the BOPO ratio of BPRS experienced measurable efficiency pressures. Based on June 2024 data, the BPRS BOPO ratio increased to 90.91%, up significantly from 84.31% in the same period the previous year, implying operating expenses rose higher than operating income (Dabu, 2024) . Although this figure reflects a decline in efficiency, there are positive signals through significant consolidation efforts OJK reported that as of March 2024, 43 BPR/BPRS have merged into 14 entities, and dozens more are in the process of consolidation (Primantoro, 2024) . This initiative is expected to drive medium-term efficiency, in line with the industry strengthening strategy as stated in the BPR/BPRS Development and Strengthening Roadmap 2024-2027, which emphasizes accelerated digitalization, improved governance, and cost management as key pillars (Financial Services Authority, 2024) . Based on this framework, it is estimated that BPRS BOPO will decline slowly in the second half and fourth quarter of 2024, after efficiency and consolidation programs begin to have an effect on the scale of operations. This efficiency pressure is expected to drive improvements in asset quality and lower NPF ratios, thereby strengthening the long-term sustainability of microfinance.

Another factor that affects the sustainability of BPRS is FDR (Financing to Deposit Ratio). The relationship between FDR and NPF in Islamic banks has been explored in several studies, with mixed results. A study focusing on Islamic Rural Banks (Islamic BPRs) in Indonesia found that FDR has no significant impact on NPF. The study used panel data regression on quarterly financial statements of 162 Islamic BPRs and concluded that although other factors such as Return on Assets (ROA) and Capital Adequacy Ratio (CAR) significantly affect NPF, FDR has no significant impact on NPF (Muhammad et al., 2020) . Another study examining the effect of internal and external factors on credit risk of Islamic Commercial Banks

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(BPRS) in Indonesia also found that FDR does not affect NPF in either the short or long term (Priyadi et al., 2021) . This result is different from research conducted by Fahmi (2021), which examines the financial performance of Islamic banks before and after spin-off, which shows that changes in FDR are not significant enough to affect the decline in financial performance including NPF (Fahmi & Septiarini, 2020) .

Other variables that need to be added are financial inclusion and BPRS governance. Because in previous research (Ameziane, 2024) Islamic financial inclusion has a positive effect on economic growth in several sectors of GDP per capita in OIC countries. It even has big benefits in the long run (Hasan et al., 2024). This can be achieved through the development of the network of Islamic banks and the improvement of technological infrastructure to facilitate financial access. Enhanced financial inclusion in developing nations, particularly those that follow Islamic principles, often fosters corporate sustainability. This relationship holds significant importance during periods of economic challenges, exemplified by the COVID-19 pandemic (Tekin, 2024). However, corporate governance (GCG) is an essential factor in supporting the stability and integrity of Islamic financial organizations (Alnasser & Muhammed, 2012). effective board structure, vigilant monitoring from the Board of Commissioners and Sharia Supervisory Board, along with strict adherence to transparency, accountability, and responsibility, can enhance stakeholder confidence and mitigate the risk of non-performing finance (NPF). The enactment of effective governance influences operational efficiency and is intimately linked to the resilience and sustainability of Islamic microfinance organizations like BPRS.

This research offers a new contribution by examining the influence of operational efficiency (BOPO), liquidity (FDR), corporate governance (GCG), and Islamic financial inclusion on microfinance sustainability proxied through the Non-Performing Financing (NPF) ratio in BPRS. Although these variables have been studied partially in previous studies, there is limited research that integrates all four simultaneously in the context of Islamic microfinance institutions. In addition, the dimensions of governance and Islamic financial inclusion have not been widely studied as direct determinants of NPF. The selection of Banten and West Java region is based on the high concentration of BPRS as well as the diversity of local institutional and economic characteristics, which makes it representative to examine the dynamics of microfinance sustainability in Indonesia. The findings of this study are expected to provide policy implications for strengthening the stability and governance of BPRS, particularly in areas with high institutional density and financial inclusion challenges.

2. LITERATURE REVIEW

Agency theory as proposed by Jensen and Meckling (1976) explains the relationship between the authoriser (principal) and the authorised party (agent) in the implementation of managerial tasks. The principal authorises the agent to manage the company, but he continues to supervise so that the agent's actions are in line with the goals expected by the principal. In banking research, agency theory

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is used for two main reasons (Demsetz et al., 1997). First, the governance system in banking plays a role in protecting the interests of customers while limiting the possibility of management making financing decisions that are too risky. This approach in turn reduces the need for shareholders to limit risk-taking. Second, the separation of interests between principals and agents may encourage management to pursue personal goals, potentially at the expense of the interests of the owners of capital. Credit risk is part of operational risk that can impact banking performance (Catanach, 1993 in Donnellan & Rutledge, 2016). In the banking industry, healthy and stable performance is the main expectation of stakeholders. Study by Alsyahrin et al. (2018) states that Islamic banks tend to manage credit risk more effectively than conventional banks. Nevertheless, Islamic bank management is still required to be able to maintain optimal financial performance, as reflected in its financial ratios.

