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Contribution of non-halal of Islamic banks in Indonesia

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Abstract

Purpose – This study aims to determine the contribution of non-halal income and Islamic funds to Islamic banks' financial performance and health level in Indonesia from 2014–2020.

Design/methodology/approach – The research uses secondary data from a sample of eight Islamic banks in Indonesia. Data analysis uses the panel data regression concept and the Random Effect Model.

Findings – The results of the data analysis show that non-halal income does not contribute to the financial performance or health level of Islamic banks during the observation period from 2014–2020, possibly due to its incompatibility with Sharia principles. Non-halal income, used solely for charitable activities, does not directly enhance operational performance or financial health. In contrast, Islamic funds contribute to financial performance [through the Financing to Deposit Ratio (FDR) ratio] with an effect size of 12.99% and to the health level with an effect size of 24.31%.

Practical implications – Islamic banks in Indonesia should prioritize managing Islamic funds effectively, as they significantly enhance financial performance (12.99% impact via FDR ratio) and health levels (24.31% impact). Conversely, minimizing reliance on non-halal income, which showed no positive impact, can strengthen adherence to Sharia principles and bolster market confidence. Policymakers could support regulations encouraging the accumulation and prudent use of Islamic funds while ensuring rigorous monitoring of non-halal income sources. Comparative analysis with Sharia banks in other countries would provide additional insights into the global regulatory and operational landscape for Islamic fund management.

Social implications – Emphasizing Islamic funds over non-halal income in Islamic banks can foster greater community trust and ethical alignment with Sharia principles. By prioritizing Sharia-compliant financial practices, banks can cater better to religiously observant customers and contribute positively to societal values. This shift may enhance financial inclusion by attracting more deposits from individuals seeking ethical banking options. Additionally, it reinforces the role of Islamic finance in promoting economic stability and moral integrity within Indonesia's financial sector. Policymakers' support for such practices can further strengthen social cohesion and sustainable economic development, aligning financial activities with broader societal expectations and religious beliefs.

Originality/value – This study offers compelling insights into the distinct impacts of non-halal income and Islamic funds on Islamic banks' financial performance and health in Indonesia, using robust panel data regression techniques. The findings reveal a critical dichotomy: while non-halal income shows negligible influence, Islamic funds significantly enhance financial performance (12.99% impact via FDR ratio) and health levels (24.31% impact). This nuanced analysis contributes uniquely to the literature by empirically quantifying these effects over a substantial observation period, offering practical implications for Islamic banking operations and regulatory frameworks. Such insights are pivotal for advancing strategies that align

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with Sharia principles and enhance institutional sustainability, with potential comparative relevance for Islamic banks globally.

Keywords Non-halal income, Islamic funds, Financial performance, Soundness level, Islamic bank

Paper type Research paper

1. Introduction

The development of the Islamic banking industry in Indonesia has shown rapid growth and positive progress (Al Arif and Awwaliyah, 2019; Susanti, 2021; Yulistiani *et al.*, 2023). According to the Financial Services Authority, in 2019, Islamic banking assets accounted for approximately 37.2% of national banking assets and contributed about 71% of the global Islamic finance industry (Muhammad *et al.*, 2021). Islamic banks operate based on Islamic law (Nurkhin *et al.*, 2018), consisting of Islamic commercial banks and Islamic business units (Al Arif and Awwaliyah, 2019). According to Islamic banking statistics, as of June 2023, there are 13 Islamic commercial banks, 20 Islamic business units and 171 Islamic rural banks. In Islamic banking, all transactions must comply with Sharia principles, which include the prohibition of interest (riba), uncertainty (gharar) and gambling (maysir) (Ayub, 2007). These principles serve as the foundational guidelines for the operational activities of Islamic banks (Mukhibad *et al.*, 2022).

Similarly, funds management must adhere to Sharia principles (Jibril *et al.*, 2021). Islamic banks sometimes engage in transactions that generate non-halal income (Indrayani and Lilik Purwanti, 2023). Non-halal income does not comply with and contradicts Sharia law (Indrayani and Lilik Purwanti, 2023; Maryamah and Mubarakoh, 2023; Nurkhin *et al.*, 2018). This income is sometimes unavoidable because Islamic banks occasionally have to transact with conventional banks (Indrayani and Lilik Purwanti, 2023).

Non-halal income can undermine the Sharia compliance of a bank, potentially affecting customer trust in Islamic bank products (Nawangsari *et al.*, 2022). Compliance with Sharia principles is essential in Islamic banking (Saputra and Suwardi, 2023). Therefore, Islamic banks must report on these funds in the sources and uses of charity funds report (Indrayani and Lilik Purwanti, 2023).

