

Does ESG Integration Improve Islamic Bank Performance? Evidence from Indonesian Islamic Banking

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ABSTRACT

Sustainable finance has become a regulatory priority for banking, yet evidence on whether environmental, social, and governance (ESG) integration improves Islamic bank performance is scarce, and conventional ESG ratings rarely capture Shariah-specific value creation. This study develops an ESG-Syariah Index grounded in *Maqasid al-Sharia* and tests its association with the performance of Indonesian Islamic commercial banks. ESG disclosure was scored through content analysis of annual and sustainability reports for 2021–2024 and merged with financial data, yielding 15–16 bank-year observations for ROA, ROE, NPF, FDR, and BOPO, estimated by panel regression with robust standard errors. The mean ESG-Syariah score is 73.58 (SD = 20.53), indicating uneven adoption. ESG correlates negatively with NPF ($r = -0.474$, $p < 0.05$). Coefficients follow the expected direction for ROA ($\beta = 0.076$, $p = 0.451$), ROE ($\beta = 0.045$, $p = 0.789$), NPF ($\beta = -0.014$, $p = 0.793$), and BOPO ($\beta = -0.476$, $p = 0.771$), but none is statistically significant ($R^2 = 0.371$ – 0.920); dimension-level and lagged specifications confirm this pattern. ESG integration therefore shows theoretically consistent but statistically unconfirmed associations.

Keywords: ESG-Syariah Index; Financial Performance; Islamic Banking; *Maqasid al-Sharia*; Sustainable Finance

JEL Classification: G21; G32; M14; Q56; Z12

INTRODUCTION

The global financial industry is shifting toward sustainable finance as growing concerns over climate change, social inequality, and governance have elevated environmental, social, and governance (ESG) as a key framework for evaluating the long-term resilience and value of financial institutions (Bolla et al., 2025; Sepetis et al., 2024; Wu & Chen, 2024; Zhou & Nie, 2025). Within this transition, banks play a pivotal role by directing capital allocation, making ESG integration in financing decisions essential for mitigating environmental and social risks while strengthening financial performance, stakeholder trust, and institutional reputation (Osuji et al., 2025).

The case of Islamic banks is analytically distinctive. For these institutions, ESG is not an externally imposed governance regime but is normatively continuous with the objectives of Islamic law (*Maqasid al-Sharia*), which already require justice, public welfare, accountability, and the avoidance of harmful economic activity. This continuity yields a testable expectation: if ESG practices are congruent with values that already govern Islamic banks, the financial returns to ESG integration should be at least as strong as those documented for conventional banks. Whether this expectation holds empirically remains an open question.

Indonesia provides an informative context for this analysis due to its large Islamic banking sector, rapid industry growth, and regulatory support for sustainability reporting through the Indonesian Financial Services Authority (OJK)'s Sustainable Finance Roadmap. Despite an established reporting framework (Maulana & Prasetio, 2025), ESG implementation among Indonesian Islamic banks remains highly heterogeneous, making the sector well suited for examining ESG disclosure using a consistent measurement framework.

Three gaps motivate this study. First, empirical evidence on the ESG–performance relationship is concentrated in conventional banking, while findings for Islamic banks remain limited and inconclusive (Siddiqui et al., 2024; Smaoui et al., 2025). Second, previous studies examine ESG disclosure and Islamic corporate governance separately, without linking ESG dimensions to Sharia-compliant financing activities (Gati et al., 2026). Third, commercial ESG ratings cover only a small number of Indonesian Islamic banks, limiting comprehensive empirical analysis.

To address these gaps, this study develops an ESG-Syariah Index that integrates conventional ESG indicators with *Maqasid al-Sharia* through content analysis of annual and sustainability reports. Unlike commercial ESG ratings, the index is applicable to unrated Islamic banks and evaluates ESG performance from both conventional and Islamic perspectives.

Accordingly, this study pursues three objectives: (1) to develop and apply the ESG-Syariah Index to Indonesian Islamic commercial banks during 2021–2024; (2) to examine the relationship between ESG integration and financial performance, measured by return on assets (ROA), return on equity (ROE), non-performing financing (NPF), financing-to-deposit ratio (FDR), and operating expenses to operating income ratio (BOPO) using panel regression; and (3) to test the robustness of the findings using individual ESG dimensions and lagged ESG measures.

The study offers three corresponding contributions. Theoretically, it brings stakeholder theory, legitimacy theory, the resource-based view (RBV), and *Maqasid al-Sharia* together into a single framework for interpreting ESG in Islamic banking; each

perspective is developed in the following section. Methodologically, it provides a replicable ESG measurement instrument for jurisdictions in which commercial ESG coverage of Islamic banks is thin. Practically, it identifies which ESG dimensions Indonesian Islamic banks currently report and where disclosure gaps remain, which is directly relevant to the design of ESG disclosure guidelines for Islamic banking institutions.

LITERATURE REVIEW

Theoretical Review

Stakeholder Theory

Stakeholder theory, as articulated by Freeman (1984) and cited by Dutt et al. (2025), argues that organizations are responsible not only to shareholders but also to a broad range of stakeholders, including customers, employees, regulators, investors, and society. In the banking industry, ESG implementation serves as a strategic mechanism to address stakeholder expectations by promoting responsible financing, transparency, and long-term sustainability (Hieu et al., 2026). For Islamic banks, stakeholder accountability is reinforced by Sharia principles, which emphasize justice (*adl*), trustworthiness (*amanah*), and public welfare (*maslahah*) (Siregar, 2025).

Legitimacy Theory

Legitimacy theory suggests that organizations seek to ensure their activities are perceived as consistent with societal values and norms (Suchman, 1995). ESG disclosure represents one of the most effective instruments for maintaining organizational legitimacy because it demonstrates accountability toward environmental protection, social responsibility, and sound governance (Del Gesso & Lodhi, 2024). In Islamic banking, legitimacy extends beyond regulatory compliance to include adherence to Islamic ethical values and *Maqasid al-Sharia*.