NPF as an Indicator of Microfinance Sustainability

Non-Performing Financing (NPF) is an important indicator of the sustainability of BPRS in Indonesia. Effective internal control and targeted financing strategies in NPF management can significantly improve the sustainability of these banks while maintaining cost efficiency (Siswanti et al., 2024) . NPF poses a significant challenge to the financial stability of BPRS. Effective management strategies, including targeted financing, diversification, and efficient management practices, are essential to mitigate the risks associated with NPF (Widarjono et al., 2020) (Aminah et al., 2019). NPF shows the proportion of non-performing financing to total financing disbursed, which includes financing with arrears of more than 90 days to those that have entered the bad debt category. High NPF reflects suboptimal financing risk management and can lead to a decrease in profitability, inability to fulfil obligations to customers, and a potential crisis in the sustainability of bank operations (Ibrahim & Rahmati, 2017; Jabra et al., 2017). Financing based on the principle of sale and purchase, such as murabahah, is dominant because it is considered safer, while profit-sharing-based financing, such as mudharabah and musyarakah, tends to be avoided due to the high risk and uncertainty of returns (Ernawati, 2016). However, regardless of the type of contract used, when financing is disbursed without adequate risk mitigation, the sustainability of microfinance can be jeopardised due to increasing NPF. So, NPF shows not just how good the financing is but also helps us understand how strong and sustainable Islamic microfinance institutions like BPRS are in their role of connecting social and economic needs.

BOPO and NPF

BOPO (Operating Expenses to Operating Income) is an indicator of banking operational efficiency. This ratio reflects how much the bank spends to generate operating income. The lower the BOPO value, the more efficient the bank's performance, because it shows that operating costs are relatively smaller than the income generated. Some studies show that BOPO has a negative and significant effect on NPF. This means that an increase in operational efficiency (decrease in BOPO) can reduce the level of NPF. Studies conducted on Islamic banks in

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Indonesia show that BOPO has a negative and significant effect on NPF (Ali et al., 2023) . Higher operational efficiency (lower BOPO) indicates that banks are able to manage their operating costs better, which in turn can reduce credit risk and improve financing quality (Chabachib et al., 2019) . These findings strengthen the argument that controlling operating costs and improving efficiency are important strategies in mitigating NPF risk, especially in Islamic banking institutions that are oriented towards stability and sustainability.
H1: BOPO (Operating Costs to Operating Income) has a significant effect on Non-Performing Financing (NPF) at BPRS in Banten and West Java.

FDR and NPF

Financing to Deposit Ratio (FDR) is an indicator that describes the ratio between total financing channeled by the bank and the amount of third party funds collected. In the conventional banking system, this ratio is known as Loan to Deposit Ratio (LDR). A high FDR value indicates that the Islamic bank has a good capacity in channeling funds, and is therefore often considered as a measure of the effectiveness of the financial intermediation function. In an ideal situation, an increase in FDR is associated with an increase in bank income, assuming that the distribution of financing is carried out efficiently and on target.

However, too high FDR can also indicate an increase in the potential risk of non-performing financing, especially if it is not accompanied by the application of prudential principles and adequate internal controls. Several previous studies have shown that FDR can have a positive effect on NPF, both in the short and long term (Poetry & Sanrego, 2011; Supriani & Sudarsono, 2018). Similar findings were also presented by Suryanto (2015), who found that LDR significantly affects the level of non-performing financing. Thus, FDR serves not only as an indicator of liquidity, but also as an early signal of the possibility of increased financing risk in Islamic bank operations.
H2: Financing to Deposit Ratio (FDR) has a significant effect on Non-Performing Financing (NPF) at BPRS in Banten and West Java.

Islamic Financial Inclusion and NPF

Islamic financial inclusion refers to the extent to which people have access to sharia-based financial products and services that comply with Islamic principles. Increased financial inclusion is believed to expand the customer base, improve intermediation, and strengthen the financial stability of Islamic banking institutions. In the context of financing risk management, Islamic financial inclusion has the potential to reduce the level of non-performing financing (NPF). Wider access to Islamic financial services allows previously underserved communities to obtain productive financing fairly and in accordance with Islamic financial principles. In addition, the financial literacy that accompanies the inclusion process encourages more responsible financial behavior among customers.

