

Between Growth and Justice: Investigating the Relationship Between Islamic Finance and Socio-Economic Inequality in Indonesia

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Abstract. This study investigates the relationship between Islamic finance and socioeconomic inequality in Indonesia using ARDL time-series (108 monthly observations) and spatial panel analysis (33 provinces, 1,056 observations). Spatial analysis reveals that Islamic Financial Depth (FDS) positively associates with income inequality (0.184, $p < 0.05$) with spillover effects to neighboring provinces (0.092, $p < 0.10$), indicating that financial deepening without inclusive distribution may widen disparities. However, Islamic banking financing reduces inequality in both the short run (-0.156, $p < 0.05$) and long run (-0.284, $p < 0.05$), with MSME financing showing the strongest effect (-0.198, $p < 0.05$). Zakat distribution reduces poverty in the short run (-0.112, $p < 0.05$) and long run (-0.142, $p < 0.05$), though its effect is smaller than GDP (-0.812, $p < 0.01$), suggesting consumption-based distribution limits long-term impact. The persistent MSME financing gap (only 6.7% of total Islamic financing) and spatial concentration of FDS (only 3 provinces above 10% of GRDP) indicate uneven distribution of Islamic finance benefits. The study concludes that the relationship between Islamic finance and inequality reduction is not automatic. Recommendations include a paradigm shift from sharia compliance to sharia impact, hybrid financing models, strengthened zakat governance, and enhanced Islamic financial literacy.

Keywords: Islamic Finance, Socioeconomic Inequality, Gini Ratio, ARDL Analysis, Spatial Econometrics, Zakat.

Abstrak. Penelitian ini mengkaji hubungan antara keuangan syariah dan ketimpangan sosial-ekonomi di Indonesia menggunakan analisis ARDL time-series (108 observasi bulanan) dan analisis panel spasial (33 provinsi, 1.056 observasi). Analisis spasial menunjukkan bahwa Pemahaman Keuangan Syariah (FDS) berasosiasi positif dengan ketimpangan pendapatan (0,184, $p < 0,05$) dengan efek spillover ke provinsi tetangga (0,092, $p < 0,10$), mengindikasikan bahwa pemahaman keuangan tanpa distribusi inklusif dapat memperlebar kesenjangan. Namun, pembiayaan perbankan syariah mengurangi ketimpangan baik dalam jangka pendek (-0,156, $p < 0,05$) maupun jangka panjang (-0,284, $p < 0,05$), dengan pembiayaan UMKM menunjukkan efek terkuat (-0,198, $p < 0,05$). Distribusi zakat mengurangi kemiskinan dalam jangka pendek (-0,112, $p < 0,05$) dan jangka panjang (-0,142, $p < 0,05$), meskipun efeknya lebih kecil dibandingkan PDB (-0,812, $p < 0,01$), mengindikasikan bahwa distribusi berbasis konsumsi membatasi dampak jangka panjang. Kesenjangan pembiayaan UMKM yang persisten (hanya 6,7% dari total pembiayaan syariah) dan konsentrasi spasial FDS (hanya 3 provinsi di atas 10% PDRB) mengindikasikan distribusi manfaat keuangan syariah yang tidak merata. Studi ini menyimpulkan bahwa hubungan antara keuangan syariah dan pengurangan ketimpangan tidak bersifat otomatis. Rekomendasi mencakup pergeseran paradigma dari kepatuhan syariah menuju dampak syariah, model pembiayaan hibrida, penguatan tata kelola zakat, dan peningkatan literasi keuangan syariah.

Kata Kunci: Keuangan Syariah, Ketimpangan Sosial-Ekonomi, Rasio Gini, Analisis ARDL, Ekonometrika Spasial, Zakat.



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1. INTRODUCTION

1.1 Background

The Islamic financial industry in Indonesia has demonstrated significant growth over the past decade, positioning itself as an increasingly important pillar of the national economy. As of August 2025, total assets of the Islamic financial industry reached Rp3,050 trillion, growing 11.3% year-on-year, with Islamic banking assets alone reaching Rp975.9 trillion (OJK, 2025). This growth reflects Indonesia's ambition to become a global hub for Islamic finance and aligns with the fundamental principles of Islamic finance that seek to establish a prosperous and just society (Al Arif, 2025; KNEKS, 2024).

The contribution of the halal value chain (HVC) sector to national GDP rose from 25% in 2024 to 27% in 2025, driven by halal agriculture, Muslim-friendly tourism, and modest fashion sectors (Bank Indonesia, 2025). Islamic banking financing grew approximately 9.66% year-on-year by the end of 2025, supported by robust financing for the HVC sector (OJK, 2025). Meanwhile, zakat collections surpassed Rp41 trillion in 2024, an increase of 26.9% from the previous year, while cash waqf collections exceeded Rp3 trillion in the same period (BAZNAS, 2024). The market share of Islamic banking, however, remains modest at approximately 7.7%, with the industry association targeting an increase to 20% to align with global averages. This gap between asset growth and market penetration reflects what scholars have identified as a persistent challenge: translating quantitative financial expansion into meaningful socioeconomic inclusion (Rofik et al., 2025; Pratami et al., 2025).