Variables Review

Resource-Based View (RBV)

According to the RBV (Barney, 1991), sustainable competitive advantage arises from valuable, rare, inimitable, and non-substitutable (VRIN) resources. ESG capability can be considered an intangible strategic resource encompassing organizational culture, governance quality, risk management systems, and stakeholder relationships.

Maqasid al-Sharia

Maqasid al-Sharia provides the philosophical foundation of Islamic finance. It aims to protect religion, life, intellect, lineage, and wealth while promoting justice and social welfare (Chapra, 2008; Dusuki & Abdullah, 2007). Contemporary Islamic finance scholars increasingly recognize environmental sustainability as an extension of these objectives. The ESG dimensions are therefore closely aligned with *Maqasid al-Sharia*, as they promote responsible resource management, equitable economic development, and accountable governance. They also imply the avoidance of activities that generate harm (*mafsadah*), which provides a normative basis for excluding environmentally and socially damaging sectors from Islamic financing portfolios.

Environmental, Social, and Governance (ESG)

ESG is a multidimensional framework used to evaluate corporate sustainability performance. The Environmental dimension includes green financing, environmental risk assessment, carbon reduction, and efficient resource utilization. The Social dimension emphasizes employee welfare, customer protection, financial inclusion, community development, and support for micro, small, and medium enterprises (MSMEs).

Governance refers to transparency, board effectiveness, risk management, internal controls, regulatory compliance, and Sharia governance. These dimensions are analysed jointly and separately in this study (Eccles et al., 2014; Friede et al., 2015; Jan et al., 2019).

Islamic Financing

Islamic financing differs fundamentally from conventional lending because it is based on profit-and-loss sharing, asset-backed transactions, and ethical investment principles. ESG integration into Islamic financing extends beyond financial feasibility by incorporating environmental and social considerations into financing decisions. This approach supports sustainable development while reducing financing risks and enhancing portfolio quality (Hanif, 2016; Iqbal & Mirakhor, 2011; Jan et al., 2019).

Bank Performance

Bank performance reflects management effectiveness in utilizing organizational resources to achieve profitability, efficiency, liquidity, and financing quality. This study measures financial performance using ROA, ROE, NPF, FDR, and BOPO. These indicators provide a comprehensive assessment of Islamic bank performance from multiple perspectives (Hani et al., 2025; Kweh et al., 2024; Sagar & Kumar, 2024).

Theoretical Justification for the ESG-Syariah Index

The development of a dedicated ESG measure for Islamic banks is justified on both practical and theoretical grounds. Practically, commercial ESG ratings cover only a limited number of Indonesian Islamic banks, restricting empirical research to a small subset of institutions. Theoretically, conventional ESG frameworks emphasize stakeholder expectations and organizational legitimacy but do not fully capture the distinct accountability of Islamic banks to *Maqasid al-Sharia*. While Islamic banks remain accountable to stakeholders and societal legitimacy (Del Gesso & Lodhi, 2024; Freeman, 1984, as cited in Dutt et al., 2025; Suchman, 1995), they are also guided by the objectives of Islamic law. As argued by Chapra (2008) and Dusuki & Abdullah (2007), *Maqasid al-Sharia* provides an indigenous foundation for corporate responsibility, implying that conventional ESG measures capture only part of the accountability expected from Islamic financial institutions.

The ESG-Syariah Index is built on the convergence between these two accountability structures, with each ESG dimension mapped to the *maqasid* objectives it serves. The environmental dimension, comprising green financing, environmental risk assessment, and resource efficiency, corresponds to the protection of life (*hifz al-nafs*) and of wealth (*hifz al-mal*), since the degradation of natural systems threatens both. The social dimension, comprising financial inclusion, MSME support, employee welfare, customer protection, and community development, corresponds to *maslahah* and to the protection of life and lineage (*hifz al-nasl*). The governance dimension, comprising board effectiveness, internal control, enterprise risk management, and Sharia governance, corresponds to the protection of wealth and to the principle of trusteeship (*amanah*) under which the bank holds depositors' funds. This dual anchoring is the defining feature of the index: an indicator is admitted only if it is both recognized in established ESG reporting practice and attributable to a *maqasid* objective.

Two consequences follow. First, the index is computable for any Islamic bank that publishes annual and sustainability reports, which removes the coverage constraint imposed by commercial ratings. Second, from the perspective of the RBV, an ESG capability embedded in a bank's Sharia governance apparatus is more difficult for competitors to imitate than a disclosure practice adopted for reputational purposes alone,

and inimitability is precisely the condition under which such a capability could translate into financial performance. Jan et al. (2019) provide the closest precedent, constructing sustainability measures specific to Islamic banking rather than importing conventional ratings, and showing that Islamic corporate governance conditions the relationship between sustainable business practices and financial performance.

Hypotheses Development

The hypotheses are developed at two levels. The first level concerns the individual ESG dimensions, which allows the analysis to identify where any performance effect originates; the second concerns ESG as an integrated construct. Because the dependent variables differ in orientation, the expected direction of effect is stated explicitly rather than left implicit in the phrase 'improves performance'. Improvement implies higher ROA and ROE, lower NPF, and lower BOPO. FDR is deliberately left unsigned: a higher ratio indicates more aggressive deployment of deposits and a lower ratio indicates greater liquidity, and neither is unambiguously superior, so FDR is estimated and reported without a directional prediction.