From a social perspective, Islamic banks can collect social funds from the Muslim community, such as zakat, infaq, sadaqah and waqf, and then distribute them to relevant institutions (Ishandawi and Khalil, 2023). These social funds are referred to as Islamic funds. Islamic funds comply with Islamic principles (Auliyah and Basuki, 2021). Managing Islamic funds in Islamic banks is a crucial aspect that supports Islamic financial principles and ensures that these funds are used following Sharia values (Jibril *et al.*, 2021). PSAK Sharia (Indonesian Financial Accounting Standards) No. 109 stipulates that zakat accounting must adhere to Sharia principles. Thus, Islamic banks must disclose financial statements in the form of sources and uses of zakat funds reports (Auliyah and Basuki, 2021).

Companies that strongly adhere to Sharia principles can enhance their financial performance (Nawangsari *et al.*, 2022), maintaining stakeholder trust, which positively impacts their financial performance (Auliyah and Basuki, 2021; Nawangsari *et al.*, 2022; Yulistiani *et al.*, 2023). Financial performance is an overview of a company's (Islamic bank's) financial condition in achieving its economic objectives (Menne, 2016). Financial performance is essential as financial statements are the basis for decision-making processes (Al-ahdal *et al.*, 2020). The financial performance of Islamic banking is directly proportional to its health level, and performance evaluation is one way to determine a bank's health level (Auliyah and Basuki, 2021). Bank health is the ability of a bank to conduct banking operations usually and meet all its obligations adequately under prevailing regulations (Rizal and Humaidi, 2021). Banks are required to conduct self-assessments to maintain their health. Knowing a bank's health is essential for customers to trust the bank (Gunawan and Arvianda, 2019; Nurwulandari *et al.*, 2022).

Previous research has examined non-halal income and Islamic funds, financial performance and the health level of Islamic banks, yielding varying results (Ali *et al.*, 2023; Auliyah and Basuki, 2021; Hamsyi, 2019; Hermuningsih and Kusuma, 2020; Mayasari, 2020; Rosman *et al.*, 2019; Sulaeman *et al.*, 2022). Additionally, no study has investigated the relationship and contribution of non-halal income and Islamic funds to the financial performance and health level of Islamic banks in Indonesia simultaneously. The lack of research on the health level variable concerning non-halal income and Islamic funds makes this an exciting area for further study.

While previous studies have explored either the role of non-halal income or Islamic funds individually on financial performance, none have examined their combined effects on Islamic banks' financial performance and health level. This simultaneous approach is critical as it provides a comprehensive view of how Sharia-compliant and non-compliant income streams interact within Islamic banking operations. It offers new insights into effective fund management that aligns with Islamic principles. Such an approach has substantial implications for enhancing Islamic banking institutions' financial stability and integrity, making it a significant addition to the existing literature.

2. Literature review

2.1 Islamic banks and financial performance

Islamic banks are financial institutions whose primary business is financing and other financial services based on Sharia principles (Gunawan and Arvianda, 2019). Islamic banks collect funds from the public and distribute these funds following Islamic law (Darmawan and Fasa, 2020). They operate by adhering to Sharia principles (Al Arif and Rahmawati, 2018; Nurkhin *et al.*, 2018) and do not engage in transactions involving interest (riba), uncertainty (gharar), gambling (maysir) or providing financing to companies that distribute prohibited products (Mukhibad *et al.*, 2022). Islamic banks serve as intermediary institutions (Suprayitno and Hardiani, 2021). They must manage resources simultaneously, including financial and social funds, such as zakat, infaq and sadaqah (Nurodin *et al.*, 2019).

Financial performance is a depiction of the economic results achieved by a company within a certain period through its activities to generate profits effectively and efficiently (Auliyah and Basuki, 2021), increase liquidity and pay debts within the stipulated time frame (Farida and Mranani, 2022). Financial performance is one of the indicators of efficiency in the banking industry (Muhammad and Triharyono, 2019). According to Boaventura *et al.* (2012), the most commonly used indicators to measure financial performance are profits (operational and net profit), cash flows, EPS, return on assets (ROA), ROE, sales growth, return on sales (ROS), contribution margin, Tobin's Q, stock market, company risk and return on capital employed (Menne, 2016).

The measurement of financial performance is regulated by Bank Indonesia Circular Letter No.13 / 24/DPNP of 2011, which is measured using financial ratios. This study will use five ratios: ROA, capital adequacy ratio (CAR), non-performing financing (NPF), FDR and operational efficiency ratio (OER).