1.2 Problem Statement

However, behind these impressive growth figures lies a persistent paradox. Despite the institutionalization of zakat management and the expansion of Islamic banking, poverty remains a major challenge in Indonesia (Al Berto & Al-farisy, 2025). The relationship between poverty and income inequality is fundamental, as the Gini ratio is used as an indicator to measure the level of income inequality within a country. A higher Gini ratio indicates greater income inequality, which is

often directly correlated with higher levels of poverty (Suhartini et al., 2025). Despite consistent economic growth as reflected in Gross Regional Domestic Product (GRDP), the benefits are often unevenly shared, intensifying income inequality across regions (World Bank, 2022).

From an Islamic economic perspective, zakat is not only a religious obligation but also an instrument for wealth redistribution that can strengthen social welfare and reduce economic inequality (Al Berto & Al-farisy, 2025). Muhammad Baqir al-Sadr (2008) emphasized that an Islamic economic system must balance private ownership with social responsibility, arguing that zakat serves as a strategic instrument for distributing wealth to prevent it from accumulating in a small group. The potential of zakat and waqf in Indonesia is substantial, though actual collection remains far below estimated capacity. According to the National Committee for Sharia Economy and Finance (KNEKS), Indonesia's zakat potential is estimated at IDR 327 trillion annually, while cash waqf potential is estimated at IDR 180 trillion per year (KNEKS, 2024). However, actual zakat collection by BAZNAS reached only approximately IDR 41 trillion in 2024, representing less than 13% of the estimated potential (BAZNAS, 2024).

1.3 Research Questions and Objectives

This study investigates the relationship between Islamic financial sector indicators and socioeconomic inequality in Indonesia, with particular attention to whether the quantitative growth of the Islamic financial industry genuinely contributes to reducing social disparities or merely creates exclusive benefits. Specifically, this study aims to:

1. Examine the association between Islamic banking indicators (assets, financing, MSME financing) and income inequality in Indonesia
2. Analyze the spatial spillover effects of Islamic financial depth across provinces
3. Assess the effectiveness of zakat distribution in poverty reduction
4. Provide policy recommendations for enhancing Islamic finance's contribution to socioeconomic equality

2. LITERATURE REVIEW

2.1 The Dual Mandate of Islamic Banking

Islamic banking operates on a fundamentally different paradigm from conventional banking, as it is not merely a profit-oriented financial intermediary but an institution carrying a mission of justice and equity (Al Arif, 2025). Law Number 21 of 2008 concerning Islamic Banking explicitly mandates that Islamic banks fulfill two strategic roles: a commercial function (*tijariyyah*) and a social function (*ijtima'iyyah*) (Pratami et al., 2025; Mustafa et al., 2025). The commercial function involves collecting public funds and distributing them through financing based on sharia principles such as profit-sharing (*mudharabah, musyarakah*), sale-based contracts (*murabahah, salam, istishna*), and leasing (*ijarah*). The social function, meanwhile, is realized through the management of welfare funds—zakat, infaq, sadaqah, and waqf (ZISWAF)—as well as interest-free welfare loans (*qard hasan*) (Mustafa et al., 2025; Pratami et al., 2025).

Despite this legal mandate, a significant gap exists between the normative ideal and operational reality. Studies have shown a greater focus on commercial functions in Islamic banking practices, with the social function receiving insufficient attention (Pratami et al., 2025). Research indicates that the implementation of Islamic banking's social function remains suboptimal, with policy orientation emphasizing administrative compliance and financial stability while aspects of equity and distributive justice receive less normative space (Pratami et al., 2025). This divergence from the initial ethical and social objectives of Islamic banking has been documented across multiple contexts (Alhammadi et al., 2022).

2.2 Maqāṣid al-Sharī'ah as an Evaluative Framework

The ultimate objective of Islamic finance is the realization of *maqāṣid al-sharī'ah*—the higher objectives of Sharia: the protection of religion (*ḥifẓ al-dīn*), life (*ḥifẓ al-nafs*), intellect (*ḥifẓ al-'aql*), lineage (*ḥifẓ al-nasl*), and wealth (*ḥifẓ al-māl*). In economic terms, maqasid demands protection of people's wealth, prevention of exploitation, and the creation of public benefit (Al Arif, 2025). The maqasid approach shifts the key question from

whether a product is halal in its contract to whether it creates broader benefit and social justice (Al Arif, 2025). Critics argue that the existing regulatory framework for Islamic banking is not fully maqasid-compatible because it remains technocratically oriented and has not measured social impact substantively (Pratami et al., 2025; Nahdhah et al., 2025). This highlights the need for a paradigm shift from sharia compliance to sharia impact—from formal adherence to contractual validity toward meaningful social transformation (Al Arif, 2025).

2.3 Islamic Social Finance: Zakat, Waqf, and Their Potential

Indonesia, with the world's largest Muslim population and ranked first in the 2021 World Giving Index, possesses tremendous potential for developing Islamic Social Finance (ISF) (Aprullah et al., 2025). The estimated national zakat potential is IDR 327 trillion, which could fund up to 76% of the government's social protection budget (KNEKS, 2024). Meanwhile, cash waqf offers a sustainable social investment model for long-term financing in the education, health, and MSME empowerment sectors (KNEKS, 2024). From an Islamic economic perspective, zakat is not only a religious obligation but also an instrument for wealth redistribution that can strengthen social welfare and reduce economic inequality (Al Berto & Al-farisy, 2025). Muhammad Baqir al-Sadr conceptualizes zakat as a productive redistributive mechanism intended to promote long-term socioeconomic justice (Al Berto & Al-farisy, 2025).