Ameziane (2024) showed that Islamic financial inclusion has a positive contribution to economic growth in various OIC member countries, mainly through improving access and efficiency of financial services. Tekin (2024) also found that higher financial inclusion can strengthen firms' resilience, especially during periods

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of economic uncertainty such as the COVID-19 pandemic. Both findings confirm that inclusion not only expands access, but also contributes to financial sector stability, including a reduction in the risk of non-performing financing.
H3: Islamic financial inclusion has a significant effect on Non-Performing Financing (NPF) at BPRS in Banten and West Java.

Governance (GCG) and NPF

Good Corporate Governance (GCG) is a set of principles and mechanisms that regulate the relationship between management, supervisory board, shareholders, and other stakeholders to ensure that bank management is carried out in a transparent, accountable, and responsible manner. In the context of Islamic banking, the implementation of GCG principles not only aims to maintain compliance with regulations, but also reflects ethical values and social responsibility in financial management.

Several studies have shown that GCG has an important role in reducing the risk of non-performing financing (NPF). A good governance structure, such as the presence of a complete and active board of directors, commissioners, and Sharia Supervisory Board (DPS), can strengthen internal control functions, improve the quality of decision making, and prevent prudent financing practices. Effendi et al. (2017) and Sukmana (2015) found that strong governance contributed to a decrease in the risk of non-performing financing in Islamic banks in Indonesia. The study emphasized that GCG minimizes moral hazard from management, and encourages a more selective and accountable financing process.
H4: Good Corporate Governance (GCG) has a significant effect on Non-Performing Financing (NPF) at BPRS in Banten and West Java.
H5: BOPO, FDR, Sharia Financial Inclusion and Governance simultaneously affect Non-Performing Financing (NPF) at BPRS in Banten and West Java.

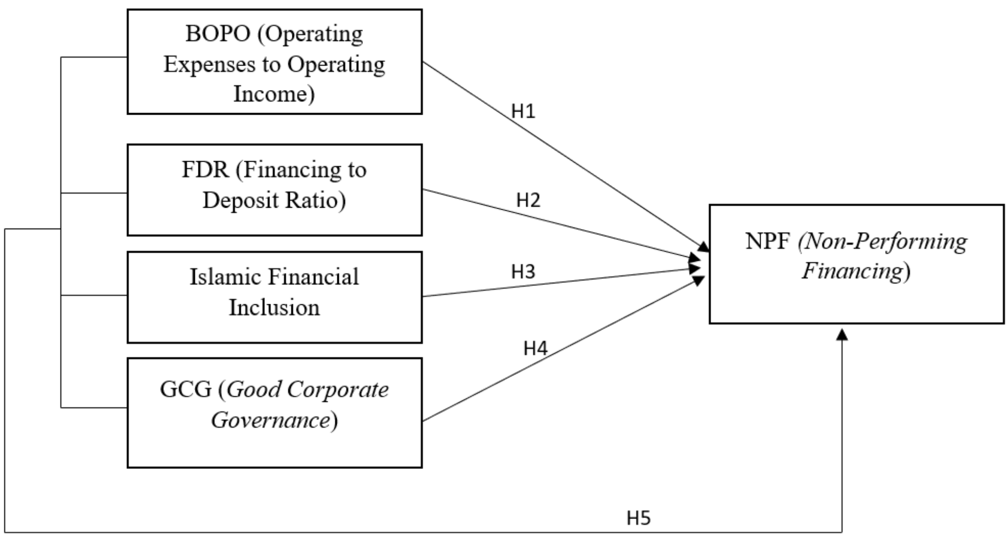

Figure 3. Conceptual Framework

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3. RESEARCH METHODS

The population in this study were all Sharia People's Financing Banks (BPRS) operating in the Banten and West Java Provinces. The sample was selected using purposive sampling method based on the availability of complete annual financial reports during the 2019-2023 period. The total sample consisted of 35 BPRS, namely 8 BPRS from Banten Province and 27 BPRS from West Java Province. Observations were conducted for five years with annual or quarterly panel data, resulting in a total of 175 panel observations used in the analysis.

The selection of Banten and West Java as research areas is based on their strategic role in the development of BPRS in Indonesia. West Java is the province with the largest number of BPRS and high Islamic banking activities, supported by the availability of financial data and many previous studies. Meanwhile, Banten shows contrasting characteristics, namely low financing and deposits despite being adjacent to high economic value areas. This difference provides an opportunity to analyze the dynamics of microfinance sustainability in diverse socio-economic contexts. In addition, both regions face common challenges such as competition with conventional banks and funding constraints, making it relevant to study in the context of Islamic finance efficiency, liquidity, governance, and inclusion.

