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DETERMINANTS OF NON-PERFORMING FINANCING RISK IN ISLAMIC COMMERCIAL BANKS IN INDONESIA

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ABSTRACT: This research comprehensively investigates the causes of non-performing finance (NPF) risk factors and proposes control strategies in Indonesian Islamic Banking. This model constructs a research model by Employing Generalized Least Squares, Path Analysis, Analytical Hierarchy Process (AHP), and Interpretative Structural Modelling (ISM). The data is pooled from 12 Indonesian Islamic banks from 2012 to 2020. These exhaustive analyses reveal an intricate building of unresolved debts. Some key findings in the financial ratios support the positive impact of good corporate governance (GCG) and Islamic corporate social responsibility (ICSR) on NPF. In contrast, asset utilization (AUR) negatively affects NPF. Furthermore, profitability and operation costs increase NPF. Some indirect paths are also realized. This research proposes a more holistic approach to forming NPFs in Islamic banking, critical for managerial decision-making in drafting their budget structures.

Keywords: Non-Performance Financing; Islamic Banking Performance; Islamic Commercial Banks; Financial Measures

INTRODUCTION

Islamic banking embodies a system aligned with Sharia principles, guided by the Qur'an and the Hadith (Alwi et al., 2021). Banks meticulously tailor their operations to comply with these principles, necessitating adherence to Islamic jurisprudence in all activities, including capital procurement and allocation. Islamic banking aims for fair resource distribution, avoiding exploitation (Aman, 2020). Islamic banks focus on financing real economy ventures, avoiding speculation. However, the real sector entails risk due to internal and external factors, prompting banks to strengthen resilience with Sharia-compliant risk management protocols (Ahmed et al., 2022). Bank Indonesia, through PBI 5/8/PBI/2003, identifies risks faced by banks, such as credit, market, operational, liquidity, legal, reputation, strategic, and compliance risks. In Islamic banking, non-performing financing (NPF) risk is emphasized due to potential defaults that threaten financial viability.

Central bank of Indonesia identifies and underlines the imperative for Islamic banks to prudently manage four key risks: financing, market, operational, and liquidity risks (Agustina et al., 2021). Among these, financing risk, epitomized by NPF, is paramount, necessitating meticulous attention. NPF serves as a critical barometer in gauging the risk exposure of financial institutions (Effendi, 2020). Credit risk, a subset of financing risk, materializes from the failure of borrowers to meet their repayment obligations. Bank Indonesia Regulation 15/2/PBI/2013 sets the NPF/NPL limit at 5%. This regulation emphasizes that exceeding this threshold in bank-funded ventures can disrupt operations, possibly halting banking activities. Subsequent data shows NPF levels in Islamic banks as in Table 1.

Table 1. NPF rate of Islamic banking from 2016 to 2020

Year	NPF
2016	3,96
2017	3,43
2018	2,71
2019	3,06
2020	3,24

Source: OJK (Indonesian Financial Service Authority), 2024

Table 1. shows notable fluctuations in Islamic banks' NPF rates, especially in 2016 and 2017, nearing the 5% threshold. This trend highlights deteriorating financing quality with higher NPF rates. In 2018, the rate dropped to 2.71% but increased again in 2019 and 2020, remaining relatively stable compared to previous years. The NPF is crucial for assessing a bank's operational efficiency as an intermediary (Rodoni & Yaman, 2018; Rosiana et al., 2019). High NPF values suggest possible financial mismanagement, leading to liquidity constraints, declining profitability, and solvency challenges. Profit declines often result from income loss and the need to allocate reserves based on financing collectability. Mitigating financing risks necessitates a prudent and selective financing distribution policy by bank management.

Empirical analysis of NPF risks in Indonesian Islamic banks highlights internal factors, particularly the Capital Adequacy Ratio (CAR). A higher CAR indicates better risk mitigation capacity through reserve funds sourced from capital and risk-weighted assets (Almazari, 2013). The Finance-to-Deposit Ratio (FDR) reflects financing expansion; higher FDR ratios suggest aggressive expansion, potentially leading to increased NPF. Cost-to-Income Ratio (CIR/BOPO) measures the banks' efficiency as the higher BOPO ratios indicate lower efficiency or management quality. Return on Assets (ROA) quantifies income generation efficiency in company operations. External factors, like inflation, significantly impact NPF dynamics. Inflation, reflecting sustained general price increases, affects economic stability and, thus, financing quality. Additionally, macroeconomic variables such as the bonus rate of Sharia Bank Indonesia Certificates (SBIS) and exchange rate fluctuations against foreign currencies, particularly the U.S. dollar, influence NPF dynamics (Ahmed Abdel Karim, 1996; Ata Ujan, 2019; Dizon & Cruz, 2020; Mazereeuw-van der Duijn Schouten et al., 2014; Zhang et al., 2008).