ROA measures management's ability to obtain overall profits. CAR is an essential indicator of a bank's ability to handle asset declines due to losses from risky assets. NPF measures problematic financing against the total financing disbursed by the bank. FDR is the ratio between the total financing provided by the bank and the total third-party funds collected by the bank, and OER is used to measure the ratio between operating costs and operating income (Chabachib *et al.*, 2019; Muhammad *et al.*, 2020; Muhammad and Triharyono, 2019; Sihite and Wirman, 2021).

2.2 Bank health level

Bank health refers to a bank's ability to conduct banking operations usually and meet all its obligations adequately under prevailing regulations (Rizal and Humaidi, 2021). Banks are required to conduct self-assessments to maintain their health. Knowing a bank's health is essential for customers to trust the bank (Gunawan and Arvianda, 2019).

The assessment of the health level of Islamic banks is conducted quarterly based on Bank Indonesia Regulation No. 01/PBI/2007 regarding the Assessment System of the Health Level of General Banks Based on Sharia Principles. The classification of bank health levels is divided into five categories in Table 1 (Nurwulandari *et al.*, 2022).

Based on Bank Indonesia Regulation No. 13 / 24/DPNP/2011, the measurement of the health level of Islamic banks can use the Risk-Based Bank Rating approach, which consists of four factors: risk profile, good corporate governance (GCG), earnings and capital (Maria J. F. *et al.*, 2020; Nurwulandari *et al.*, 2022). Risk Profile assesses inherent risks and the quality of risk management implementation in bank activities, measured by NPL/NPF and LDR/FDR ratios. GCG measurement is conducted by the bank using indicators established by the Financial Services Authority (OJK). Earnings evaluation focuses on income performance and resource sustainability, measured through ROA. Capital adequacy assessment evaluates the bank's ability to bear risks faced, measured by CAR (Sjahrifa *et al.*, 2018; Gunawan and Arvianda, 2019).

The criteria for assessment are as follows in Table 2.

2.3 Non-Halal income and Islamic funds

Non-halal income refers to earnings obtained by banks through activities that contradict Sharia law (Indrayani and Lilik Purwanti, 2023; Maryamah and Mubarakoh, 2023; Nurkhin *et al.*, 2018). According to PSAK 101, non-halal income includes all proceeds from activities incompatible with Sharia principles, such as interest from conventional banks (Sholihah, 2021).

Table 1. Categories of bank health level

Criteria	Very healthy	Healthy	Fairly healthy	Less healthy	Unhealthy
Percentage (%)	86–100	70–85	61–70	41–60	<40

Source: Bank Indonesia Regulation No. 13 / 24/DPNP/2011

Table 2. Criteria for risk-based bank rating (RBBR) assessment

		Criteria				
Rank	Categories	NPL/NPF	LDR/FDR	GCG	ROA	CAR
1	Very healthy	NPL < 2%	LDR ≤ 75%	NK < 1,5	ROA > 1.5%	CAR > 12%
2	Healthy	2% ≤ NPL < 5%	75% < LDR ≤ 85%	1,5 ≤ NK < 2,5	1.25% < ROA ≤ 1.5%	9% ≤ CAR < 12%
3	Fairly healthy	5% ≤ NPL < 8%	85% < LDR ≤ 100%	2,5 ≤ NK < 3,5	0.5% < ROA ≤1.25%	8% ≤ CAR < 9%
4	Less healthy	8% ≤ NPL < 11%	100% < LDR ≤ 120%	3,5 ≤ NK < 4,5	0% < ROA ≤ 0.5%	6% < CAR < 8%
5	Unhealthy	NPL ≥ 11%	LDR > 120%	4,5 ≤ NK ≤ 5	ROA ≤ 0%	CAR ≤ 6%

Sources: Bank Indonesia Circular Letter No. 13 / 24/DPNP/2011, No. 9/24BPbs/2007, and Financial Services Authority Regulation No. 10/POJK.03 / 2014

There are three primary sources of non-halal income: interest income, clearing fees and closing accounts after maturity (Maryamah and Mubarakoh, 2023).

Ibnu Shalah, in Al-Asyabah wa al-Nadzair, stipulates that when halal and haram funds are mixed and indistinguishable, separation is necessary. The haram portion must be returned to its rightful owner if identifiable; otherwise, it should be donated to charity (Lenap, 2019). Fatwa DSN MUI (National Sharia Board of the Indonesian Ulema Council) 123/DSN-MUI/XI/2018 states that non-halal income cannot be considered as profit for Islamic banks but can be used for the benefit of the community through Qardhul Hasan financing-based on QS. Al Nisa [4]: 29, QS. Al-Mai'da [5]: 2, QS. Al-Baqarah [2]: 275. Non-halal income acquired by Islamic banks is not regarded as profit but must still be reported in Sharia financial accounting standards (PSAK 101). Non-halal income should be allocated for social welfare (Indrayani and Lilik Purwanti, 2023).