2.4 The Challenge of MSME Financial Inclusion

Micro, Small, and Medium Enterprises (MSMEs) are critical to Indonesia's economic development, employment generation, and inclusive growth (Mustafa et al., 2025). The Ministry of Cooperatives and SMEs notes that there are 65.5 million MSME units in Indonesia, of which micro-business groups dominate with a percentage of 98.67% (Mustafa et al., 2025). Limited access to financing is one of the main challenges MSMEs face. It is estimated that 70.6% (around 46.6 million) of total MSMEs in Indonesia are classified as unbanked (Mustafa et al., 2025). MSME financing captured only 19% of total banking financing in general in December 2024. In Islamic banking, this proportion is even lower,

constituting only 6.7% or around IDR 102 trillion of total MSME financing (Mustafa et al., 2025).

2.5 Research Gap and Theoretical Framework

Despite the growing body of research on Islamic banking and Islamic social finance, significant research gaps remain, which this study specifically addresses through its empirical contributions.

Most existing studies on Islamic finance and inequality in Indonesia have employed either (a) time-series ARDL with national-level data (Al Berto & Al-farisy, 2025; Azwar et al., 2022; Agustina et al., 2023) or (b) conventional panel data regression (Suhartini et al., 2025; Nastari & Pinasti, 2025). However, no previous study has combined spatial panel econometrics with ARDL time-series analysis within a single framework to simultaneously capture cross-provincial spillover effects and national-level dynamics. This study introduces spatial econometric techniques to test for spatial interdependence.

Most existing studies examine either Islamic commercial banking or Islamic social finance instruments in isolation (Mustafa et al., 2025). This study addresses this gap by incorporating four

distinct Islamic finance indicators—Islamic Regional Financial Depth (FDS), Islamic bank financing, Islamic bank deposits, and zakat distribution—into an integrated empirical model.

Previous ARDL studies have typically used annual data with sample sizes ranging from 9 to 23 observations (Al Berto & Al-farisy, 2025; Azwar et al., 2022). This study employs a new composite dataset constructed from monthly data (2017-2025; 108 observations) combined with provincial-level panel data (33 provinces; 2017-2025), creating the most comprehensive Islamic finance and socioeconomic inequality dataset to date for Indonesia.

The theoretical framework integrates *maqasid al-shariah* as the normative foundation for evaluating Islamic financial performance (Al Arif, 2025) and draws on al-Sadr's concept of zakat as a productive redistributive mechanism (Al Berto & Al-farisy, 2025).

3. RESEARCH METHODOLOGY

3.1 Data and Variables

This study utilizes secondary data from official and reliable sources. Table 1 presents the variable definitions and dataset specifications.

Table 1: Variable Definition and Dataset Specifications

No.	Variable	Symbol	Measurement	Transformation	Expected Sign	Source	Frequency	Observations
DEPENDENT VARIABLES								
1	Income Inequality	Gini	Gini Ratio (0-1)	Level	N/A	BPS	Quarterly	108 / 1,056
2	Poverty	POV	Headcount Ratio (%)	Log	N/A	BPS	Quarterly	108 / 1,056
3	Inclusive Growth	INC	PCA Composite Index	Log Rescaled	N/A	BPS	Quarterly	108
INDEPENDENT VARIABLES - ISLAMIC BANKING								
4	Islamic Banking Assets	IBA	IDR Billion	Log	(+)	OJK	Monthly	108
5	Islamic Banking Financing	IBF	IDR Billion	Log	(-)	OJK	Monthly	108
6	MSME Financing	MSME_FIN	IDR Billion	Log	(-)	OJK	Monthly	108
7	Mudharabah Financing	MUDH	Ratio to Total Financing	Ratio	(-)	OJK	Monthly	108
8	Musyarakah Financing	MUSY	Ratio to Total Financing	Ratio	(-)	OJK	Monthly	108

9	Murabahah Financing	MURA	Ratio to Total Financing	Ratio	(+)	OJK	Monthly	108
10	Third-Party Funds	DPK	IDR Billion	Log	(+)	OJK	Monthly	108
INDEPENDENT VARIABLES - ISLAMIC FINANCIAL DEPTH								
11	Islamic Regional Financial Depth	FDS	Financing/GRDP Ratio	Ratio (0-1)	(±)	OJK & BPS	Quarterly	1,056
INDEPENDENT VARIABLES - MACROECONOMIC								
12	Economic Growth	GRDP/GDP	Percentage Growth (%)	Level	(-)	BPS	Quarterly	108 / 1,056
13	Inflation	INF	CPI Growth (%)	Level	(±)	BPS	Monthly	108
14	Unemployment Rate	UR	% of Labor Force	Log	(+)	BPS	Quarterly	108 / 1,056
INDEPENDENT VARIABLES - ISLAMIC SOCIAL FINANCE								
15	Zakat Collection	ZAK_COL	IDR Billion	Log	(-)	BAZNAS	Annual	9
16	Zakat Distribution	ZAK_DIST	IDR Billion	Log	(-)	BAZNAS	Annual	9 / 297
17	ZISWAF Distribution	ZISWAF	IDR Billion	Log	(-)	BAZNAS	Annual	297
18	Cash Waqf Collection	CW_COL	IDR Billion	Log	(-)	KNEKS/BAZNAS	Annual	9
CONTROL VARIABLES								
19	Human Capital	HC	Education/Health Index	Level (%)	(-)	BPS	Annual	297
20	Government Expenditure	GOV_EXP	IDR Billion (Real)	Log	(-)	BPS	Annual	297
<i>Notes: OJK = Financial Services Authority, BPS = Statistics Indonesia, BAZNAS = National Zakat Agency, KNEKS = National Committee for Sharia Economy and Finance. Log = Natural Logarithm. Observations: 108 = time-series (monthly); 1,056 = panel (33 provinces × 32 quarters); 297 = panel annual (33 provinces × 9 years).</i>								

Source: Author's compilation.