Environmental Dimension and Islamic Bank Performance

From the RBV, environmental screening capacity, in the form of environmental risk assessment within financing appraisal, green financing products, and resource efficiency programs, constitutes an intangible capability that reduces exposure to physical and transition risk within the financing portfolio. From the perspective of *Maqasid al-Sharia*, the same practices serve *hifz al-nafs* and *hifz al-mal*. Empirically, Eccles et al. (2014) find that firms adopting sustainability practices early outperform comparable firms over the long run, and Wu and Chen (2024) report that ESG performance is associated with greater efficiency among Chinese financial institutions. Evidence at the pillar level is nevertheless uneven: Siddiqui et al. (2024) find that the three ESG pillars relate differently to firm value across developed and emerging markets, and Jan et al. (2019) observe that environmental practices in Islamic banking remain at an early stage of development. The difficulty is partly one of measurement: Patma et al. (2026) show that environmental value is frequently unrecognized within conventional accounting categories, which constrains the extent to which environmental effort can register in reported financial outcomes. A positive but modest effect is therefore anticipated.

H1: The environmental dimension of the ESG-Syariah Index improves Islamic bank performance, increasing ROA and ROE and reducing NPF and BOPO.

Social Dimension and Islamic Bank Performance

Stakeholder theory provides the primary argument for the social dimension. Banks that address the expectations of depositors, employees, regulators, and the wider community secure the cooperation on which intermediation depends, and the converse is equally informative, since Dutt et al. (2025) show that ESG controversies are followed by deterioration in financial performance, indicating that social standing carries financial consequence. In Islamic banking, this argument is reinforced normatively, because financial inclusion, MSME financing, and customer protection serve *maslahah* directly (Siregar, 2025). A portfolio mechanism operates alongside the reputational one: financing extended across a broader and more diversified customer base is less exposed to concentration risk. Consistent with these arguments, Hieu et al. (2026) report a positive association between ESG disclosure and the financial performance of commercial banks in ASEAN+3.

H2: The social dimension of the ESG-Syariah Index improves Islamic bank performance, increasing ROA and ROE and reducing NPF and BOPO.

Governance Dimension and Islamic Bank Performance

The governance dimension has the most direct transmission channel to financial outcomes, because board effectiveness, internal control, enterprise risk management, and Sharia supervisory oversight operate on the very processes that determine financing quality and cost structure, namely screening, monitoring, and compliance. Legitimacy theory explains why these arrangements are disclosed (Del Gesso & Lodhi, 2024; Suchman, 1995), while the RBV explains why they may be difficult to imitate, since the additional Sharia governance layer is a structural feature that conventional competitors do not possess. Empirically, Jan et al. (2019) find that Islamic corporate governance moderates the relationship between sustainable business practices and financial performance in Islamic banking, and Smaoui et al. (2025) examine ESG as a determinant of profitability in a direct comparison of Islamic and conventional banks. In the Indonesian setting, Putra et al. (2020) report an association between corporate governance and institutional performance, while Aryani and Assegaf (2026) find that risk management practices condition the relationship between lending activity and bank profitability, which is precisely the channel through which the governance dimension is expected to operate here.

H3: The governance dimension of the ESG-Syariah Index improves Islamic bank performance, increasing ROA and ROE and reducing NPF and BOPO.

ESG-Syariah Composite Index and Islamic Bank Performance

The three dimensions are not expected to operate in isolation. The RBV holds that competitive advantage arises from bundles of resources rather than from single practices, and the theoretical perspectives assembled above converge on the same point, in that stakeholder confidence, institutional legitimacy, and conformity with *maqasid* objectives are produced jointly by ESG conduct rather than by any one of them separately. The aggregate evidence is consistent with this reasoning: Friede et al. (2015), synthesizing more than two thousand empirical studies, report that a non-negative relationship between ESG and financial performance predominates, and Smaoui et al. (2025) extend this comparison to Islamic banks. The composite index is therefore expected to relate to performance at least as strongly as its constituent dimensions.

H4: The ESG-Syariah Composite Index improves Islamic bank performance, increasing ROA and ROE and reducing NPF and BOPO.

Summary of Hypothesis Testing Strategy

H1 to H3 are tested through the alternative specifications in which the composite index is replaced by each individual dimension, while H4 is tested through the baseline specification. This hierarchical structure indicates whether sustainability performance is driven by particular dimensions or by integrated ESG implementation. It also determines how the models are estimated: because the dimensions are constructed from the same underlying disclosures and are consequently highly collinear with the composite index, they are entered in separate models rather than jointly.

Conceptual Framework

Drawing upon the theoretical perspectives discussed in the preceding sections, this study develops a conceptual framework to explain the relationship between ESG integration and the financial performance of Islamic banks. The framework synthesizes insights from stakeholder theory, legitimacy theory, RBV, and *Maqasid al-Sharia*, suggesting that ESG practices constitute a strategic organizational capability that

enhances sustainability, strengthens stakeholder relationships, and improves long-term financial performance.