This study aims to analyze the delicate and intricate causal effects of GCG, ICSR, and AUR on internal financial performance factors (CAR, FDR, ROA, CIR). Furthermore, this article provides the investigation of NPF as well as the antecedents and consequences in the context of Islamic banking in Indonesia. This effort will provide a window of contribution to the Islamic finance conversation as well as further implication to the market.

THEORETICAL REVIEW

Risk Management

Risk management involves identifying, assessing, and mitigating risks to maintain acceptable levels of risk (Aebi et al., 2012; Weber & Milliman, 1997). It is defined as a comprehensive approach to handling events that can cause losses (Kannadhasan, 2015). It is also a set of methodologies to maximize company value to identify, measure, monitor, and control risks in all business activities (Drozdowski et al., 2021). Banking risk management, including lending or financing, adheres to Basel I and II standards, which focus on capital adequacy ratio (CAR) and a risk-based approach consisting of three pillars: Minimum Capital Requirement, Supervisory Review Process, and Information Disclosure.

Basel III, introduced in 2010, expanded market risk coverage, introduced liquidity standards like Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR), increased core capital requirements, and implemented the Leverage Ratio (Zaman & Movassaghi, 2001). Islamic commercial banks adjust minimum capital adequacy based on risk profile, determined through the Internal Capital Adequacy Assessment Process (ICAAP). Minimum capital levels range from 8% to 14% of Risk Weighted Assets (RWA), depending on the bank's risk profile. Non-performing financing risk (NPF) is prevalent in banks, including Islamic banking as borrowed funds with missed payments for at least 90 days (Muda & Afifah, 2018).

Good Corporate Governance (GCG)

Good Corporate Governance (GCC) is a framework utilized by company organs to enhance business success and accountability while considering stakeholders' interests, guided by laws, regulations, and ethical values (Mardiasmo, 2006). Furthermore, Islamic Corporate Governance (ICG) is developed as aligning business governance with faith in Allah SWT and accordance to the religion's regulation (Al-Kahtani, 2014; Fatmawati et al., 2020; Maliah et al., 2015). The importance of GCG in improving Islamic bank performance emerges through effective risk management and allocating funds to productive sectors (Beck et al., 2013; Imam & Kpodar, 2016). Lestari (2020) finds that GCG positively influences public trust in Islamic banks. The debates emerge from how GCG may hurt return on assets (ROA), or insignificant effect on financial performance (Chong & Liu, 2009). Other correlation between GCG and non-performing financing (NPF) in Islamic banking is also supported (Abedifar et al., 2013; Shabbir & Rehman, 2019). They establish the hypothesis formulations for the GCG.

Ha.1. There is an influence of GCG, ICSR, and AUR on CAR
Ha.2. There is an influence of GCG, ICSR, and AUR on FDR
Ha.3. There is an influence of GCG, ICSR, and AUR on ROA
Ha.4. There is an influence of GCG, ICSR, and AUR on BOPO
Ha.5.1. There is an influence of GCG on NPF
Ha.5.8. There is an influence of GCG on NPF mediated by CAR
Ha.5.9. There is an effect of GCG on NPF mediated by FDR
Ha.5.10. There is an effect of GCG on NPF mediated by ROA
Ha.5.11. There is an effect of GCG on NPF mediated by CIR

Islamic Corporate Social Responsibility (ICSR)

Corporate Social Responsibility (CSR) entails businesses' commitment to sustainable economic development, engaging with employees, families, communities, and society to enhance quality of life (Brown & Forster, 2013). It categorizes into environmental, social, economic, stakeholder, and voluntary dimensions (Ata Ujan, 2019). Furthermore, Islamic CSR (ICSR) encompasses broader responsibilities towards humans, the environment, and Allah SWT (Siwar & Hossain, 2009). It emphasizes responsibilities to Allah SWT, humans, and the environment in ICSR. The value of ICSR is evaluated through its disclosure by Islamic banks. Studies find no impact of ICSR on company value (Menne et al., 2016). However, other finding discovered a significant effect of ICSR, Good Corporate Governance (GCG), and Sharia Compliance on financial performance (Mazereeuw-van der Duijn Schouten et al., 2014). These past investigations provide the basis for the hypotheses.

Ha.5.2. There is an influence of ICSR on NPF
Ha.5.12. There is an influence of ICSR on NPF mediated by CAR
Ha.5.13. There is an influence of ICSR on NPF mediated by FDR
Ha.5.14. There is an influence of ICSR on NPF mediated by ROA
Ha.5.15. There is an influence of ICSR on NPF mediated by CIR

Asset Utilization Ratio (AUR)

Low Asset Utilisation Ratio (AUR) indicates poor investment decisions or inefficient asset use (Khatkhatay & Nisar, 2007). AUR serves as the generating income with assets, which is particularly important in Sharia banking for halal income (Pikulina et al., 2017), as revenue divided by average total assets. The AUR's positive impact on company performance, indicates higher utilization correlates with better performance (Wu et al., 2020). The positive effect of asset utilization on company value highlights significant positive impact on Return on Assets (ROA) (Garanina, 2009). These conversations lead to the construction of the hypotheses.