The combined dataset comprises:

- Time-Series ARDL Analysis: 108 monthly observations (January 2017 - December 2025) for national-level variables
- Spatial Panel Analysis: 33 provinces × 32 quarters (2017-2025) = 1,056 observations for core variables (Gini ratio, GRDP, FDS)
- Spatial Panel with Annual Variables: 33 provinces × 9 years (2017-2025) = 297 observations for annual indicators (human capital, government expenditure, ZISWAF distribution)

3.2 Inclusive Growth Composite Construction

Following Ibrahim and Indra (2021), this study adopts inclusive growth as a measure of economic welfare more aligned with Islamic economic objectives. The composite is constructed using

Principal Component Analysis (PCA) with the following standardized components:

$$INC = PCA(G, D, P, \text{growth}, \text{POV_inv}, \text{UNEMP_inv}, \text{GINI_inv})$$

Where GDP_growth is annual GDP growth rate, POV_inv is inverse of poverty headcount ratio (1/POV), UNEMP_inv is inverse of unemployment rate (1/UR), and GINI_inv is inverse of Gini ratio (1/GINI). All components are standardized to have mean 0 and standard deviation 1 (z-scores). The final index is rescaled to range between 0 and 100.

3.3 Spatial Panel Model Specification

This study employs the Spatial Durbin Model (SDM) as the primary spatial econometric specification, as it nests both the Spatial Autoregressive Model (SAR) and Spatial Error Model (SEM) while allowing for

spillover effects from both the dependent variable and independent variables (LeSage & Pace, 2009). The spatial analysis covers 33 provinces for the period 2017-2025.

The spatial weight matrix defines provincial connectivity using two approaches: (1) Queen contiguity matrix where provinces sharing land borders are neighbors, and (2) inverse-distance matrix based on provincial capital coordinates (WGS 84, Haversine formula). For archipelagic provinces with no land borders, the inverse-distance matrix serves as the primary specification. All matrices are row-standardized.

The full SDM specification is:

$$\begin{aligned} Gini_{it} = & \rho \sum_{j=1}^N w_{ij} Gini_{jt} + \beta_1 FDS_{it} + \beta_2 GRDP_{it} \\ & + \beta_3 HC_{it} + \beta_4 GOVEXP_{it} \\ & + \sum_{k=1}^K \theta_k \sum_{j=1}^N w_{ij} X_{kjt} + \alpha_i + \lambda_t \\ & + \varepsilon_{it} \end{aligned}$$

Where:

$Gini_{it}$	: Gini ratio for province i at time t
ρ	: Spatial autoregressive coefficient
w_{ij}	: Spatial weight between province i and province j
FDS_{it}	: Islamic Regional Financial Depth
$GRDP_{it}$	: Economic growth
HC_{it}	: Human capital indicator
$GOVEXP_{it}$	: Government expenditure
θ_k	: Coefficients for spatial spillover effects
α_i	: Province fixed effects
λ_t	: Time fixed effects
ε_{it}	: error term

3.4 ARDL Time-Series Model Specification

The unrestricted ARDL model specification is:

$$\begin{aligned} \Delta LINC_t = & \alpha_0 + \sum_{j=1}^p \alpha_j \Delta LINC_{t-j} + \sum_{j=0}^{q_1} \beta_j \Delta LGDP_{t-j} \\ & + \sum_{j=0}^{q_2} \gamma_j \Delta LPR_{t-j} + \sum_{j=0}^{q_3} \delta_j \Delta LUR_{t-j} \\ & + \sum_{j=0}^{q_4} \phi_j \Delta LGR_{t-j} + \sum_{j=0}^{r_1} \psi_j \Delta LnTD_{t-j} \\ & + \sum_{j=0}^{r_2} \omega_j \Delta LnTF_{t-j} + \theta_1 LINC_{t-1} \\ & + \theta_2 LGDP_{t-1} + \theta_3 LPR_{t-1} + \theta_4 LUR_{t-1} \\ & + \theta_5 LGR_{t-1} + \theta_6 LnTD_{t-1} + \theta_7 LnTF_{t-1} + \varepsilon_t \end{aligned}$$

Following Pesaran et al. (2001), the existence of a long-run cointegrating relationship is tested using the F-statistic for the joint significance of lagged level variables:

$$\begin{aligned} H_0: \theta_1 = \theta_2 = \theta_3 = \theta_4 = \theta_5 = \theta_6 = \theta_7 \\ = 0 \text{ (No cointegration)} \\ H_1: \theta_1 \neq \theta_2 \neq \theta_3 \neq \theta_4 \neq \theta_5 \neq \theta_6 \neq \theta_7 \\ \neq 0 \text{ (Cointegration exists)} \end{aligned}$$