Figure 1. Conceptual Model

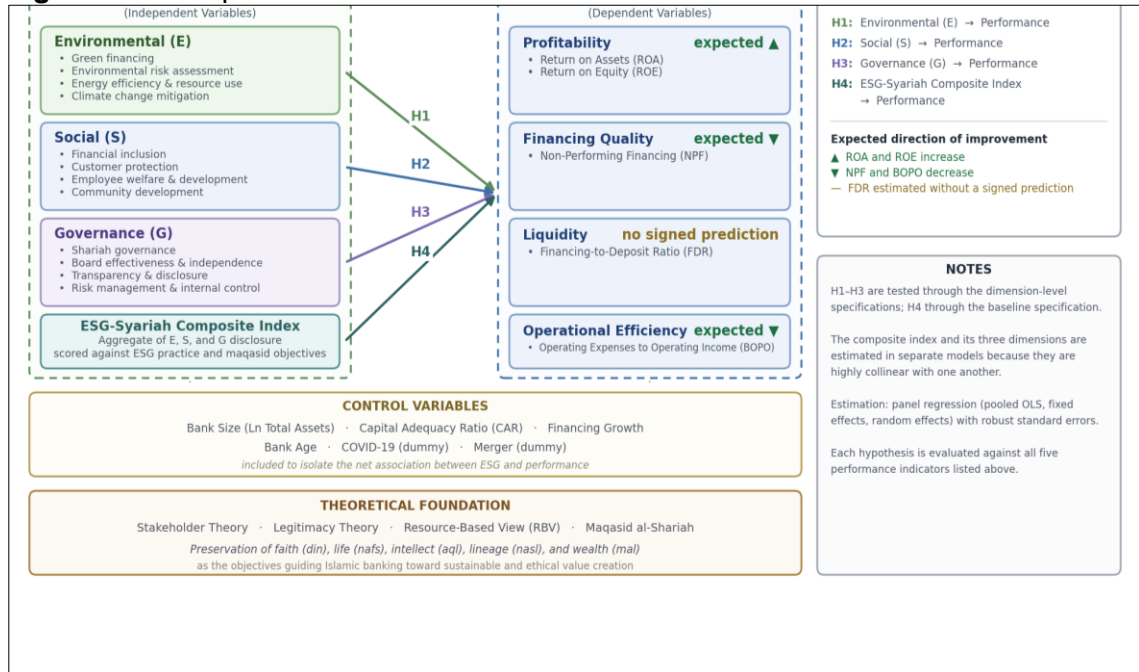


Figure 1 presents the proposed conceptual framework examining the relationship between ESG integration and the financial performance of Islamic banks in Indonesia. ESG is represented in two ways: as three separate dimensions and as an aggregate ESG-Syariah Composite Index. Because the dimensions and the composite are derived from the same underlying disclosures, they are estimated in separate models rather than as a single hierarchical structure, and no mediating pathway between the dimensions and the composite is posited or tested. The framework therefore allows the individual contribution of each ESG dimension and the overall effect of ESG integration on bank performance to be examined side by side.

Islamic bank performance is measured using five financial indicators, namely ROA, ROE, NPF, FDR, and BOPO. To isolate the effect of ESG, the empirical model incorporates several control variables, including bank size, capital adequacy ratio (CAR), financing growth, bank age, COVID-19, and merger status.

RESEARCH METHOD

Research Design

This study employs a quantitative explanatory research design using panel data to investigate the effect of ESG integration on the financial performance of Islamic banks in Indonesia. Panel data analysis combines cross-sectional and time-series observations, enabling more efficient estimation while controlling for unobserved bank-specific heterogeneity.

Population and Sample

The population consists of the Islamic commercial banks (*Bank Umum Syariah*) supervised by the OJK. Because the ESG-Syariah Index uses sustainability reports as its documentary basis, the analysis is restricted to institutions that publish such reports

consistently, which among Indonesian Islamic commercial banks are those listed on the Indonesia Stock Exchange (IDX).

The study therefore covers the four IDX-listed Islamic commercial banks: Bank Syariah Indonesia (BRIS), Bank BTPN Syariah (BTPS), Bank Panin Dubai Syariah (PNBS), and Bank Aladin Syariah (BANK), observed over the 2021–2024 period. These four institutions constitute the complete population of listed Islamic commercial banks in Indonesia rather than a sample drawn from it. The analysis is consequently not subject to sampling error, but its generalizability is bounded to listed institutions, which are larger and more consistently reported than the unlisted remainder of the sector.

Data Sources

This study relies exclusively on secondary data obtained from annual reports, sustainability reports, audited financial statements, corporate governance reports, and OJK banking statistics. ESG disclosure is measured through content analysis using a structured ESG-Syariah Index.

Development and Validation of the ESG-Syariah Index

The ESG-Syariah Index is a 39-item disclosure instrument distributed equally across the three dimensions, comprising 13 environmental, 13 social, and 13 governance items. Items were generated from three sources: the GRI Standards; the sustainable finance reporting criteria set out in POJK 51/POJK.03/2017; and a set of indicators specific to Islamic banking that has no counterpart in conventional frameworks, covering the Sharia Supervisory Board (*Dewan Pengawas Syariah*), ZISWAF and *qardhul hasan* funds, and Sharia compliance. Each item was then mapped to the *maqasid* objective it serves, so that the instrument carries a triple anchor: a GRI reference, a POJK 51 criterion, and a *maqasid* objective. The Islamic-banking items have no GRI counterpart and are therefore anchored on two references rather than three: the relevant POJK 51 sustainable-finance criterion and the *maqasid* objective they serve, chiefly the protection of wealth and the principle of trusteeship over depositors' funds.

Each item is scored on a graded ordinal scale of 0, 1, or 2. A score of 0 denotes that the item is not disclosed, 1 denotes narrative or qualitative disclosure, and 2 denotes quantified or independently verified disclosure. Two conventions were fixed before coding began and applied without exception thereafter. Under the first, an environmental item qualifies for a score of 2 only where the disclosure is expressed in physical units, namely kilowatt-hours, cubic meters, tons, or tons of CO₂ equivalent, so that monetary figures alone are capped at 1; the sole exception is the green financing item, for which a rupiah amount is substantive rather than a proxy. Under the second, the coding scope is confined to each bank's sustainability report, so that an item disclosed only in the annual report or the corporate governance report is scored 0.

Both conventions are consequential and are reported here rather than left implicit. The first prevents monetary proxies from inflating measured environmental performance, which is the most common source of upward bias in disclosure scoring. The second holds the documentary basis constant across banks and years, at the acknowledged cost of depressing governance scores for banks whose sustainability reports are thin and whose governance disclosure resides principally in the annual report. This trade-off was accepted deliberately in favor of comparability.