Ha.5.3: There is an influence of AUR on NPF
Ha.5.16: There is an influence of AUR on NPF mediated by CAR
Ha.5.17: There is an influence of AUR on NPF mediated by FDR
Ha.5.18: There is an influence of AUR on NPF mediated by ROA
Ha.5.19: There is an influence of AUR on NPF mediated by CIR

Capital Adequacy Ratio (CAR)

Assessing capital adequacy through the Capital Adequacy Ratio (CAR), is by comparing capital to third-party funds or risky assets (Almazari, 2013; Zhang et al., 2008). CAR represents the ratio of core and supplementary capital to risk-weighted assets. CAR significantly and negatively impacts Indonesia's Non-Performing Financing (NPF) of Islamic commercial banks (Karim, 1996). A higher CAR strengthens Indonesian Sharia banks against NPF risk (Zhang et al., 2008), paving the hypothesis formulation.

Ha.5.4. There is an influence of CAR on NPF

Finance to Deposit Ratio (FDR)

The Financing-to-Deposit Ratio (FDR) measures a bank's liquidity by relying on provided financing to pay deposit withdrawals (Alam et al., 2017). The higher FDR ratios signify lower liquidity but potentially higher profits if the funding is efficiently channeled. Islamic banks face FDR limitations set at 110% since May 29, 1993, with values often exceeding 100%. Mismatched maturity between third-party funds (DPK) and financing necessitates reserve funds to handle withdrawals, urging effective financing portfolio management to minimize defaults and financing risks (Muchlis, 2022). The FDR's significant impact on Non-Performing Financing (NPF) is evident as higher FDR correlates with increased financing risk (Bensaid et al., 2013; Hennessy & Whited, 2005). Conversely, FDR also negatively influences NPF, implying that higher FDR leads to decreased NPF (Frank & Goyal, 2007), and thus the following hypothesis.

Ha.5.5: There is an influence of FDR on NPF

Return On Asset (ROA)

Return on Assets (ROA) is a profitability ratio measuring a company's ability to generate profits using total assets after deducting capital costs (Singh et al., 2017). ROA assesses bank efficiency, reflecting management quality and service effectiveness, is calculated as net profit divided by total assets (Alzoubi, 2017; Kurniansyah et al., 2021). ROA may significantly and negatively impacts Non-Performing Financing (NPF) in Sharia people's credit banks (BPRS) in Indonesia (Widarjono, 2018). They perform the construction of the hypothesis.
Ha.5.6: There is an influence of ROA on NPF

Cost-to-Income Ratio (CIR)

Cost-to-Income Ratio (CIR) is equivalent to BOPO (operating cost to operating income) in Indonesia (Almazari, 2013). It is specifically used to present the efficiency ratio, explaining a bank's management ability to control operational costs relative to operational income. A lower ratio signifies more efficient cost management, reducing the likelihood of financial trouble (Hosen & Rahmawati, 2016; Izhara & Asutay, 2013). Islamic banks aim to maintain an optimal BOPO value between 75% and 90%, as values exceeding 90% indicate operational imbalance (Beck et al., 2013). It is computed by comparing total operational costs to total operating income. Studies find that CIR/BOPO significantly and positively affects Non-Performing Financing (NPF) in banks (Hosen & Rahmawati, 2016; Parker, 2020), as in the hypothesis.
Ha.5.7: There is an influence of CIR/BOPO on NPF

Inflation Rate

Inflation refers to the general increase in prices within an economy, measured by price changes from year to year (Effendi, 2020; Rosiana et al., 2019). Studies found no significant impact of inflation on (NPF) (Monadjemi & Lodewijks, 2021). Conversely, Effendi (2020) reports a negative and significant effect of inflation on NPF, consistent with findings that inflation partially influences NPF (Easterly & Fischer, 2001), for the hypothesis.
Ha5.20. There is an influence of inflation on NPF

Exchange Rate

An exchange rate signifies the value comparison between two currencies (Monadjemi & Lodewijks, 2021). It serves as the price level reflecting currency exchange between nations, pivotal in international trade, tourism, and investment (Majid et al., 2019). It serves as a critical determinant in decision-making for various transactions across borders (Mushinada & Veluri, 2018). The exchange rate, expressed as the price of one currency in terms of another, plays a crucial role in purchasing decisions by providing a common language for comparing prices globally. Currency depreciation relative to another country makes exports cheaper but imports more expensive, while appreciation has the opposite Effect. This research focuses on the real exchange rate, representing the

price of a country's currency in terms of another identical goods abroad (Astuty, 2015; Randhawa, 2011), thus the following hypothesis.