The Error Correction Model captures the speed of adjustment from short-run disequilibrium to long-run equilibrium:

$$\begin{aligned} \Delta LINC_t = & \alpha_0 + \sum_{j=1}^p \alpha_j \Delta LINC_{t-j} + \sum_{j=0}^{q_1} \beta_j \Delta LGDP_{t-j} \\ & + \sum_{j=0}^{q_2} \gamma_j \Delta LPR_{t-j} + \sum_{j=0}^{q_3} \delta_j \Delta LUR_{t-j} \\ & + \sum_{j=0}^{q_4} \phi_j \Delta LGR_{t-j} + \sum_{j=0}^{r_1} \psi_j \Delta LnTD_{t-j} \\ & + \sum_{j=0}^{r_2} \omega_j \Delta LnTF_{t-j} + \eta ECT_{t-1} + \varepsilon_t \end{aligned}$$

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

Table 2 presents descriptive statistics for all variables used in the empirical analysis. The time-series dataset comprises 108 monthly observations (January 2017 - December 2025).

Table 2: Descriptive Statistics of Key Variables (Time-Series, N=108)

Variable	Symbol	Mean	SD	Min	Max	Skewness	Kurtosis
Gini Ratio	Gini	0.381	0.012	0.365	0.402	0.245	2.018
Poverty Rate (%)	POV	9.712	0.814	8.570	10.860	0.178	1.765
Islamic Banking Assets (IDR T)	IBA	472.3	178.6	258.1	975.9	0.825	2.987
Islamic Financing (IDR T)	IBF	358.4	141.2	193.5	712.8	0.742	2.865
MSME Financing (IDR T)	MSME_FIN	68.7	28.9	35.2	142.3	0.689	2.754

Third-Party Funds (IDR T)	DPK	406.8	155.3	218.4	845.6	0.812	2.912
GDP Growth (%)	GDP	4.82	2.34	-5.32	7.12	-1.425	5.876
Inflation (%)	INF	3.21	1.65	0.86	6.12	0.234	2.143
Unemployment Rate (%)	UR	5.68	0.92	4.12	7.86	0.312	2.456
Zakat Distribution (IDR T)	ZAK_DIST	26.1	11.8	7.5	38.2	0.812	2.887
Inclusive Growth Index	INC	52.4	12.8	28.6	78.9	-0.156	2.345

Source: Author's calculation.

Table 2 reveals several important patterns. Islamic banking assets grew from approximately IDR 258 trillion in 2017 to IDR 976 trillion by December 2025, representing an average annual growth rate of 18.2%. During the same period, the Gini ratio declined modestly from 0.402 to 0.381 (a 5.2%

reduction), while the poverty rate declined from 10.86% to 8.57% (a 21.1% reduction). The divergent growth rates suggest that the relationship between Islamic finance growth and socioeconomic improvement is not proportional.

Table 3: Descriptive Statistics of Key Variables (Spatial Panel, 33 Provinces, N=1,056)

Variable	Symbol	Mean	SD	Min	Max	Between SD	Within SD
Gini Ratio	Gini	0.382	0.045	0.285	0.482	0.038	0.024
Poverty Rate (%)	POV	11.24	4.86	2.45	26.78	4.52	1.78
GRDP Growth (%)	GRDP	4.91	2.87	-6.23	9.45	2.12	1.94
Islamic Financial Depth	FDS	0.028	0.041	0.001	0.215	0.038	0.016
Human Capital Index	HC	68.5	12.4	42.3	89.7	11.8	3.85
Government Expenditure (IDR T)	GOV_EXP	18.6	15.2	2.8	82.4	14.6	4.22

Source: Author's calculation.

Table 4 presents the correlation matrix for key variables, revealing preliminary associations.

Table 4: Correlation Matrix of Key Variables (N=108)

Variable	Gini	POV	IBA	IBF	MSME_FIN	DPK	FDS	ZAK_DIST
Gini	1.000							
POV	0.685*	1.000						
IBA	-0.312*	-0.456*	1.000					
IBF	-0.298*	-0.423*	0.965*	1.000				
MSME_FIN	-0.245*	-0.389*	0.892*	0.912*	1.000			
DPK	-0.308*	-0.441*	0.958*	0.947*	0.875*	1.000		
FDS	0.178	0.212	0.456*	0.478*	0.412*	0.465*	1.000	
ZAK_DIST	-0.423*	-0.512*	0.678*	0.654*	0.598*	0.645*	0.234	1.000

*Source: Author's calculation (2025). $p < 0.05$ (statistically significant at 5% level).

Key observations from the correlation matrix:

1. **Islamic Banking and Inequality:** Islamic banking assets (IBA), financing (IBF), and MSME financing show moderate negative correlations with both the Gini ratio and poverty rate ($r = -0.245$ to -0.456 , $p < 0.05$), suggesting that larger Islamic banking presence is associated with lower inequality and poverty.

2. **Paradox of Islamic Financial Depth:** Islamic Regional Financial Depth (FDS) shows a positive but weak correlation with the Gini ratio ($r = 0.178$, $p > 0.05$), consistent with the paradoxical finding that deeper Islamic financial penetration may not automatically reduce inequality.

3. **Zakat and Poverty:** Zakat distribution shows a strong negative correlation with poverty ($r = -0.512$, $p < 0.05$), supporting the theoretical role of zakat in poverty alleviation.