A dimension index is computed as the sum of the scores obtained on that dimension's thirteen items divided by the twenty-six points attainable, multiplied by one hundred. The composite ESG-Syariah Index is the arithmetic mean of the three-dimension indices, so

that each dimension carries equal weight irrespective of how many of its items a given bank discloses. This construction accounts for the bounds observed in Table 3: a dimension index of 100.000 corresponds to 26 of 26 points, and 96.154 corresponds to 25 of 26.

The primary coding was carried out by one coder. A formal intercoder reliability exercise, in which a second coder was to code an independent subsample so that Cohen's kappa could be computed, had not been completed at the time of writing; this is acknowledged as a limitation in the concluding section. To mitigate the absence of a reliability statistic, six items designated in advance as borderline were adjudicated against the coding manual rather than scored on a single reading, and the page-level evidence trail retained in the data workbook allows every score to be independently audited against its source.

Two properties of the instrument bear directly on how the results should be read. First, the index measures disclosure rather than realized sustainability outcomes, because it is constructed from published reports; the study therefore speaks to reported ESG integration and not to practice that is undertaken but not reported. Second, the three-dimensional indices and the composite are derived from the same underlying item set and are collinear by construction, which is why they are entered in separate regression models rather than jointly.

Panel Structure and Observation Coverage

The panel frame and the coded dataset differ in size, and the distinction is set out explicitly here because it governs how Table 3 should be read. The ESG variables were recorded within a frame of 78 bank-year rows, of which only the bank-years that were actually coded from a sustainability report carry a non-zero score; the remaining rows were entered as zero rather than as missing. The number of coded observations is 18 bank-years: BSI and Bank Aladin Syariah over 2021–2024, and BTPN Syariah and Bank Panin Dubai Syariah over 2020–2024. The coding window is not uniform across banks: BTPN Syariah and Bank Panin Dubai Syariah are coded from 2020, whereas BSI and Bank Aladin Syariah are coded from 2021, which is why the four banks yield eighteen rather than sixteen coded bank-years.

Because the descriptive statistics reported in Table 3 are computed over the full frame while the regressions are estimated on the bank-years for which financial data are available, the two are not directly comparable. Computed over the 18 coded bank-years, the ESG-Syariah Index has a mean of 73.58 (SD = 20.53), with the environmental dimension lowest (mean 65.39) and the social dimension highest (mean 83.97); these are the values reported in the revised Table 3, and the 60 uncoded rows are excluded from all descriptive and inferential statistics

Table 1 reports the coverage of each group of variables.

Table 1. Observation Coverage by Variable Group

Variable group	Bank-years	Basis of the count
ESG-Syariah Index; E, S, G dimensions	18	IDX-listed Islamic commercial banks coded from their sustainability reports; rows outside the coded set were entered as zero
ROA, ROE, BOPO	16	Four banks over four years; complete in audited financial statements
NPF, FDR	15	Bank Panin Dubai Syariah for 2020 and 2021 and Bank Aladin Syariah for 2021 lack the financing-quality ratios; after

		listwise deletion, NPF and FDR are available for 15 bank-years against 16 for the profitability and efficiency ratios
Baseline estimation sample	15–16	Listwise deletion across the dependent variable, the ESG measure, and all control variables

The size of the estimation sample places a binding constraint on the analysis and is therefore stated explicitly rather than left to be inferred. The baseline specification contains an intercept, the ESG measure, and two controls (bank size and capital adequacy), so 16 observations leave 12 residual degrees of freedom and 15 observations leave 11. This constraint governs how both the coefficients and the coefficients of determination should be interpreted, and it is the reason why estimators that consume further degrees of freedom are used with caution.

Variables Measurement

Table 2 reports the measurement of every variable used in the analysis together with its data source. All ratios are expressed in percentage terms and are taken from, or computed from, audited financial statements; the ESG measures are computed from the content analysis described above.

Table 2. Variable Measurement

Variable	Symbol	Measurement	Data source
Return on assets	ROA	Net income divided by total assets, in per cent	Audited financial statements
Return on equity	ROE	Net income divided by total equity, in per cent	Audited financial statements
Non-performing financing	NPF	Non-performing financing divided by total financing, in per cent (gross)	Audited financial statements
Financing-to-deposit ratio	FDR	Total financing divided by third-party funds, in per cent	Audited financial statements
Operating expenses to operating income	BOPO	Operating expenses divided by operating income, in per cent	Audited financial statements
ESG-Syariah Composite Index	ESG	Points obtained across all items divided by the maximum attainable points, in per cent	Content analysis of annual and sustainability reports
Environmental dimension	E	Points obtained on environmental items divided by the maximum attainable on those items, in per cent	Content analysis
Social dimension	S	Points obtained on social items divided by the maximum attainable on those items, in per cent	Content analysis
Governance dimension	G	Points obtained on governance items divided by the maximum attainable on those items, in per cent	Content analysis

Bank size	SIZE	Natural logarithm of total assets	Audited financial statements
Capital adequacy ratio	CAR	Regulatory capital divided by risk-weighted assets, in per cent	Audited financial statements
Financing growth	GROWTH	Annual percentage change in total financing	Audited financial statements
Bank age	AGE	Number of years since the bank commenced operations as an Islamic commercial bank	Corporate records
COVID-19	COVID	Dummy variable equal to one for 2020 and 2021, the years of pandemic-related economic disruption in Indonesia and zero otherwise	Author construction
Merger	MERGER	Dummy variable equal to one for the four post-merger bank-years of Bank Syariah Indonesia (2021–2024), following the 2021 amalgamation of the three state-owned Islamic banks and zero otherwise	Author construction

Empirical Model

The baseline regression model is specified as:

$$\begin{aligned}
 & \text{Performance}_{it} \\
 &= \beta_0 + \beta_1 \text{ESG}_{it} + \beta_2 \text{SIZE}_{it} + \beta_3 \text{CAR}_{it} + \beta_4 \text{GROWTH}_{it} \\
 &+ \beta_5 \text{AGE}_{it} + \beta_6 \text{COVID}_{it} + \beta_7 \text{MERGER}_{it} + \varepsilon_{it}
 \end{aligned}$$

Separate models are estimated using ROA, ROE, NPF, FDR, and BOPO as dependent variables. Additional robustness models replace the ESG Composite Index with the individual ESG dimensions.