Despite originating from transactions incompatible with Sharia principles, non-halal income, when redirected, is earmarked for charitable purposes and not for the bank's operational needs (Sholihah, 2021). According to Al-Qardhawi (2007), allocating funds for welfare activities benefits society. However, maximizing non-halal income should be avoided, prioritizing the greater good and adhering to Islamic principles that good intentions do not justify using haram funds (Ernawati, 2020).

These charitable funds instil confidence in the community to use Islamic banking products, ultimately enhancing the financial performance and health of the institution (Ali *et al.*, 2023; Auliyah and Basuki, 2021). Reporting the sources and uses of charitable funds enhances the reputation of Islamic banks among stakeholders, demonstrating corporate social responsibility in sustaining the economic viability of Sharia banking (Ali *et al.*, 2023).

Islamic funds allow Islamic banks to gather social funds such as zakat, infaq, sedekah and wakaf, subsequently channelled to zakat and wakaf institutions (Ishandawi and Khalil, 2023). Zakat, infaq, sedekah and hibah, collectively known as Islamic funds, follow Sharia principles, ensuring investments exclude prohibited activities (Grira and Labidi, 2021). According to Law No. 21 of 2008, Islamic banks function socially by collecting Islamic funds, including zakat, infaq, sedekah, hibah and other social funds from the community, distributed to eligible recipients as stipulated in QS. At-Taubah [9]:60.

The management of Islamic funds in Islamic banks supports Sharia financial principles, ensuring these funds are used following Islamic values. PSAK Syariah No. 109 mandates that zakat accounting adhere to Sharia principles (Auliyah and Basuki, 2021). Hence, Islamic banks must disclose zakat fund utilization in their financial reports (Auliyah and Basuki, 2021).

According to Singal's theory, confident decisions by companies can be perceived as signals that provide information to other parties (Spence, 1973). Islamic banks disclosing their zakat funds signals transparency to stakeholders, enhancing bank performance. Companies (in this case, banks) disclosing their zakat demonstrate better financial performance and stability because they maintain stakeholders' trust (Auliyah and Basuki, 2021). Increased allocation of Islamic funds encourages Islamic banks to innovate their products, improving Sharia bank performance (Sulaeman *et al.*, 2022).

Research (Hermuningsih and Kusuma, 2020) shows that the allocation of Islamic funds (zakat) positively impacts the financial performance of Islamic banks, supported by previous studies indicating that Islamic funds contribute positively to corporate financial performance (Ali *et al.*, 2023; Auliyah and Basuki, 2021; Hamsyi, 2019; Rosman *et al.*, 2019; Sulaeman *et al.*, 2022). A higher Islamic Income Ratio (IsIR) correlates with better composite indicator scores, reflecting improved company performance (Hamsyi, 2019). The financial performance of Islamic banks directly correlates with their health assessment, as performance evaluations are crucial in determining the institution's health (Auliyah and Basuki, 2021). Thus, improved financial performance leads to better overall institutional health.

Non-halal income and Islamic funds present a unique duality within Islamic banking. While non-halal income is generally avoided and strictly regulated for social purposes, Islamic funds such as zakat, infaq and sadaqah are structured to fulfill religious and economic objectives. This study advances the literature by examining how these divergent income sources impact financial performance indicators, such as ROA and CAR, and the overall health of Islamic banks. Furthermore, contrasting these findings with conventional banks, where income sources are typically profit-driven, underscores the unique framework within which Islamic banks operate. Such comparative insights reveal Islamic banks' distinctive operational models to maintain Sharia compliance while striving for financial viability.

3. Methodology

This research is a quantitative study using regression analysis. It uses a population comprising all Sharia banks in Indonesia, totalling 13 Sharia banks. The sampling technique used is purposive sampling based on specific criteria. The criteria for selecting the sample in this study are as follows:

- Sharia banks registered with the Financial Services Authority (OJK) from 2014–2021.
- Sharia banks with data on the sources and uses of welfare funds, including non-halal income, and data on the sources and uses of zakat funds, known as Islamic funds.
- Sharia banks with complete annual financial report data, including ratios such as ROA, CAR, NPF, FDR, OER and reports on the implementation results of GCG self-assessment from 2014–2020.

The research period of 2014–2021 was chosen to capture the dynamic developments in Indonesia's Islamic banking sector, particularly around significant regulatory adjustments affecting Sharia compliance and social fund management practices. This period also reflects varying economic conditions and policy shifts that potentially influenced Islamic banks' financial performance and health levels, thereby offering a relevant temporal scope for analyzing trends and responses to regulatory frameworks.