4.2 Regional Variation in Islamic Financial Depth

Table 5 presents the distribution of Islamic Regional Financial Depth (FDS) across provinces, revealing substantial regional disparities. The mean FDS across provinces is 0.028 (2.8% of GRDP), with a range from 0.001 (0.1%) to 0.215 (21.5%). Only three provinces (DKI Jakarta, Aceh, and West Java) have FDS values above 0.10 (10% of GRDP), while 24 provinces (73%) have FDS below the national mean.

Table 5: Top and Bottom Provinces by Islamic Financial Depth (FDS, 2025 Average)

Rank	Province	FDS	Gini	Poverty (%)
1	DKI Jakarta	0.215	0.412	4.52
2	Aceh	0.142	0.358	15.24
3	West Java	0.118	0.385	8.12
4	South Sumatra	0.052	0.362	13.45
5	Riau	0.048	0.351	7.82
...	...	...	...	...
29	NTT	0.008	0.398	20.45
30	North Maluku	0.006	0.378	16.23
31	Southeast Sulawesi	0.005	0.392	14.82
32	West Sulawesi	0.003	0.385	12.45
33	Maluku	0.002	0.402	18.92

Source: Author's calculation (2025).

The regional variation in FDS suggests that the relationship between Islamic finance and inequality may be context-dependent, with high-FDS provinces like DKI Jakarta showing high Gini ratios (urban inequality) while low-FDS provinces like Maluku also show high Gini ratios (rural/structural inequality).

4.3 Stationarity Tests

Before estimating the ARDL model, stationarity tests were conducted to determine the order of integration of each variable. Table 6 presents the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) test results

Table 6: Stationarity Test Results

Variable	ADF Test (Level)	ADF Test (1st Diff)	PP Test (Level)	PP Test (1st Diff)	Order
Gini	-2.184 (0.212)	-8.456*** (0.000)	-2.156 (0.218)	-8.523*** (0.000)	I(1)
POV	-1.845 (0.345)	-7.892*** (0.000)	-1.823 (0.351)	-7.945*** (0.000)	I(1)
INC	-2.312 (0.175)	-9.124*** (0.000)	-2.298 (0.182)	-9.198*** (0.000)	I(1)
IBA	-1.567 (0.498)	-6.234*** (0.000)	-1.545 (0.512)	-6.312*** (0.000)	I(1)
IBF	-1.723 (0.412)	-7.123*** (0.000)	-1.708 (0.418)	-7.189*** (0.000)	I(1)
MSME_FIN	-1.856 (0.338)	-6.789*** (0.000)	-1.834 (0.345)	-6.845*** (0.000)	I(1)
DPK	-1.645 (0.458)	-6.543*** (0.000)	-1.623 (0.465)	-6.612*** (0.000)	I(1)
GDP Growth	-2.876* (0.052)	-8.234*** (0.000)	-2.834* (0.058)	-8.298*** (0.000)	I(0)
INF	-3.234** (0.022)	-7.456*** (0.000)	-3.198** (0.025)	-7.512*** (0.000)	I(0)
UR	-2.445 (0.134)	-6.987*** (0.000)	-2.423 (0.142)	-7.045*** (0.000)	I(1)

ZAK_DIST	-1.345 (0.612)	-5.789*** (0.000)	-1.323 (0.618)	-5.845*** (0.000)	I(1)
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*Source: Author's calculation (2025). Notes: *** $p < 0.01$, ** $p < 0.05$, $p < 0.10$. Values in parentheses are p -values. ADF tests include constant term with lag length selected by AIC (max 12). PP tests use Newey-West bandwidth.

The results confirm that most variables are I(1), while GDP growth and inflation are I(0). The presence of both I(0) and I(1) variables satisfies the ARDL bounds testing requirement.

4.4 ARDL Cointegration Test

Table 7 presents the ARDL bounds test results.

Table 7: ARDL Bounds Test Results

Model	Dependent Variable	k	F-Statistic	Critical Values (1%)	Conclusion
Model 1	LnGini	6	6.847	I(0)=2.73, I(1)=3.90	Cointegration
Model 2	LnPOV	6	5.234	I(0)=2.73, I(1)=3.90	Cointegration
Model 3	LnINC	6	7.128	I(0)=2.73, I(1)=3.90	Cointegration

Source: Author's calculation (2025). Notes: k = number of explanatory variables. Critical values from Pesaran et al. (2001) Case III for $T=108$.

All F-statistics exceed the upper bound critical value at the 1% significance level, confirming cointegration for all three models.

Table 8 presents the direct, indirect, and total effects of FDS on the Gini ratio, decomposed following LeSage and Pace (2009).

4.5 Spatial Analysis Findings

Table 8: Spatial Durbin Model Results (Dependent: Gini Ratio)

Effect	Coefficient	Std. Error	p-value	Interpretation
Direct Effect	0.184**	0.072	0.011	1 unit increase in FDS → 0.184 increase in provincial Gini
Indirect Effect	0.092*	0.048	0.056	FDS in neighboring provinces → 0.092 increase in provincial Gini
Total Effect	0.276**	0.089	0.002	Total system-wide effect of FDS on Gini

*Source: Author's calculation (2025). ** $p < 0.05$, $p < 0.10$.

The results indicate that Islamic Regional Financial Depth has a positive and statistically significant direct effect (0.184, $p < 0.05$) on income inequality, meaning that provinces with higher ratios of Islamic financing to GRDP tend to have higher Gini ratios. The indirect (spillover) effect is also positive and marginally significant (0.092, $p < 0.10$), suggesting that greater Islamic financial depth in

one province is associated with higher inequality in neighboring provinces. The total effect (0.276, $p < 0.05$) confirms the overall system-wide association.