The type of data used in this research is secondary data obtained from the published financial statements of each BPRS as well as official sources such as the Financial Services Authority (OJK). The data collected includes financial variables related to financing, liquidity, efficiency, governance, and the level of Islamic financial inclusion.

This study uses a quantitative approach with panel data regression analysis techniques to determine the effect of independent variables on the dependent variable. Panel data was chosen because it has time-series and cross-section dimensions, thus allowing the analysis of the dynamics of time changes as well as differences between entities (countries) simultaneously (Kapetanios & Hashem, 2007) (Labra Lillo & Torrecillas, 2018). The panel data regression method was chosen because it is able to capture individual heterogeneity across countries and time effects simultaneously. In addition, this method is effective in controlling unobserved variables that are fixed over time (unobserved heterogeneity) with the Eviews 10 analysis tool.

To ensure the validity and reliability of the panel regression model used, a series of classical assumption tests were conducted. First, multicollinearity test was conducted using Pearson correlation matrix between independent variables. The results show that there is no high correlation (above 0.8 or below -0.8), so it can be concluded that there is no indication of serious multicollinearity in the model. This is in line with the general limit proposed by Gujarati & Porter (2009), which states that correlation between independent variables above 0.8 can indicate the presence of multicollinearity that destabilizes the estimation of regression coefficients (Gujarati, D. N., & Porter, 2009) .

Second, the heteroscedasticity test is done visually through a scatter plot between the residuals and *the fitted* values. A random distribution of residuals

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around the zero line with no particular pattern indicates that the assumption of homoscedasticity is met, which means that the error variance is constant. This is in accordance with the approach described by Wooldridge (2016), where the graphical test is a valid initial method for detecting heteroscedasticity, especially in panel regression. Therefore, it can be concluded that the panel regression model in this study meets the basic statistical assumptions and the estimation results can be interpreted reliably (Wooldridge, 2016) .

The selection of panel regression model is done by comparing three main approaches, namely Common Effect Model, Fixed Effect Model, and Random Effect Model, through Chow test, Lagrange Multiplier (LM), and Hausman Test. Based on the results of the three tests (shown in Table 2), the random effects model was chosen as the most appropriate model because it is able to accommodate variations between countries and time efficiently, and in accordance with the nature of the data used (Gujarati, D. N., & Porter, 2009) . Therefore, the panel regression model with random effects (REM) is used in estimating the effect of independent variables on the *Non-Performing Financing* (NPF) ratio. The basic structure of the panel data regression model in this study is formulated as follows:

$$Y_{(it)} = \alpha + \beta_1 X_{1,it} + \beta_2 X_{2,it} + \beta_3 X_{3,it} + \beta_4 X_{4,it} + \varepsilon_{,it}$$

Where:

Yit : represents the dependent variable, namely *Non-Performing Financing* (NPF) at the i-th BPRS in period t.

α : constant (intercept)

X1it : represents BOPO (operating expenses to operating income)

X2it represents *Financing to Deposit Ratio* (FDR)

X3it represents the Sharia Financial Inclusion Index

X4it represents *Good Corporate Governance* (*GCG*)

β1,β 2,β 3,β 4: coefficient that measures the effect of each independent variable on NPF

ε,it : error term that captures the influence of other variables not included in the model

Table 1. Measurement of operational variables

Variables	Variable Measurement
NPF	(Non-performing financing : total financing) × 100%
BOPO	(Operating expenses: operating income) × 100%
FDR	(Total financing disbursed : total third party funds) × 100%
Islamic Financial Inclusion	Sharia Financial Inclusion Index based on OJK official publication
Governance (GCG)	Organizational structure of BPRS management (director, commissioner, DPS) GCG = (Director≥2) + (Commissioner≥2) + (DPS≥2); Score 0-3

Source: Processed by the author (2025)

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4. RESULTS AND DISCUSSION

Table 2. Descriptive statistical analysis results

Values	NPF	BOPO	FDR	Sharia Financial Inclusion	Governance (GCG)
Mean	7.922286	98.49109	90.69994	11.06600	2.634286
Median	5.540000	87.93000	84.61000	11.12000	3.000000
Maximum	55.57000	450.5800	262.7400	12.88000	3.000000
Minimum	-0.230000	46.55000	27.19000	9.100000	0.000000
Std. Dev.	8.241133	50.21280	28.82009	1.359139	0.688970

Source: Author's processed data and Eviews (2025)

The average Non-Performing Financing (NPF) of BPRS in Banten and West Java amounted to 7.92, with a range of values between -0.23 to 55.57, indicating considerable variation in the level of financing risk between banks. The average BOPO was 98.49, with a maximum value of 450.58, indicating an imbalance in operational efficiency among BPRS. FDR averaged 90.70, ranging from 27.19 to 262.74, reflecting the different levels of intermediation capability and potential liquidity risk. The Sharia Financial Inclusion Index averaged 11.07, with a relatively even distribution across the sample (SD = 1.36), indicating fairly uniform access to finance. Meanwhile, the average GCG score stood at 2.63 (on a scale of 0-3), reflecting that most BPRS have good governance structures, although some are not yet optimal.