Based on the established criteria, eight Sharia banks were selected as the research sample: Bank Aceh Syariah, BCA Syariah, BJB Syariah, BNI Syariah, BRI Syariah, Bank Mandiri Syariah, Bank Mega Syariah and Bank Muamalat. The data collection method used is a documentation study from the financial reports of Sharia banks accessed from the official OJK website, www.ojk.go.id and the official websites of each selected Sharia bank. The data in this study consist of a combination of time series and cross-sectional data, also known as panel data. Therefore, the ordinary least square method with panel data regression is chosen as the analytical tool, facilitated by EViews version 12. The panel data regression model used is as follows:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + e_{it} \tag{1}$$

Description:

Y1 = Financial Performance;
Y2 = Bank Soundness;
X1 = Non-Halal Income;
$X2$ = Islamic Funds;
Xi = Number of Sharia Banks;

e = Error;
α = Constant;
t = Research Time Period; and
$\beta 1 - \beta 2$ = Variable Coefficients.

There are three types of approaches to estimating panel data regression: the Common Effect Model, the Fixed Effect Model and the Random Effect Model (REM) (Widarjono, 2018). Three tests were conducted to determine the most appropriate panel data regression model: the Chow test, the Hausman test and the Lagrange Multiplier (LM) test (Napitupulu *et al.*, 2021; Widarjono, 2018). Based on the Chow test, Hausman test and LM test results, it was found that the most suitable regression model for this study is the REM. Therefore, the subsequent data analysis will use the REM for regression estimation.

4. Results and analysis

4.1 Deskriptif statistic

As shown in Table 3 Descriptive Analysis, the mean is 5.23E + 09, indicating that the non-halal income of the institutions in this sample is relatively large. There is a considerable variation between the minimum (360,556) and maximum (7.35E + 10) values, indicated by a high standard deviation (1.37E + 10). The means indicate inequality or high variation in non-halal income between institutions. The average value of Islamic funds is 9.69E + 09, higher than the median value of 1.61E + 09, indicating a potentially positively skewed data distribution. The variation of Islamic funds is also high, with a standard deviation of 1.50E + 10, showing inequality in the amount of funds managed by various institutions.

The average ROA is 0.764, while the median of 0.885 indicates the tendency of the ROA value to be below the average. The range of values from −8.09 (minimum) to 3.22 (maximum) indicates that some institutions have suffered significant losses while others have good profitability. A standard deviation of 1.698 indicates significant variation in profitability levels between institutions. The average CAR is 20,036, which exceeds the capital adequacy threshold typically required in the banking industry (generally 8%–12%). The CAR variation was also quite significant (standard deviation of 6.83), with the highest score of 45.3 and the lowest value of 12.34. This result significantly affects the institution's ability to bear credit risk. The average NPF of 3.97% shows that overall, the level of NPF is within an acceptable range, although some institutions have high scores of up to 22.04%. The NPF variation is also high (standard deviation of 3.68), which indicates the difference in financing quality between institutions. The average FDR is 84.08%, which shows that most of the funds raised are used for financing. A standard deviation of 9.31 indicates differences in liquidity management between institutions, ranging from 63.94–104.74. The average OER

Table 3. Deskriptif statistic

Statistic	Non-halal income (X1)	Islamic funds (X2)	Y1(ROA)	Y1(CAR)	Y1(NPF)	Y1(FDR)	Y1(OER)	Y2(HR)
Mean	5.23E + 09	9.69E + 09	0.764286	20.03643	3.973750	84.07821	91.46375	2.032143
Median	4.11E + 08	1.61E + 09	0.885000	18.89000	3.315000	84.28500	92.35000	2.000000
Max.	7.35E + 10	7.20E + 10	3.220000	45.30000	22.04000	104.7400	134.6300	3.400000
Min.	360556.0	10293412	−8.090000	12.34000	0.100000	63.94000	65.81000	1.200000
SD	1.37E + 10	1.50E + 10	1.698825	6.830187	3.677590	9.310997	10.50861	0.515613
Observations	56	56	56	56	56	56	56	56

Source: Data processing

was 91.46%, indicating low operational efficiency in most institutions, with most revenue being spent on operational expenses. The OER variation is also quite significant, with a standard deviation of 10.51 and a range from 65.81–134.63. This result shows a significant difference in operational efficiency between institutions. The average HR efficiency (HR) is 2.03, with a median value of 2. This result shows that most institutions have relatively consistent human resource efficiency. The standard deviation 0.515 shows a relatively low variation compared to other variables, indicating better HR efficiency consistency among the observed institutions.