Ha.5.21. There is an influence of the exchange rate (kurs) on the NPF

Central Bank Certificate (SBIS)

Initially known as the Bank Indonesia Wadiah Certificate (SWBI) under the MUI Fatwa No. 36/DSN-MUI/X/2002, SBIS serves as a Sharia-compliant tool for liquidity management, operating on profit-sharing principles and non-tradability (Nurmammadov, 2011). SBIS represents short-term fund custody based on the Wadiah principle, later renamed from SWBI to SBIS in 2008. Governed by Bank Indonesia Regulation No. 14/16/PBI/2012, SBIS are short-term Sharia-compliant securities issued by Bank Indonesia in Indonesian rupiah. These funds have a storage period of one week to one month, with the possibility of earning a bonus upon maturity. Banks can entrust funds starting from IDR 500,000,000 in multiples of IDR 50,000,000. SBIS may have a negative and significant effect on NPF, suggesting Islamic banks were inclined to invest more in SBIS as its yield increased (Muda & Afifah, 2018; Sutrisno, 2016), thereby reducing risky financing distribution and mitigating NPF as in the hypothesis. All hypothesized paths are displayed in Figure 1.

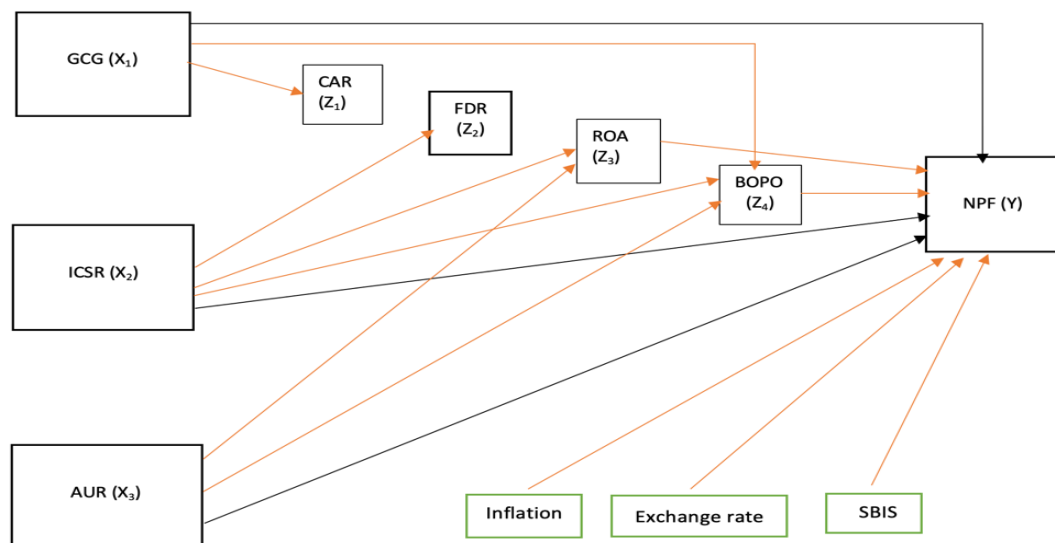*Ha.5.22. There is an influence of SBIS on NPF*

Figure 1. Conceptual Framework

METHODOLOGY

This study uses quantitative methodologies to test theories by quantifying research variables and assessing hypotheses. Utilizing a causality method, it elucidates causal relationships between concepts or variables under investigation. The study population consists of 14 Islamic commercial banks registered with the Financial Services Authority (OJK) up to 2020. Sample selection is based on purposive sampling, focusing on banks that provide comprehensive financial reports and are registered with the financial services

authority from 2014-2020. The sample comprises 12 banks, including Bank Aceh Syariah, Bank Muamalat Indonesia, Bank Syariah Mandiri, Bank Mega Syariah, Bank BRI Syariah, Bank Syariah Bukopin, Bank BNI Syariah, Bank Jawa Barat Banten Syariah, Bank BCA Syariah, Bank Victoria Syariah, Bank Panin Dubai Syariah, and Bank Tabungan Pensiunan Nasional Syariah.

Quantitative secondary data, primarily from financial statement documentation on the official websites of Islamic commercial banks in Indonesia, are utilized. Other sources such as books, journals, news articles, and online resources support the research. The dataset is panel data, merging cross-sectional and time series data. Panel data regression and path analysis techniques, facilitated by EViews 11 software, are employed for analysis. Before conducting panel data regression, descriptive statistics, estimation methods selection, and classical assumptions testing are performed. Panel data may not strictly adhere to classical assumptions (Aparicio et al., 2016; Niu et al., 2011), even only generalized least square (GLS) equations satisfy these assumptions (Dizon & Cruz, 2020; Kock, 2017). Hence, the robust standard error or generalized least square (GLS) model is utilized in this study to address issues such as multicollinearity, heteroscedasticity, or autocorrelation (Henseler & Sarstedt, 2013).