Estimation Procedure

The analysis proceeds in four steps. First, descriptive statistics and a Pearson correlation matrix are computed for all variables. Second, multicollinearity among the regressors is assessed through the variance inflation factor (VIF). Third, the panel estimator is selected by means of the Chow test (pooled OLS against fixed effects), the Breusch–Pagan Lagrange Multiplier test (pooled OLS against random effects), and the Hausman test (fixed against random effects). The statistics and p-values of all three tests are reported in Table 5, and the estimator they indicate is used consistently across the five performance models.

Fourth, the residuals of the selected specification are examined for heteroskedasticity, serial correlation, and cross-sectional dependence, with the results reported in Table 6. Robust standard errors are applied wherever the classical assumptions are rejected. Because model-selection tests have low power in small samples, the estimates obtained under the selected specification and under the pooled alternative are both reported, so that readers can judge whether the conclusions depend on the estimator chosen rather than on the data.

Hypothesis Testing

Hypotheses are evaluated using t-statistics for the individual coefficients and F-statistics for overall model significance, with statistical significance assessed at the 5 per cent level. A statement indicating whether each hypothesis is supported or not supported accompanies every results table.

Explanatory power is reported as both the coefficient of determination and its adjusted counterpart. Both are given because the two diverge substantially at this sample size: with four parameters and fifteen to sixteen observations, the degrees-of-freedom penalty is severe, and reporting the unadjusted statistic alone would overstate how much the models actually explain. Robustness is assessed by re-estimating each model with the individual ESG dimensions in place of the composite index, and with a one-period lag of the ESG measure, in order to verify that the direction of the estimates does not depend on a particular specification.

RESULTS

Descriptive Statistics

Table 3. Descriptive Statistics

Variable	N	Mean	Median	Std.Dev	Min	Max
ESG	18	73.575	82.051	20.528	39.744	96.154
Environmental	18	65.385	69.231	25.065	23.077	96.154
Social	18	83.974	88.462	10.656	65.385	100.000
Governance	18	71.368	88.462	28.607	26.923	100.000
ROA	16	2.449	1.885	5.024	-5.600	11.430
ROE	16	9.385	12.925	11.276	-11.590	24.210
NPF	15	2.221	2.420	1.288	0.000	3.780
FDR	15	95.273	93.780	22.766	73.390	173.270
BOPO	16	120.598	76.615	112.381	58.120	432.880

Note: All ESG statistics reported here and in [Table 3](#) are computed over the 18 coded bank-years; the 60 uncoded rows carry a value of zero and are excluded from every descriptive and inferential statistic.

[Table 3](#) presents the descriptive statistics of the study variables. Across the 18 coded bank-years, the ESG-Syariah Index averages 73.58 (SD = 20.53), indicating that the listed Indonesian Islamic banks disclose a substantial share of the indexed items, but with meaningful variation between them. The dispersion is greatest in the environmental dimension (SD = 25.07) and smallest in the social dimension (SD = 10.66). Among the three ESG dimensions, the social dimension exhibits the highest average score (19.38), followed by Governance (16.47) and Environmental (15.09).

Regarding financial performance, the average ROA is 2.45%, indicating that most Islamic banks remain profitable over the observation period, despite considerable variation across institutions. Similarly, the average ROE of 9.39% indicates satisfactory shareholder returns. The mean NPF ratio of 2.22% remains below the prudential threshold established by the Indonesian OJK, indicating relatively healthy financing quality among sampled banks. Meanwhile, the average FDR reaches 95.27%, implying that most collected deposits are successfully allocated to financing activities. However, the relatively high maximum value suggests that several banks pursue aggressive financing strategies. The average BOPO ratio exceeds 100%, indicating that operational efficiency remains a challenge for several Islamic banks, particularly smaller institutions undergoing business transformation.

Correlation Analysis

Table 4. Correlation Matrix

Variable	ESG	E	S	G	ROA	ROE	NPF	FDR	BOPO	Ln Aset	CAR
ESG	1.000	0.993***	0.981***	0.991***	0.203	0.123	-0.474*	0.021	-0.032	0.227	0.034
E	0.993***	1.000	0.954***	0.992***	0.072	-0.031	-0.532**	0.122	0.095	0.149	0.148
S	0.981***	0.954***	1.000	0.948***	0.350	0.493*	-0.273	-0.279	-0.480*	0.384	-0.502**
G	0.991***	0.992***	0.948***	1.000	0.234	0.098	-0.446*	0.029	0.037	0.155	0.139
ROA	0.203	0.072	0.350	0.234	1.000	0.889***	0.533**	-0.401	-0.710***	0.283	-0.546**
ROE	0.123	-0.031	0.493*	0.098	0.889***	1.000	0.626**	-0.531**	-0.773***	0.648***	-0.690***
NPF	-0.474*	-0.532**	-0.273	-0.446*	0.533**	0.626**	1.000	-0.458*	-0.576**	0.283	-0.692***
FDR	0.021	0.122	-0.279	0.029	-0.401	-0.531**	-0.458*	1.000	0.928***	-0.578**	0.887***
BOPO	-0.032	0.095	-0.480*	0.037	-0.710***	-0.773***	-0.576**	0.928***	1.000	-0.572**	0.933***
Ln Aset	0.227	0.149	0.384	0.155	0.283	0.648***	0.283	-0.578**	-0.572**	1.000	-0.626***
CAR	0.034	0.148	-0.502**	0.139	-0.546**	-0.690***	-0.692***	0.887***	0.933***	-0.626***	1.000

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. Pearson correlations computed over the 18 coded bank-years (pairwise where financial ratios are missing).