The extreme values observed in the descriptive statistics reflect the operational diversity and specific conditions of several BPRS in the sample. The maximum BOPO value of 450.58% indicates the presence of banks with exceptionally high operational costs relative to operating income, which may be due to temporary factors such as restructuring costs, merger processes, or acute operational inefficiencies during a particular period (Puteh et al., 2018). The minimum NPF value of -0.23% suggests that the recovery of non-performing financing exceeded the addition of new NPF during that period, a phenomenon that may occur in banks undergoing intensive financing restructuring programs (Siswanti et al., 2024). Meanwhile, the maximum FDR of 262.74% (exceeding 100%) indicates that the financing disbursed surpassed third-party funds, which can be explained by the use of core capital or other short-term funding sources to support financing expansion (Musa et al., 2022). These extreme variations confirm the heterogeneity of characteristics and operational challenges among BPRS, making panel data analysis with a random effects model appropriate for capturing variation across entities and time.

Three primary methodologies Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) are the foundation of the panel data regression model that was utilized to estimate and examine the factors influencing non-performing financing (NPF) at BPRS in the Provinces of Banten and West Java from 2019 to 2023. The Chow, Hausman, and Lagrange Multiplier (LM) tests are used to pick the panel regression model; each test compares the models to identify the most effective strategy.

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The Random Effects Model (REM) is the most effective panel data regression model for estimating the impact of independent variables on NPF, according to the paired test findings shown in Table 3. This model was selected because the random effects model is more statistically efficient and the Hausman test indicates a probability value larger than 0.05, indicating that there is no significant difference between FEM and REM.

Table 3. Chow test, Hausman test and LM test results

Type of test	Test summary		
Chow-test	Statistic	d.f.	Prob.
	116.598383	34	0.0000
Hausman-test	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
	0.000000	4	1.0000
LM-test	Cross-section	Period	Both
	39.92212	0.912381	40.83450
	(0.0000)	(0.3395)	(0.0000)

Source: Author's processed data and Eviews (2025)

The estimation results for the random effects model can be expressed in the panel data regression equation as follows:

NPF = 9.5028609278 + 0.0717075302006*BOPO + 0.0584550486561*FDR - 0.671545207855*Inclusion - 2.47265434582*GCG + [CX=R]

The coefficient of determination (R^2) contained in table 4. of 0.2969 indicates that about 29.69% of the variation in the value of *Non-Performing Financing* (NPF) can be explained by the four independent variables in the model, namely BOPO, FDR, Sharia Financial Inclusion, and *Good Corporate Governance* (GCG). This means that the model is able to capture almost a third of the factors that influence non-performing financing in BPRS. Meanwhile, the Adjusted R^2 value of 0.2803 indicates that after adjusting for the number of variables and degrees of freedom, the model still explains about 28.03% of the NPF variation significantly. This value is quite reasonable in microfinance and Islamic banking research, considering that many external factors such as macroeconomic conditions, customer demographic characteristics, and internal managerial policies are not included in the model. The F-statistic value of 17.94 with a probability of 0.0000 indicates that the regression model is simultaneously significant. This means that, together, the variables BOPO, FDR, financial inclusiveness, and GCG have a significant influence on the NPF rate. Thus, this model can be considered good enough (fit) to explain the relationship between operational efficiency, liquidity, governance, and access to Islamic finance on the risk of non-performing financing at BPRS in Banten and West Java.

Table 4.

Regression result of the Random effects model

Variable	Coefficient	Std.Error	t-Statistic	Prob.
C	9.502861	4.170021	2.278852	0.0239

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BOPO	0.071708	0.009916	7.231242	0.0000*
FDR	0.058455	0.018483	3.162704	0.0019*
Islamic Financial Inclusion	-0.671545	0.305312	-2.199540	0.0292*
Governance	-2.472654	0.735076	-3.363806	0.0010*
R-squared		0.296862		
Adjusted R-squared		0.280318		
F-statistic		17.94334		
Prob(F-statistic)		0.000000		

Source: Author's processed data and Eviews (2025)

BOPO and NPF

The BOPO variable shown in table 4. has a coefficient of 0.0717 and a significance value of 0.0000 (<0.05), which means that it has a positive and significant effect on NPF. This shows that the higher the ratio of operating costs to operating income (BOPO), the greater the possibility of non-performing financing. Low operational efficiency reflects suboptimal managerial performance, which in turn can affect the quality of financing distribution. This finding supports the hypothesis that cost inefficiency is one of the main determinants of the increase in NPF in BPRS.