RESULTS

The descriptive statistics reveals the statistical proportion of investigated data points as in the research variables by their range, mean, and standard deviation. GCG ranges from 1.00 to 3.00, with a mean of 2.10 and a standard deviation of 0.61. ICSR ranges from 0.51 to 0.92, with a mean of 0.78 and a standard deviation of 0.10. AUR ranges from 0.04 to 0.31, with a mean of 0.10 and a standard deviation 0.05. CAR ranges from 0.12 to 0.49, with a mean of 0.21 and a standard deviation 0.08. FDR ranges from 0.64 to 1,967,300, with a mean of 0.88 and a standard deviation of 0.15. BOPO ranges from 0.58 to 1,433,100, with a mean of 0.92 and a standard deviation of 0.13. ROA ranges from 0.00 to 0.14, with a mean of 0.02 and a standard deviation of 0.03.

Selection of Estimation Model

Table 2 summarizes the outcomes of tests such as the Chow, Hausman, and Lagrange Multiplier tests, which are utilized to discern the most suitable estimation model among common Effect, fixed Effect, or random Effect.

Table 2. The Summary of Estimation Models

Tests	Chow Test			Hausman			LM-Test			Decision
CAR	0.0152	<	0.05 FE	0.0018	<	0.05 FE	Not Necessary			Fixed Effect
FDR	0.0099	<	0.05 FE	0.7789	>	0.05 RE	0.0399	<	0.05 RE	Random Effect
ROA	0.0020	<	0.05 FE	0.0002	<	0.05 FE	Not necessary			Fixed Effect
BOPO	0.0045	<	0.05 FE	0.2439	>	0.05 RE	0.0315	<	0.05 RE	Random Effect
NPF	0.0005	<	0.05 FE	1.0000	>	0.05 RE	0.2024	>	0.05 CE	Common Effect

Source: Secondary data processed with Eviews 11

The statistical finding reveals that the fixed Effect is superior to Random Effect for the CAR variable, while Random Effect outperforms Common Effect for FDR. Fixed Effect surpasses Random Effect for ROA, and Random Effect is more effective than Common Effect for BOPO. Lastly, Common Effect prevails over Random Effect for the NPF variable. Equations 1 and 3 employ Fixed Effects; equations 2 and 4 use Random Effects and five rely on Common Effects. However, they still need to pass the post-estimation test. Therefore, robust standard error or Generalized Least Square techniques must address multicollinearity, heteroscedasticity, or autocorrelation issues. Table 3 presents the summary output results of the Generalized Least Square method.

Table 3. Summary of GLS Model Treatment Output

	CAR		FDR		ROA		BOPO		NPF	
	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.
C	0.388797	0.0002	1.216054	0.0000	0.047168	0.0000	1.217435	0.0000	-0.176414	0.0104
GCG	-0.03484	0.0000	0.004293	0.7712	-0.00285	0.0656	0.058465	0.0079	0.011578	0.0013
ICSR	-0.12177	0.0813	-0.4727210	0.0000	-0.04216	0.0000	-0.44581	0.0032	0.080788	0.0009
AUR	-0.09206	0.5636	0.182963	0.2373	0.098558	0.0020	-0.79319	0.0037	-0.113422	0.0055
CAR	-	-	-	-	-	-	-	-	-0.044793	0.181
FDR	-	-	-	-	-	-	-	-	0.010907	0.4418
ROA	-	-	-	-	-	-	-	-	-0.660102	0.0000
BOPO	-	-	-	-	-	-	-	-	0.200101	0.0000
Inflation	-	-	-	-	-	-	-	-	-0.023373	0.8541
Currency	-	-	-	-	-	-	-	-	-0.0000033	0.4019
SBIS	-	-	-	-	-	-	-	-	-1.03E-06	0.0425
R^2	0.686559		0.549581		0.635152		0.196803		0.78297	
Adj. R^2	0.635035		0.47554		0.575177		0.167417		0.754032	
F	0.00000		0.00000		0.000000		0.000424		0.000000	

Source: Secondary data processed by Eviews 11

The output results of the regression equation of the study's dependent variable from the interpretation of the model are as follows:

$$CAR_{it} = 0.388797 - 0.03484_{GCGit} - 0.12177_{ICSRit} - 0.09206_{AURit} + 0.063301$$
$$(0.0002) \quad (0.0000) \quad (0.0813) \quad (0.5636) \ldots\ldots\ldots \quad (1)$$

The regression equation reveals a significant constant value (α) of 0.388797 (p = 0.0002 < 0.05). When GCG, ICSR, and AUR equal zero, CAR is 0.388797%. GCG significantly negatively impacts CAR, while ICSR has no effect, and AUR shows no influence. The F-test yields a probability value of 0.0000 < 0.05, indicating a joint influence of the independent variables on the dependent variable. The CAR coefficient of determination (R-squared) is 0.686559, suggesting that GCG, ICSR, and AUR can explain 69% of CAR, while the remaining 31% is attributed to other variables.