4.2 Data analysis method

The data analysis method through the OLS method must meet the classical assumption tests to obtain the BLUE (Best Linear Unbiased Estimator) regression equation (Widarjono, 2018). Research using the panel data OLS method requires the model to be free from multicollinearity and heteroscedasticity issues. Therefore, a multicollinearity test using the correlation and heteroscedasticity tests was conducted (Napitupulu *et al.*, 2021; Widarjono, 2018).

Based on the correlation test results, it is known that the correlation coefficient values for the non-halal income variable and Islamic funds in each model are more significant than 0.85, indicating that all regression models in the study do not contain multicollinearity issues. Furthermore, based on the Glejser test results, the Prob. Values for the income and Islamic funds variables in each model are more significant than 0.05, indicating that all regression models in the study are homogenous or do not contain heteroscedasticity issues. Therefore, it can be concluded that all regression models in this study passed the classical assumption tests, allowing for panel data regression analysis and hypothesis testing.

After conducting the classical assumption tests, the next step is to perform panel data regression testing. Panel data regression analysis is used to combine time series data and cross-sectional data into one analysis (Napitupulu *et al.*, 2021; Widarjono, 2018) to examine the relationship between non-halal income (X1) and Islamic funds ($X2$) on financial performance (Y1) (measured through ROA, CAR, NPF, FDR and OER) and bank health (Y2). Based on the results of the panel data regression analysis using the REM, the following results were obtained:

Based on Table 4, several equations were derived, as follows:

$$Y1roa_{it} = 0.5761 - 5.09\mathrm{E} - 12X_{1it} + 2.22E - 11X_{2it} + e_{it} \tag{2}$$

Table 4. Results of panel data regression analysis

		Variable X	
		Coefficients	
Variable Y	Constant	Non-halal income (X1)	Islamic funds (X2)
Financial Performance (Y1)			
Y1roa	0.5761	−5.09E-12	2.22E-11
Y1car	19.9194	−4.16E-11	3.52E-11
Y1npf	4.1962	2.42E-11	−3.60E-11
Y1fdr	87.1746	−8.95E-11	−2.71E-10
Y1oer	93.3684	4.86E-11	−2.23E-10
Health Level (Y2)			
Y2	2.2292	−2.29E-12	−1.91E-11

Source: Data processing

$$Y1car_{it} = 19.9194 - 4.16E - 11X_{1it} + 3.52E - 11X_{2it} + e_{it} \quad (3)$$

$$Y1npf_{it} = 4.1962 + 2.42E - 11X_{1it} - 3.60E - 11X_{2it} + e_{it} \quad (4)$$

$$Y1fdr_{it} = 87.1746 - 8.95E - 11X_{1it} - 2.71E - 10X_{2it} + e_{it} \quad (5)$$

$$Y1oer_{it} = 93.3684 + 4.86E - 11X_{1it} - 2.23E - 10X_{2it} + e_{it} \quad (6)$$

$$Y2_{it} = 2.2292 - 2.29E - 12X_{1it} - 1.91E - 11X_{2it} + e_{it} \quad (7)$$

Based on the regression models above, it can be interpreted that when the non-halal income and Islamic funds variables equal zero (0), financial performance and health levels will increase by their respective constant values (refer to Table 3). When the non-halal income and Islamic funds increase by 1%, the financial performance and health level of the bank will increase by their coefficient values (refer to Table 3), with the direction of influence determined by whether the coefficients are positive or negative, assuming the non-halal income and Islamic funds remain constant.

To test the influence and contribution of non-halal income and Islamic funds on financial performance and health levels, hypothesis testing was conducted: the *t*-test was used to test the influence of independent variables on dependent variables individually, the F-test was used to test the influence of independent variables on dependent variables simultaneously, and the coefficient of determination (R-Square) was used to determine how much the independent variables contribute to influencing the dependent variables (Widarjono, 2018).

Based on the statistical tests using EViews, the values of Prob. Statistic *t*, Prob. Statistic F and R-square (R^2) obtained are presented below.

Based on the *t*-test results in Table 5, it is known that individually, non-halal income does not contribute to the financial performance or health level of Islamic banks in Indonesia, as indicated by the Prob. Statistic *t*-values for non-halal income variables are more significant than 0.05. On the other hand, Islamic funds individually influence financial performance (via FDR) with Prob. Statistic *t*-values of 0.0087 and health level of 0.0004, both of which are greater than 0.05.