FDR and NPF

FDR has a coefficient of 0.0585 and a significance value of 0.0019, which means that it has a positive and significant effect on NPF. This indicates that the higher the proportion of financing to third party funds, the greater the risk of non-performing financing. This can happen if financing expansion is carried out without being accompanied by the principle of prudence. Although high FDR is often associated with good intermediation performance, in the context of BPRS serving the micro segment, excessive FDR can actually worsen asset quality if customer supervision and selection are weak.

Islamic Financial Inclusion and NPF

The Islamic financial inclusion variable has a coefficient of -0.6715 with a significance value of 0.0292, which indicates that it has a negative and significant effect on NPF. This means that the higher the level of financial inclusion, the lower the possibility of non-performing financing. This reflects that the expansion of public access to Islamic financial services through networks, digitalization, and literacy plays a role in reducing the risk of default and expanding a more inclusive and educated customer base.

Governance (GCG) and NPF

The governance or GCG variable has a coefficient of -2.4727 and a significance value of 0.0010, so it has a negative and significant effect on NPF. This shows that the better the quality of the implementation of the governance principles

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of transparency, accountability, and sharia supervision, the lower the level of non-performing financing that occurs. Strong GCG reflects the existence of effective internal controls, ethical commitment of management, and a supervisory structure that prevents moral hazard in the distribution of financing. This finding is in line with agency theory, which states that good supervision will reduce the potential for agent deviation from organizational goals.

Determination of Non-Performing Financing (NPF) in BPRS

The purpose of this study is to examine how the levels of non-performing financing (NPF) at Sharia People's Financing Banks (BPRS) in Banten and West Java Province are impacted by BOPO, FDR, Sharia Financial Inclusion, and Governance (GCG). All independent variables have a t-count value larger than the t-table 1.9738, indicating that all factors have a significant impact on NPF at the 5% significance level, according to the estimate findings using the Random Effects model (see Table 4).

Effect of BOPO on *Non-Performing Financing* (NPF)

The BOPO variable shows a positive and significant effect on NPF, with a coefficient value of 0.0717 and a t-count of 7.231> 1.9738. This means that the higher the ratio of operating expenses to operating income, the greater the possibility of non-performing financing. This result is in line with other studies that found that BOPO, along with other variables, significantly affects the profitability and performance of Islamic banks, with BOPO showing a positive relationship with NPF (Roswinna & Anggraeni, 2023) (Wahyuni et al., 2022) (Ali et al., 2023) . Inefficiency indicated by a high BOPO ratio can lead to an increase in NPF, as operational inefficiency can result in poor credit risk management and higher default rates (Endri et al., 2022) (Jusni et al., 2019) . BPRS need to improve their operational efficiency to reduce banking risk and increase profitability so it is important for BPRS management and policy makers to focus on managing operational costs to maintain its financial health.

Strategies to reduce the decline in BOPO to NPF can be done by improving risk management practices. Implementing a robust credit risk assessment mechanism can help identify potential defaults early and take preventive actions (Do et al., 2020) (Liu & Wu, 2023) . In addition, by improving operational efficiency. By focusing on reducing operational costs, banks can improve their BOPO ratio, which in turn can have a positive impact on their overall financial health and reduce NPF (Sinay et al., 2022) . Efficient cost management ensures that more resources are available to manage and mitigate the risks associated with non-performing loans**.**

In the perspective of *Agency Theory* (Jensen & Meckling, 1976), the high BOPO ratio reflects a potential conflict of interest between management (agents) and owners (principals), especially in the management of operational costs. This inefficiency may indicate weak managerial oversight and result in increased risk of non-performing loans. Therefore, improving operational efficiency is crucial for BPRS to reduce credit risk and maintain financing sustainability. Management and

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regulators need to prioritize cost optimization, resource efficiency, and strengthening internal control systems to ensure sustainable financial stability.

The finding that BOPO has a significant positive effect on NPF confirms that operational inefficiency is a driver of financing risk in BPRS. The specific characteristics of BPRS such as their micro-scale operations, reliance on direct financing requiring intensive monitoring, and relatively high fixed cost structures make the BOPO ratio more vulnerable to inflation (Widarjono et al., 2020). When BOPO is high, resources that should be allocated to due diligence and credit risk management are eroded by operational burdens. This can weaken credit analysis quality, especially in the micro-enterprise segment, which has high volatility and limited documentation. Thus, an increase in BOPO not only reflects poor operational performance but also weakens the bank's internal defense mechanisms against loan defaults, ultimately leading to higher NPF (Endri et al., 2022).