Table 4 presents the Pearson correlation matrix among the study variables. Overall, the results indicate that the direction of the correlations is generally consistent with the theoretical expectations proposed in this study. The correlation matrix does not indicate problematic pairwise correlations among the explanatory variables included in the baseline regression model; multicollinearity is formally assessed using the VIF analysis reported in **Table 8**.

The ESG-Syariah Index correlates positively but insignificantly with ROA ($r = 0.203$) and ROE ($r = 0.123$), and negatively and significantly with NPF ($r = -0.474$, $p < 0.05$), indicating that higher ESG disclosure is associated with lower financing risk. Its correlations with FDR, BOPO, and the control variables are weak and insignificant.

The three ESG dimensions correlate with the composite index above 0.98 by construction, so the composite and its dimensions are estimated in separate models to avoid the resulting collinearity. Among the performance indicators, the expected interrelations hold: ROA and ROE are strongly positive ($r = 0.889$, $p < 0.01$), both are strongly negative with BOPO ($r = -0.710$ and -0.773 , $p < 0.01$), and FDR is strongly positive with CAR ($r = 0.887$) and BOPO ($r = 0.933$, $p < 0.01$).

Panel Model Selection and Diagnostic Tests

The panel estimator was selected through the three tests specified in the Research Method section. **Table 5** reports the results.

Table 5. Panel Model Selection Tests

DV	Chow test (pooled vs bank FE): null = pooled adequate	F	p	Decision
ROA		34.75	0.000	Bank FE preferred
ROE		15.52	0.001	Bank FE preferred
NPF		19.14	0.001	Bank FE preferred
FDR		4.83	0.033	Bank FE preferred
BOPO		3.54	0.061	Pooled adequate

Table 6 reports the diagnostic tests applied to the residuals of the selected specification.

Table 6. Diagnostic Tests on the Selected Specification

DV	Diagnostic (null hypothesis)	Statistic	p	Note
ROA	Breusch–Pagan (homoskedastic)	6.88	0.076	HC3 robust SE used
ROE	Breusch–Pagan (homoskedastic)	5.62	0.132	HC3 robust SE used
NPF	Breusch–Pagan (homoskedastic)	7.55	0.056	HC3 robust SE used
FDR	Breusch–Pagan (homoskedastic)	2.27	0.518	HC3 robust SE used
BOPO	Breusch–Pagan (homoskedastic)	3.74	0.291	HC3 robust SE used

The Chow test favors bank fixed effects for four of the five models, but with eighteen coded bank-years across four banks, the fixed-effects specification consumes almost all available degrees of freedom: it returns implausibly large bank-specific intercepts and coefficients of determination above 0.94, the signature of overfitting rather than of a well-identified model. The pooled specification with heteroskedasticity-robust (HC3) standard errors is therefore retained as the baseline, and the fixed-effects estimates are reported in the robustness analysis and interpreted with corresponding caution. Serial correlation and cross-sectional dependence tests are not reported because the panel is too short for them to be informative.

Baseline Regression

Table 7. Baseline Regression Result

Dependent Variable	Coef. (ESG)	Robust SE	t	p	R ²	Adj. R ²
ROA	0.076	0.101	0.754	0.451	0.371	0.213
ROE	0.045	0.168	0.268	0.789	0.557	0.447
NPF	-0.014	0.055	-0.262	0.793	0.536	0.409
FDR	-0.576	0.525	-1.096	0.273	0.920	0.898
BOPO	-0.476	1.636	-0.291	0.771	0.877	0.846

Note: *** p < 0.01, ** p < 0.05, * p < 0.10. Robust (HC3) standard errors. Estimation sample: 18 coded bank-years (16 for ROA, ROE, BOPO; 15 for NPF, FDR).

Table 7 reports the baseline regression results examining the effect of ESG integration on the financial performance of Indonesian Islamic banks. Overall, the coefficients generally follow the expected theoretical direction for the performance indicators for which directional hypotheses were specified. The results indicate that the ESG Composite Index has a positive association with profitability, as reflected by ROA ($\beta = 0.076$, $t = 0.754$, $p = 0.451$) and ROE ($\beta = 0.045$, $t = 0.268$, $p = 0.789$). However, the lack of statistical significance indicates that the positive effect cannot be empirically confirmed in the current sample.

In contrast, ESG exhibits negative coefficients for NPF ($\beta = -0.014$, $t = -0.262$, $p = 0.793$), FDR ($\beta = -0.576$, $t = -1.096$, $p = 0.273$), and BOPO ($\beta = -0.476$, $t = -0.291$, $p = 0.771$). Nevertheless, these relationships remain statistically insignificant. The unadjusted coefficient of determination is 0.371 for ROA, 0.557 for ROE, 0.536 for NPF, 0.920 for FDR, and 0.877 for BOPO.

Table 7 tests H4. The coefficient on the composite index is positive for ROA and ROE and negative for NPF and BOPO, so the estimated signs correspond to the predicted direction for all four indicators for which a direction was specified. No coefficient attains statistical significance at the 5 per cent level; the smallest p-value is 0.273, obtained for FDR, for which no directional prediction was made. H4 is therefore not supported. The sign pattern is consistent with the hypothesis, but the null of no association cannot be rejected on this evidence.