The F-test results in Table 4 show that collectively, non-halal income and Islamic funds contribute to Islamic banks' financial performance (via FDR) and health level in Indonesia,

Table 5. Results of the t-test, F-test and R-Square (R^2) test

	Prob. statistic *t*			
Variable Y	Non-halal income (X1)	Islamic funds (X2)	Prob. statistic F	*R*-square (R^2)
Financial performance (*Y1*)				
Y1roa	0.8136	0.2751	0.4792	0.0457
Y1car	0.5667	0.6077	0.5817	0.0215
Y1npf	0.6082	0.4169	0.6874	0.0253
Y1fdr	0.4072	0.0087	0.0250	0.1299
Y1oer	0.7092	0.0726	0.1269	0.0749
Health level (*Y2*)				
Y2	0.6675	0.0004	0.0006	0.2431

Source: Data processing

evidenced by the Prob. Statistic F values in each regression model. Specifically, the Prob. The F value for financial performance (via FDR) is 0.0250, and for bank health level is 0.0006, both exceeding 0.05.

The R-Square (R^2) test results in Table 5 indicate that Islamic funds explain 12.99% of the variation in financial performance (via FDR) and 24.31% of the health level of Islamic banks. This model does not explain the remaining 87.01% and 75.69%, respectively.

4.2.1 Sensitivity analysis to test the robustness. This analysis was carried out by dividing the data by time as seen in Table 6. The reason for using 2014–2017 and 2017–2020 is because the data in these periods is sufficient to conduct testing (32 > 30).

After conducting a test by dividing the data by time period, it was found that, in the first period (2014–2017), one variable had an effect, while the others had no effect. Furthermore, the data used in the second period (2017–2020) shows that the results are consistent with previous tests.

4.3 Discussion

In contrast to previous studies that have independently examined non-halal income or sharia funds, which I will detail in the next section, this study uniquely analyzes the combined effects, revealing nuanced views on their contribution to bank performance and health. Previous studies have shown limited insight into the impact of non-halal income; however, our findings underscore the non-contribution role of non-halal income in the Sharia context, suggesting that compliance with Sharia principles remains paramount for bank integrity.

4.3.1 Contribution of non-halal income to financial performance. Based on the data analysis results, it is found that non-halal income does not contribute significantly to financial performance measured through five financial ratios: ROA, CAR, NPF, funds disbursement request (FDR) and OER. This conclusion is supported by the statistical *t*-test results where each variable has a *p*-value greater than 0.05, indicating no significant difference or contribution of non-halal income to financial performance as measured by these ratios.

This result suggests that fluctuations in non-halal income do not directly impact the financial performance of Islamic banks in Indonesia. Islamic banks operate within the principles of Islamic Sharia, which impose specific limitations and principles regarding fund sources and management (Jibril *et al.*, 2021). Non-halal income, derived from activities inconsistent with Sharia principles (Indrayani and Lilik Purwanti, 2023; Maryamah and Mubarakoh, 2023; Nurkhin *et al.*, 2018), ideally should not be integrated into the operations

Table 6. Test the robustness

	Period: 2014–2017 Prob. statistic *t*		Period: 2017–2020 Prob. statistic *t*	
Variable Y	Non-halal income (X1)	Islamic funds (X2)	Non-halal income (X1)	Islamic funds (X2)
Financial Performance (Y1)				
Y1roa	0.7397	0.4797	0.9848	0.2228
Y1car	0.4182	0.4904	0.5199	0.7121
Y1npf	0.7114	0.5251	0.9489	0.6496
Y1fdr	0.2925	0.0010	0.1544	0.0227
Y1oer	0.7944	0.6264	0.9540	0.1116
Health Level (Y2)				
Y2hr	0.9567	0.0005	0.5619	0.0478

Source: Data processing

of Islamic banks. Although non-halal income may be unavoidable (Indrayani and Lilik Purwanti, 2023), efforts should be made to minimize its integration into banking operations, following the view of Ibn Salah that non-halal income should not be combined with halal income.

Islamic banks adopt business practices that ensure compliance with ethical standards (Saputra and Suwardi, 2023) and financial regulations, thereby minimizing the impact of non-halal income on financial performance. Additionally, non-halal income constitutes only a tiny portion of total income for Islamic banks and is often channelled toward social activities rather than operational funds. Islamic legal scholars permit using non-halal income for general welfare purposes (Nurhadi, 2019), aligning with research indicating that non-halal income does not significantly influence financial performance (Mayasari, 2020).

4.3.2 Contribution of Islamic funds to financial performance. Based on the data analysis, it is found that Islamic funds contribute to financial performance through the FDR. However, Islamic funds do not contribute to financial performance when measured by the ROA, CAR, NPF and OER. This conclusion is evidenced by the t-statistic for the FDR ratio being less than 0.05, while the t-statistics for the other ratios are more significant than 0.05.