$$FDR_{it} = 1.216054 + 0.004293GCG_{it} - 0.472721 ICSR_{it} - 0.182963 AUR_{it} + 0.141972$$
$$(0.0000) \quad (0.7712) \quad (0.0000) \quad (0.2373)\ldots\ldots\ldots\ldots\ldots\ldots \quad (2)$$

The regression equation yields a significant constant value (α) of 1.216054 (p = 0.0000 < 0.05). When GCG, ICSR, and AUR equal zero, FDR is 1.216054%. None of the independent variables (GCG, ICSR, AUR) affect FDR. The F-test indicates a significant joint influence of the independent variables on the dependent variable (FDR). The coefficient of determination (R-squared) for FDR is 0.549581, implying that 55% of FDR can be explained by GCG, ICSR, and AUR, with the remaining 45% attributed to other variables.

$$ROA_{it} = 0{,}047168 - 0{,}002852_{GCGit} - 0{,}042164_{ICSRit} + 0{,}098558_{AURit} + 0.016596$$
$$(0{,}0000) \quad (0{,}0656) \quad (0{,}0000) \quad (0{,}0020)\ldots\ldots\ldots\ldots(3)$$

The regression equation yields a significant constant value (α) of 0.047168 (p = 0.0000 < 0.05). When GCG, ICSR, and AUR are zero, ROA is 0.047168%. GCG does not affect ROA, ICSR significantly decreases ROA, and AUR significantly increases ROA. The F-test indicates a significant joint influence of the independent variables on the dependent variable (ROA). The coefficient of determination (R-squared) for ROA is 0.635152, implying that 64% of ROA can be explained by GCG, ICSR, and AUR, with the remaining 36% attributed to other variables.

$$BOPO_{it} = 1{,}217435 + 0{,}058465_{GCGit} - 0{,}445806_{ICSRit} - 0{,}793188_{AURit} + 0.110945$$
$$(0{,}0000) \quad (0{,}0079) \quad (0{,}0032) \quad (0{,}0037)\ldots\ldots\ldots (4)$$

The regression reveals a significant constant value (α) of 1.217435 (p = 0.0000 < 0.05). When GCG, ICSR, and AUR are zero, BOPO is 1.217435%. GCG positively impacts BOPO, while ICSR and AUR have significant adverse effects. The F-test confirms a joint influence of the independent variables on BOPO (p = 0.000424 < 0.05), indicating model fit. The coefficient of determination (R-squared) for BOPO is 0.196801, implying that 20% of BOPO can be explained by GCG, ICSR, and AUR, with the remaining 80% attributed to other variables.

$$NPF_{it} = -0{,}176414 + 0{,}011578_{GCGit} + 0{,}080788_{ICSRit} - 0{,}113422_{AURit} - 0.044793_{CARit}$$
$$(0{,}0184) \quad (0{,}0013) \quad (0{,}0009) \quad (0{,}0055) \quad (0{,}1810)$$
$$+ 0{,}010907_{FDRit} + 0{,}660102_{ROAit} + 0{,}200101_{BOPOit} - 0.023373_{INFLASIit}$$
$$(0{,}4418) \quad (0{,}0000) \quad (0{,}0000) \quad (0{,}8541)$$
$$- 0{,}00000330_{KURSit} - 0{,}00000103_{SBISit} + 0.017413$$
$$(0{,}4019) \quad (0{,}0425)\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots.(12)$$

The regression results indicate a significant constant value (α) of -0.176414 (p = 0.0184 < 0.05). When all independent variables (GCG, ICSR, AUR, CAR, FDR, ROA, BOPO, Inflation, Exchange Rate, SBIS) are zero, NPF is -0.176414%. GCG and ICSR positively impact NPF, while AUR has a significant negative effect. CAR, FDR, Inflation, and Exchange Rate do not affect NPF. ROA and BOPO positively influence NPF, whereas SBIS has a significant negative impact. The F-test confirms joint influence (p = 0.000000 < 0.05), indicating model fit. The coefficient of determination (R-squared) for NPF is 0.782970, implying that 78% of NPF can be explained by the independent variables, with the remaining 22% attributed to other factors.