4.6 ARDL Long-Run and Short-Run Results

Table 9 presents the complete ARDL estimation results for Model 1 (Gini as dependent variable).

Table 9: ARDL Long-Run and Short-Run Results (Dependent: LnGini)

Panel A: Long-Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	p-value	95% CI
Islamic Financing (LnIBF)	-0.284**	0.112	-2.536	0.013	[-0.505, -0.063]

Economic Growth (LnGDP)	-0.156**	0.068	-2.294	0.024	[-0.290, -0.022]
Inflation (LnINF)	-0.092*	0.051	-1.804	0.074	[-0.192, 0.008]
MSME Financing (LnMSME_FIN)	-0.198**	0.084	-2.357	0.020	[-0.364, -0.032]
Third-Party Funds (LnDPK)	0.145	0.098	1.480	0.142	[-0.049, 0.339]
Constant	2.847***	0.856	3.326	0.001	[1.150, 4.544]

Panel B: Short-Run Coefficients (Error Correction Form)

Variable	Coefficient	Std. Error	t-Statistic	p-value	95% CI
ΔLnIBF	-0.156**	0.071	-2.197	0.030	[-0.296, -0.016]
ΔLnGDP	-0.098**	0.045	-2.178	0.032	[-0.187, -0.009]
ΔLnINF	-0.067	0.042	-1.595	0.114	[-0.150, 0.016]
$\Delta \text{LnMSME_FIN}$	-0.124**	0.056	-2.214	0.029	[-0.235, -0.013]
ΔLnDPK	0.089	0.062	1.435	0.154	[-0.034, 0.212]
ECT_{t-1}	-0.412*	0.087	-4.736	0.000	[-0.584, -0.240]

Panel C: Model Fit and Diagnostic Statistics

Statistic	Value	p-value	Conclusion
R-squared	0.742	-	-
Adjusted R-squared	0.718	-	-
F-statistic	31.245	0.000	Model significant
Breusch-Godfrey LM	$\chi^2(2) = 1.847$	0.397	No serial correlation
Breusch-Pagan-Godfrey	$\chi^2 = 12.456$	0.188	Homoskedastic
Jarque-Bera	JB = 2.134	0.344	Normal residuals
Ramsey RESET	F = 1.245	0.267	Correct specification
CUSUM/CUSUMSQ	Within 5% bounds	-	Stable

*Source: Author's calculation (2025). ***p < 0.01, **p < 0.05, p < 0.10. ARDL lag length: ARDL (2, 1, 1, 1, 1, 1).

The results confirm that Islamic banking financing contributes to inequality reduction in both the short run (-0.156, p < 0.05) and long run (-0.284, p < 0.05). MSME financing exhibits the strongest effect (-0.198, p < 0.05). The error correction term (-0.412, p < 0.01) indicates that 41.2% of deviations

from long-run equilibrium are corrected monthly. All diagnostic tests are satisfied.

4.7 Zakat Effectiveness Results

Table 10 presents the ARDL results for the zakat-poverty relationship.

Table 10: ARDL Results on Zakat and GDP Effects on Poverty (Dependent: LnPOV)

Panel A: Long-Run and Short-Run Coefficients

Variable	Long-Run Coefficient	Std. Error	p-value	Short-Run Coefficient	Std. Error	p-value
Zakat Distribution (LnZAK_DIST)	-0.142**	0.058	0.016	-0.112**	0.045	0.014

GDP (LnGDP)	-0.812***	0.145	0.000	-0.245***	0.078	0.002
Inflation (LnINF)	0.038	0.042	0.368	0.045	0.035	0.201
ECT _{t-1}	-	-	-	-0.324*	0.082	0.000

Panel B: Model Fit and Diagnostic Statistics

Statistic	Value	p-value	Conclusion
R-squared	0.687	-	-
F-statistic	28.456***	0.000	Model significant
Breusch-Godfrey LM	$\chi^2(2) = 2.134$	0.344	No serial correlation
Breusch-Pagan-Godfrey	$\chi^2 = 10.234$	0.232	Homoskedastic
Jarque-Bera	JB = 1.845	0.397	Normal residuals
CUSUM/CUSUMSQ	Within 5% bounds	-	Stable

*Source: Author's calculation (2025). *** $p < 0.01$, * $p < 0.05$. ARDL lag length: ARDL (2, 1, 1, 1). Zakat distribution interpolated to monthly frequency.

The results confirm that zakat distribution significantly reduces poverty in both the short run (-0.112, $p < 0.05$) and long run (-0.142, $p < 0.05$), though GDP exhibits a much stronger effect (-0.812, $p < 0.01$). The error correction term (-0.324, $p < 0.01$) indicates that 32.4% of deviations are corrected monthly. All diagnostic tests are satisfied.

4.8 Discussion of Findings

The empirical findings present a significant challenge to the normative narrative that Islamic banking automatically promotes wealth distribution. The positive relationship between Islamic Financial Depth and income inequality may be explained by several factors:

First, Islamic banking financing remains concentrated in the consumption sector and secured financing, while sectors most in need of capital access—microenterprises, farmers, fishers, and rural economies—are often considered high risk (Al Arif, 2025). This pattern mirrors conventional banking practices where financing tends to flow to established borrowers with collateral rather than to underserved segments.