The effect of FDR on Non-Performing Financing (NPF)

The FDR variable also has a positive and significant effect on NPF, with a coefficient value of 0.0585 and t-count of 3.163 > 1.9738. Although high FDR is often interpreted as the effectiveness of channeling funds, in this context, an increase in FDR without good risk management actually increases non-performing financing. In line with Hosen 2019 which explains the *Financing to Deposit Ratio* (FDR) has a statistically significant effect on *Non Performing Financing* (NPF) in the Islamic People's Financing Bank (BPR Syariah) Industry in Indonesia, but the direction of its influence (positive or negative) has not been explained (Hosen & Muhari, 2019) . A well-managed FDR can help reduce financing risk (Ivan & Santoso, 2025) . FDR in Islamic banking institutions is influenced by a combination of internal factors such as bank size, financial performance, NPF, CAR, and operational efficiency, as well as external factors such as macroeconomic conditions and global economic indicators (Musa et al., 2022) . Effective management of these internal and external factors is critical to maintaining a balanced and sustainable FDR, which in turn supports the overall stability and growth of Islamic banks. In addition, external economic indicators can also affect liquidity and credit risk in Islamic banks, such as world oil prices and the value of tasks affecting FDR (Ryandono et al., 2022) , thus affecting the level of deposits and demand for financing.

Although a high FDR is often interpreted as successful intermediation, in the context of BPRS, its positive relationship with NPF reveals the risk side of aggressive financing expansion. BPRS operate in market segments with high information asymmetry and limited collateral. Pressure to meet financing distribution targets often driven by social missions and financial goals can lead to loosened credit standards if not balanced with adequate risk management capacity (Hosen & Muhari, 2019). Liquidity drained by excessively high FDR can reduce the bank's ability to diversify its portfolio and withstand payment shocks. Therefore, an increase in FDR unaccompanied by improvements in screening and monitoring quality can actually worsen asset quality, as reflected in rising NPF (Priyadi et al., 2021).

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The Effect of Islamic Financial Inclusion on Non-Performing Financing (NPF)

In contrast, Islamic Financial Inclusion has a negative and significant effect on NPF, with a coefficient of -0.6715 and t-count -2.199 < -1.9738. This suggests that expanding people's access to Islamic financial services helps lower the risk of non-performing loans. This is reinforced by the finding that channeling financing to productive sectors such as agriculture, forestry, trade, and hospitality can significantly reduce NPF (Filianti et al., 2020) . In addition, efficient management practices and operational stability in large-scale Islamic banks also contribute to minimizing non-performing financing. Internal bank factors such as *Return on Assets* (ROA), *Capital Adequacy Ratio* (CAR), and larger bank size also support in reducing credit risk (Muhammad et al., 2020) .

In addition, within the framework of *Agency Theory* (Jensen & Meckling, 1976), financial inclusion accompanied by adequate supervision and education can minimize the information gap between the bank (agent) and the customer (principal), so that the risk of moral hazard can be reduced, and the quality of financing can be improved. Thus, Islamic financial inclusion not only contributes to social and economic development goals, but also plays a strategic role in maintaining the quality of Islamic bank assets through strengthening intermediation functions and fairer and more transparent governance.

The negative effect of Islamic financial inclusion on NPF reinforces the argument that expanding financial access accompanied by education can create a healthier financing ecosystem. In Banten and West Java, Islamic financial inclusion programs not only open banking access but are also often accompanied by product socialization, sharia financial training, and business mentoring for micro-customers (Hasan et al., 2024). This improves sustainable financial literacy and inclusion, where customers not only gain access to financing but also understand their sharia obligations. Increased literacy reduces information asymmetry and encourages more disciplined repayment behavior, ultimately lowering default risk (Tekin, 2024). Thus, Islamic financial inclusion acts as a risk mitigation tool through customer empowerment.

The Effect of Governance (GCG) on Non-Performing Financing (NPF)

Furthermore, the Governance (GCG) variable also has a negative and significant effect on NPF, with a coefficient of -2.4727 and t-count of -3.364 < -1.9738. This means that a good governance structure measured by the number of directors, commissioners, and DPS plays an important role in reducing the risk of non-performing financing. In addition, other studies prove that the corporate governance score (GCG score) is significantly negatively related to the level of *Non-Performing Loan* (NPL), indicating that banks with better governance tend to have healthier financing portfolios (Nurkhin et al., 2024) .