Path Analysis Test

The results of the path analysis test can be seen in the complete combined results in Figure 1.
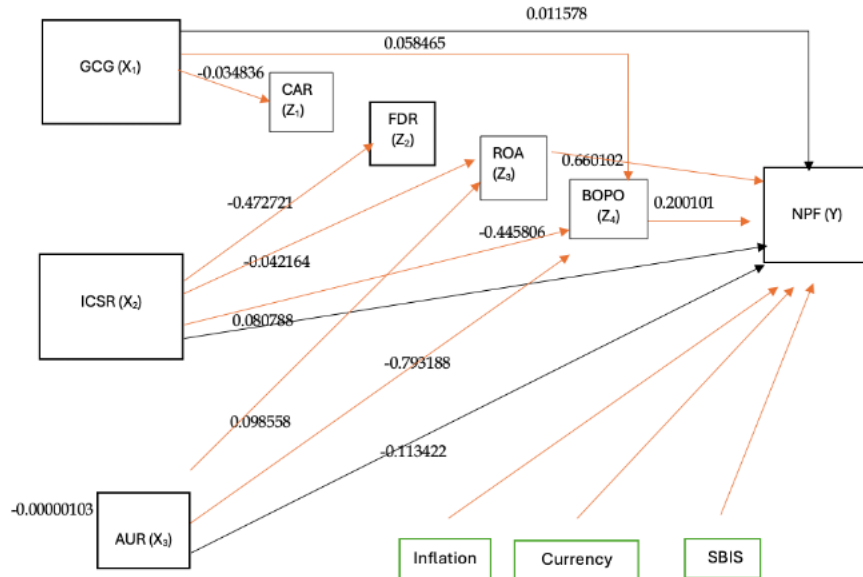

Figure 1. The Combined Results

Figure 1 illustrates the effects of GCG, ICSR, and AUR on CAR, FDR, ROA, and BOPO, and the impact of these variables along with CAR, FDR, ROA, BOPO, INFLATION, Exchange Rate, and SBIS on NPF. Additionally, it shows the indirect influence of GCG, ICSR, and AUR on NPF through CAR, FDR, ROA, and BOPO. For detailed results and conclusions, it may refer to Table 4.

Table 4. Value of Direct Effect, Indirect Effect, and Total Effect

Hypotheses	Paths	Direct Effect	Indirect Effect	Total Effect
$Ha_{1.1}$	GCG→CAR	-0,034836	-	-
$Ha_{1.2}$	ICSR→CAR	-0,121774	-	-
$Ha_{1.3}$	AUR→CAR	-0,092060	-	-
$Ha_{2.1}$	GCG→FDR	0,004293	-	-
$Ha_{2.2}$	ICSR→FDR	-0,472721	-	-
$Ha_{2.3}$	AUR→FDR	0,182963	-	-
$Ha_{3.1}$	GCG→ROA	-0,002852	-	-
$Ha_{3.2}$	ICSR→ ROA	-0,042164	-	-
$Ha_{3.3}$	AUR→ROA	0,098558	-	-
$Ha_{4.1}$	GCG→BOPO	0,058465	-	-
$Ha_{4.2}$	ICSR→BOPO	-0,445806	-	-
$Ha_{4.3}$	AUR→BOPO	-0,793188	-	-
$Ha_{5.1}$	GCG→NPF	0,011578	-	-
$Ha_{5.2}$	ICSR→NPF	0,080788	-	-
$Ha_{5.3}$	AUR→NPF	-0,113422	-	-
$Ha_{5.4}$	CAR→NPF	-0,012814	-	-
$Ha_{5.5}$	FDR→NPF	-0,010897	-	-
$Ha_{5.6}$	ROA→NPF	0,188084	-	-

Hypotheses	Paths	Direct Effect	Indirect Effect	Total Effect
Ha$_{5.7}$	BOPO→NPF	0,038202	-	-
Ha$_{5.8}$	GCG→CAR→NPF	0,011578	-	-
Ha$_{5.9}$	GCG→FDR→NPF	0,011578	-	-
Ha$_{5.10}$	GCG→ROA→NPF	0,011578	-	-
Ha$_{5.11}$	GCG→BOPO→NPF	0,011578	-	-
Ha$_{5.12}$	ICSR→CAR→NPF	0,080788	-	-
Ha$_{8.13}$	ICSR→FDR→NPF	0,080788	-	-
Ha$_{5.14}$	INFLATION→NPF	-0,023373	-	-
Ha$_{5.15}$	CURRENCY→NPF	-0,000330	-	-
Ha$_{5.16}$	SBIS→NPF	-0,00000103	-	-
Ha$_{5.17}$	ICSR→ROA→NPF	0,080788	-0,027833	0,617938
Ha$_{5.18}$	ICSR→BOPO→NPF	0,080788	-0,089206	-0,245705
Ha$_{5.19}$	AUR→CAR→NPF	-0,113422	-	-
Ha$_{5.20}$	AUR→FDR→NPF	-0,113422	-	-
Ha$_{5.21}$	AUR→ROA→NPF	-0,113422	0,065058	0,758660
Ha$_{5.22}$	AUR→BOPO→NPF	-0,113422	-0,158718	-0,593087

Source: Secondary data processed using Eviews 11

DISCUSSION

The results of this study indicate that GCG hurts CAR (Huang et al., 2016). This means that the level of GCG implementation in Islamic commercial banks is still uneven even with the generally average disclosure of its implementation (Aribi & Gao, 2011). Improving the predicate of GCG implementation disclosure in Islamic commercial banks, especially those in the moderate to excellent category, requires considerable funds or capital, thus reducing the CAR ratio (Iatridis, 2011). This means that bank management's ability to effectively manage Islamic commercial banks' assets is independent of CAR.