Second, the market share of Islamic banking remains relatively small compared to the national financial industry. Despite impressive growth rates, Islamic banking accounts for a limited portion of the national banking market (Prastowo & Putriani, 2022).

Third, the fragmentation between commercial and social functions of Islamic banking prevents the full realization of its redistributive potential. Instruments such as zakat and waqf remain largely separated from commercial sharia financing, reducing their effectiveness in addressing financing gaps (Mustafa et al., 2025).

Fourth, the zakat analysis confirms significant poverty reduction effects, though the effect is smaller than GDP. The smaller effect of zakat compared to GDP reinforces the need for governance reforms to strengthen zakat's structural role in poverty alleviation, transitioning from consumption-based distribution to productive empowerment programs as envisioned by al-Sadr (Al Berto & Al-farisy, 2025).

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study investigated the relationship between Islamic finance and socioeconomic inequality in Indonesia using ARDL time-series analysis (2017-2025, 108 monthly observations) and spatial panel analysis (33 provinces, 1,056 observations). The findings reveal a complex and context-dependent relationship.

The spatial analysis shows that Islamic Regional Financial Depth (FDS) has a positive direct effect on income inequality (coefficient = 0.184, $p < 0.05$) with significant spillover effects to neighboring

provinces (0.092, $p < 0.10$), indicating that Islamic financial deepening without inclusive distribution may widen rather than reduce disparities. However, the ARDL results confirm that Islamic banking financing contributes to inequality reduction in both the short run (-0.156, $p < 0.05$) and long run (-0.284, $p < 0.05$), with MSME financing exhibiting the strongest effect (-0.198, $p < 0.05$). The error correction term (-0.412, $p < 0.01$) confirms rapid adjustment toward long-run equilibrium, with 41.2% of deviations corrected monthly.

Zakat distribution shows significant poverty reduction in both the short run (-0.112, $p < 0.05$) and long run (-0.142, $p < 0.05$), though its effect is considerably smaller than GDP (-0.812, $p < 0.01$), suggesting that current consumption-based distribution limits its long-term impact. The persistent MSME financing gap (only 6.7% of total Islamic financing) and spatial concentration of FDS (only 3 provinces above 10% of GRDP) further indicate that the benefits of Islamic finance remain unevenly distributed.

The study concludes that the relationship between Islamic finance and inequality reduction is not automatic. Without deliberate integration between commercial and social finance instruments, strengthened zakat governance transitioning from consumption to productive empowerment, improved MSME financing access, and enhanced Islamic financial literacy, the moral and ethical values inherent in Islamic finance will not automatically translate into meaningful social transformation.

5.2 Recommendations

Based on the empirical findings of this study, several recommendations are proposed:

First, the positive association between Islamic Regional Financial Depth (FDS) and income inequality (coefficient = 0.184, $p < 0.05$) with significant spillover effects (0.092, $p < 0.10$) indicates that Islamic finance growth alone does not automatically reduce inequality. Therefore, policymakers should reorient Islamic financing from consumption-based contracts (murabahah) toward productive profit-sharing instruments (mudharabah, musyarakah) and MSME financing,

which showed the strongest inequality-reducing effect in our analysis (-0.198, $p < 0.05$).

Second, the error correction term (-0.412, $p < 0.01$) confirms rapid adjustment toward equilibrium, suggesting that policy interventions in Islamic finance can have relatively swift effects. Regulators should implement social impact indicators alongside financial metrics to evaluate Islamic banking performance, measuring contributions to MSME financing, job creation, and inequality reduction.

Third, zakat analysis confirms significant poverty reduction effects in both the short run (-0.112, $p < 0.05$) and long run (-0.142, $p < 0.05$), though the effect is smaller than GDP (-0.812, $p < 0.01$). This indicates that zakat governance must be strengthened to transition from consumption-based to productive empowerment programs, requiring reforms in zakat collection and distribution, strengthening zakat institutions' capacity to deliver productive programs, and promoting public awareness.

Fourth, the persistent MSME financing gap (only 6.7% of total Islamic financing) and spatial concentration of Islamic financial depth (only 3 provinces above 10% of GRDP) require developing hybrid financing models integrating commercial and social finance to reach unbanked MSMEs (70% of total MSMEs). Islamic social funds (zakat, infaq, sadaqah, waqf) can serve as first-loss capital to reduce MSME financing risks.

Fifth, enhancing Islamic financial literacy is essential to transform economic behavior from consumptive to productive. As our findings suggest that financial depth without behavioral change may perpetuate inequality patterns, public literacy must become mainstream through community spaces—mosques, schools, pesantren, and digital platforms.

5.3 Limitations and Future Research Directions

This study has several limitations that should be acknowledged. First, the study relies on secondary data from official sources, which may have limitations in terms of coverage and accuracy. Second, the study period (2017-2025) may not capture longer-term trends in the relationship between Islamic finance and socioeconomic inequality. Third, the study focuses on national and

provincial-level analysis, which may mask significant household-level variations in Islamic financial inclusion and socioeconomic outcomes.

Future research should consider the following directions: conducting household-level analysis to capture individual-level impacts; employing economic growth as a mediating variable to examine indirect effects; utilizing alternative dynamic methods beyond ARDL to obtain a wider range of empirical results; and conducting comparative analysis between Islamic and conventional banks in reducing income disparities to identify best practices.

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