Furthermore, direct testing of the GCG variable also shows similar results, namely a negative and significant effect on NPLs, which emphasizes the crucial role of governance in strengthening the financial resilience of banks (Nurwulandari et al., 2022) . Internal oversight mechanisms such as the presence of independent commissioners contribute to NPL reduction by ensuring objective oversight of financing policies (Nurkhin et al., 2024) . In addition, audit committees and

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compliance committees as part of the internal control system are also proven to reduce financing risk by increasing transparency, strengthening regulatory compliance, and reducing moral hazard (El-Chaarani & Abraham, 2022) .

This result supports Agency Theory (Jensen & Meckling, 1976), which emphasizes that the existence of a strong governance mechanism will minimize conflicts of interest between agents (management) and principals (fund owners or stakeholders), and reduce the potential for moral hazard in the financing process. In the context of Islamic finance, governance is not only related to the structural aspects of the organization, but also reflects compliance with sharia values, transparency, and fairness, as described in the Stakeholder Theory framework and the principles of Islamic Corporate Governance. Therefore, strengthening governance in BPRS is an important strategy to improve financing quality, strengthen public trust, and maintain the stability of the Islamic microfinance sector in a sustainable manner.

With an F-statistic value of 17.943 and a probability of 0.0000, this model is also simultaneously significant, meaning that the four variables jointly affect NPF. The Adjusted R^2 value of 0.2803 indicates that the model can explain about 28.03% of the variation in NPF.

The negative effect of GCG on NPF confirms that good governance functions as a crucial internal control mechanism in the BPRS context. An ideal supervisory structure consisting of an independent Board of Commissioners and an active Sharia Supervisory Board (DPS) not only ensures regulatory compliance but also instills accountability and transparency values in the financing process (Alnasser & Muhammed, 2012). At the operational level, BPRS with high GCG scores tend to have neater recording procedures, regular internal audits, and open reporting systems, which hinder moral hazard in fund distribution. Effective oversight by the DPS also ensures that financing complies with sharia principles, which not only has spiritual value but also encourages more ethical and sustainable business practices (Nurkhin et al., 2024). Thus, GCG serves as a safeguard that reduces the likelihood of non-performing financing.

Overall, this study confirms that operational efficiency, liquidity, Islamic financial inclusion and governance are important factors affecting the sustainability of financing in BPRS. Therefore, improving efficiency and governance, as well as expanding access to Islamic finance, need to be the focus of strategies to reduce the level of non-performing financing.

5. CONCLUSION

This study analyses the determinants of non-performing financing (NPF) in Islamic People's Financing Banks (BPRS) by examining four key variables: operational efficiency (BOPO), financing liquidity (FDR), Islamic financial inclusion, and corporate governance (GCG). Based on the Random Effects model estimation, all independent variables significantly affect NPF at the 5% significance level.

First, BOPO has a positive and significant effect on NPF, indicating that higher operational inefficiency leads to increased non-performing financing.

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Second, FDR also shows a positive and significant effect, suggesting that financing expansion without adequate risk management heightens default risk. Third, Islamic Financial Inclusion negatively and significantly affects NPF, meaning that broader access to Sharia-compliant finance reduces financing risk through more inclusive and well-managed distribution. Fourth, Governance (GCG) exerts a negative and significant impact, underscoring the role of supervisory structures and transparency in mitigating credit risk. Collectively, these four variables significantly influence NPF, with an F-statistic of 17.943 ($p = 0.0000$) and an Adjusted R^2 of 0.2803, explaining approximately 28.03% of NPF variation.

These findings confirm that operational efficiency, prudent liquidity management, expanded Islamic financial inclusion, and robust governance are critical factors in enhancing the financial sustainability of BPRS. Therefore, BPRS in Banten and West Java should prioritize improving operational efficiency, strengthening governance mechanisms, and implementing inclusive financing strategies grounded in Sharia principles to sustainably reduce non-performing financing risk.

The findings suggest that BPRS stability can be enhanced through integrated policy measures including OJK-led digitalization and cost-efficiency programs to lower BOPO, dynamic FDR monitoring coupled with fintech-based risk assessment to prevent over-expansion, and the incorporation of financial literacy and mentoring into Islamic financial inclusion initiatives to reduce default risk. Governance should extend beyond structural compliance to include active Sharia Supervisory Boards and transparency mechanisms, while LPS can support systemic confidence through awareness campaigns and early warning systems. Together, these strategies can strengthen BPRS resilience, align with national roadmaps, and support sustainable financial inclusion.

Subsequent studies should incorporate macro-institutional variables such as LPS coverage and regional economic conditions into panel models, employ qualitative methods to explore contextual governance and borrower dynamics, extend the analysis beyond Java and post-2023 to assess consolidation effects, and examine moderating roles of digitalization and bank size on NPF determinants. Additionally, research on Sharia-specific risk-sharing instruments and their impact on financing quality would deepen the understanding of Islamic microfinance sustainability.

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