The results showed that ICSR does not affect CAR. This means that the level of ICSR implementation in Islamic commercial banks is seen from the disclosure of the implementation of funding. Investment is carried out based on sharia principles, namely *halal*, not containing usury, not *gharar*, making corporate *zakat* payments, providing policies for customer delays in returning financing, and providing policies for bankrupt clients (Alam et al., 2017). This is in line with the previous researches (Aribi & Gao, 2011; Khurshid et al., 2014).

This study indicates that GCG does not affect FDR. This means that the level of GCG implementation in Islamic commercial banks is inadequate to present the elements of *Siddiq* and tabligh as a form of transparency principle, the principle of trust as a form of responsibility principle, the principle of justice as a form of fairness principle, or even the principle of *fathanah* (independence) (Md Akhter, 2015). The ICSR is also discovered to hurt FDR. The AUR does not affect FDR. This means that the ability of bank management to manage assets effectively to increase revenue generation is independent of FDR performance in Islamic commercial banks in Indonesia (Bley & Kuehn, 2003; Husaeni, 2017; Muchlis, 2022). The other test indicates that GCG does not affect ROA. The subsequent finding showed that ICSR hurts ROA. The AUR has a positive effect on ROA. This means that bank management's ability to utilize assets more

effectively will be able to increase income generation (Hamid, 2006; Kiong Kok et al., 2014; Paldi, 2014). The GCG has a positive effect on BOPO means that the higher operational costs used to increase disclosure of GCG implementation will increase BOPO and conversely (Bensaid et al., 2013). The ICSR has an adverse effect on BOPO, as well as AUR. This means that the ability of bank management to manage assets effectively will increase income that is greater than the total costs that must be incurred, reducing the BOPO ratio at Islamic commercial banks in Indonesia (Alssadi, 2021; Tatiana et al., 2015).

The finding indicates that the GCG has a positive effect on NPF. If the limit for disbursement of financing funds as the bank's primary source of income increases along with increased disclosure of GCG implementation, then NPF risk rises (Muchlis, 2022; Muda & Afifah, 2018; Rodoni & Yaman, 2018), and conversely. The statistical finding shows that ICSR has a positive effect on NPF and the AUR hurts NPF, meaning that the ability of bank management to manage assets effectively needs a sufficient policy of directing financing and investment sectors with well-managed risks (Rodoni & Yaman, 2018; Widarjono et al., 2020).

Another standing finding is that CAR does not impact NPF. The CAR, representing the proportion of Islamic bank assets financed by capital funds cannot create a safehave for the increasing or decreasing default credit (Dobrovic et al., 2018; Rosiana et al., 2019). The FDR is also discovered to not have impact NPF. Despite high third-party fund absorption in financing, accompanied by risk mitigation policies, its increase does not affect NPF. On the other hand, ROA positively impacts NPF. Despite the asset's productive use for profit generation, the potentiality of credit default is increasing as evident from the increasing economy outlook (Garanina, 2009). Other test reveals that BOPO positively impacts NPF (Hosen & Rahmawati, 2016). Inflation has no impact on NPF, indicating the resilience of Sharia commercial banks to inflationary pressures. A predetermined profit-sharing system ensures that inflation-induced interest rate hikes do not affect financing installments, thus maintaining NPF stability (Effendi, 2020).

The research also investigates the myriad indirect relationships with findings that GCG does not influence NPF through CAR. The research findings indicate that GCG does not affect NPF through FDR. The research findings reveal that GCG does not impact NPF through ROA. The GCG does not affect NPF through BOPO. The ICSR does not influence NPF through CAR. The ICSR does not impact NPF through FDR. The ICSR indirectly affects NPF through ROA. The ICSR indirectly influences NPF through BOPO. The research results show that AUR does not affect NPF via CAR. The research results show that AUR does not affect NPF via FDR. The research results show that high AUR indirectly affects NPF through ROA. The research results show that high AUR indirectly affects NPF through BOPO. These findings reveal that extraordinary attention has to be maintained on the analysis of the quantitative indicators in Islamic finance market of banks.

FURTHER STUDY

This study presents a unique display of the intricate or even delicate relationships among the quantitative measures of Islamic representations in capital market. This research presents an opportunity to explore additional factors influencing the non-performing financing (NPF) levels or examine their impact on other risks beyond financing risk (NPF) within Islamic Commercial Banks in Indonesia. The findings of this study can serve as valuable reference material for government agencies, banking regulatory authorities, and bank management to formulate policies addressing non-performing financing (NPF) risk. These policies should focus on monitoring and enhancing the performance of factors directly or indirectly influencing non-performing financing (NPF) risk as we leave it to further researches.

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