This result indicates that fluctuations in the value of Islamic funds do not significantly impact financial performance measured using ROA, CAR, NPF and OER ratios. Islamic funds, including zakat, infaq and sadaqah, are generally directed toward social and humanitarian purposes (Jibril *et al.*, 2021), meaning that increasing profitability is not the primary goal in managing these funds. Additionally, Islamic funds are not managed to seek high financial returns or profitability. Therefore, ROA, which measures profitability (Menne, 2016; Muhammad *et al.*, 2020) and return on investment, is not a relevant indicator and does not reflect the primary objectives of managing these funds.

Islamic funds do not have significant capital structure or obligations measured by CAR, typically related to capital adequacy for bearing Risk (Muhammad *et al.*, 2020; Soric *et al.*, 2017), making it less relevant in managing charitable funds. Islamic funds are usually allocated carefully and selectively (Grira and Labidi, 2021) to ensure they do not incur credit or default risk, thereby reducing the likelihood of NPF. Finally, Islamic funds focus more on social and humanitarian effectiveness (Ishandawi and Khalil, 2023) than operational efficiency, as reflected in the OER.

On the other hand, the FDR ratio measures how effectively a financial institution or fund manages and disburses its funds for various activities or projects (Muhammad *et al.*, 2020). The specific goal of Islamic funds is usually allocated for activities with social or humanitarian impact. The management of charitable funds, including zakat, infaq and sadaqah, must be conducted with good faith and transparency. Efficient and effective management can enhance the positive contribution to financial performance, particularly from the perspective of achieving social and humanitarian goals, thereby positively impacting the reputation and performance of Islamic banks. This result aligns with research by (Ali *et al.*, 2023; Auliyah and Basuki, 2021; Rosman *et al.*, 2019; Sulaeman *et al.*, 2022), which states that Islamic funds contribute to financial performance.

4.3.3 Contribution of non-halal income to the health of Islamic banks. Based on the data analysis, it is found that non-halal income does not contribute to the health of Islamic banks in Indonesia. This conclusion is evidenced by the t-statistic for non-halal income being more significant than 0.05, indicating that fluctuations in non-halal income do not contribute to the health of Islamic banks.

Non-halal income is contrary to Islamic Sharia principles, which underpin these banks' operations (Jibril *et al.*, 2021). The presence of non-halal income can introduce several risks. Financial institutions perceived as non-compliant with Sharia principles may experience a decline in public trust (Nawangsari *et al.*, 2022), which can harm the bank's health regarding reputation. Adherence to Sharia principles is crucial for Islamic banks (Saputra and Suwardi, 2023), and violations can negatively impact the bank's reputation and financial health (Ali *et al.*, 2023). These risks are inconsistent with the values of Islamic finance, potentially damaging the health and integrity of Islamic banks. Therefore, Islamic banks tend to avoid income derived from activities not aligned with Sharia principles to ensure compliance and sustainability.

4.3.4 Contribution of Islamic funds to the health of Islamic banks. Based on the data analysis, it is found that Islamic funds contribute to the health of Islamic banks in Indonesia. This conclusion is evidenced by the t-statistic for Islamic funds being less than 0.05, indicating that fluctuations in Islamic funds contribute to the health of Islamic banks.

Islamic funds, managed following Sharia principles, help Islamic banks secure funding sources that align with Islamic values (Auliyah and Basuki, 2021; Ishandawi and Khalil, 2023). These funds can support the bank's risk profile and aid in creating a funding structure consistent with Sharia principles. The presence of these funds can enhance the bank's capital strength and help maintain liquidity balance, which is crucial for financial health (Rizal and Humaidi, 2021). Engagement in charitable activities allows Islamic banks to diversify their funding sources, strengthening their financial position and reducing the risk of dependency on a single funding source. Although Islamic funds contribute modestly, they positively impact the health of Islamic banks.

5. Conclusion and recommendation

This study found that Islamic funds significantly contribute to Islamic banks' financial performance and health, as evidenced by their positive impact on the FDR and overall health indicators. In contrast, non-halal income showed no significant contribution to these measures, reinforcing the importance of adhering to Sharia principles in banking operations.

Theoretically, this research enhances the literature on Islamic finance by providing empirical evidence of the distinct roles that non-halal income and Islamic funds play within Sharia-compliant financial institutions. Practically, these findings suggest that Islamic banks should prioritize managing Islamic funds effectively to enhance financial performance and health. At the same time, regulatory bodies may consider policies that discourage the reliance on non-halal income to strengthen adherence to Sharia principles.

Its sample size and geographical scope limit this study, including only eight Islamic banks in Indonesia from 2014 to 2021. Future research could expand the sample size, include a broader timeframe, or conduct comparative studies across different countries to gain more comprehensive insights into the role of non-halal income and Islamic funds in Islamic banking.

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