Reported alongside R², the adjusted coefficient of determination is 0.213 for ROA, 0.447 for ROE, 0.409 for NPF, 0.898 for FDR, and 0.846 for BOPO. Even after adjustment, the models retain moderate to high explanatory power, but this reflects the two control variables and the very small sample rather than the ESG measure, whose coefficient is insignificant in every case. Both statistics are reported for every model in **Tables 7, 9, and 10**.

Multicollinearity Test Result

Table 8. VIF Results

Variable	VIF	Tolerance (1/VIF)
ESG Composite Index	1.09	0.917
Bank Size (Ln Assets)	1.79	0.559
Capital Adequacy Ratio (CAR)	1.72	0.581

Decision criteria: VIF < 10: No serious multicollinearity, VIF < 5: Low multicollinearity, Tolerance > 0.10: Acceptable

Table 8 shows that the VIF results indicate that all independent variables have VIF values well below the commonly accepted threshold of 10. Specifically, the ESG Composite Index has a VIF of 1.09, while Bank Size (Ln Assets) and CAR have VIFs of 1.79 and 1.72, respectively. The corresponding tolerance values are all substantially higher than the minimum acceptable level of 0.10. These findings suggest that multicollinearity is not a concern in the baseline regression model. The independent variables are not highly linearly correlated, implying that the estimated regression coefficients are stable and can be interpreted reliably. Consequently, the regression model satisfies one of the key assumptions required for panel data estimation.

Robustness Test

To assess the stability of the baseline findings, two robustness analyses were performed. The first robustness test replaced the ESG Composite Index with its individual dimensions, while the second employed a lagged ESG specification to examine whether ESG implementation influences financial performance over time. The results of the first robustness analysis are presented in **Table 9**. Among the alternative specifications, the Environmental dimension exhibits relatively weak and statistically insignificant relationships across all financial performance indicators.

The estimated coefficients vary in direction depending on the dependent variable. Although the explanatory power of the models remains relatively high, particularly for FDR ($R^2 = 0.937$) and BOPO ($R^2 = 0.913$), none of the estimated coefficients achieve conventional levels of statistical significance.

Table 9. Robustness Test: Alternative ESG Specifications

Dependent Variable	Dimension	Coefficient	Robust SE	t	p	R ²	Adj. R ²
ROA	Environmental	-0.030	0.387	-0.077	0.938	0.587	0.380
	Social	-0.725	1.093	-0.664	0.507		
	Governance	0.285	0.222	1.284	0.199		
ROE	Environmental	-0.171	0.739	-0.231	0.817	0.674	0.511
	Social	-0.944	1.906	-0.495	0.620		
	Governance	0.449	0.435	1.033	0.302		
NPF	Environmental	0.040	0.072	0.557	0.577	0.643	0.445
	Social	-0.316	0.309	-1.021	0.307		
	Governance	0.032	0.029	1.125	0.261		
FDR	Environmental	0.356	0.609	0.585	0.559	0.937	0.902
	Social	-2.320	3.653	-0.635	0.525		

	Governance	-0.136	0.489	-0.278	0.781		
BOPO	Environmental	-0.894	3.688	-0.242	0.808	0.913	0.869
	Social	9.793	20.297	0.482	0.629		
	Governance	-2.306	2.620	-0.880	0.379		

Note: *** p < 0.01, ** p < 0.05, * p < 0.10. Robust (HC3) standard errors. Estimation sample: 18 coded bank-years (16 for ROA, ROE, BOPO; 15 for NPF, FDR).

Table 9 reports a single specification in which the three ESG dimensions enter jointly, allowing H1, H2, and H3 to be tested together. For the environmental dimension (H1), the coefficient is negative for ROA (−0.030) and ROE (−0.171), positive for NPF (0.040), and negative for FDR (0.356) and BOPO (−0.894); three of the five signs run against the prediction and none is significant, so H1 is not supported.

For the social dimension (H2), the coefficient is negative for ROA (−0.725), ROE (−0.944), and NPF (−0.316), negative for FDR (−2.320), and positive for BOPO (9.793); the signs are mixed relative to the prediction, and none is significant, so H2 is not supported. For the governance dimension (H3), the coefficient is positive for ROA (0.285) and ROE (0.449), positive for NPF (0.032), negative for FDR (−0.136), and negative for BOPO (−2.306); again, no coefficient is significant, so H3 is not supported. The joint specification carries severe multicollinearity, with VIF of 17.7 for the environmental and 36.8 for the social dimension, so the individual dimension coefficients cannot be interpreted in isolation and are reported only to complete the test of H1 through H3.

The second robustness analysis, reported in **Table 10**, employs a one-period-lagged ESG index to account for the possibility that sustainability initiatives require time to affect financial performance. Consistent with the baseline regression results, the lagged ESG coefficients remain statistically insignificant across all dependent variables. The estimated coefficients are positive for ROA but negative for ROE, NPF, FDR, and BOPO, indicating that the relationships remain generally consistent with the baseline model but are not statistically significant.

Table 10. Robustness Test: Lagged ESG Specification

Dependent Variable	Coef. (ESG t−1)	Robust SE	t	p	R ²	Adj. R ²
ROA	0.007	0.042	0.156	0.876	0.306	0.132
ROE	-0.012	0.076	-0.150	0.880	0.554	0.442
NPF	-0.004	0.011	-0.381	0.703	0.520	0.389
FDR	-0.116	0.220	-0.530	0.596	0.812	0.761
BOPO	-0.047	0.513	-0.092	0.927	0.872	0.840

Note: *** p < 0.01, ** p < 0.05, * p < 0.10. Robust (HC3) standard errors. Estimation sample: 18 coded bank-years (16 for ROA, ROE, BOPO; 15 for NPF, FDR).

Table 10 re-estimates H4 using a one-period lag of the composite index. The lagged coefficient is positive for ROA (0.007), negative for ROE (−0.012), negative for NPF (−0.004), and negative for BOPO (−0.047). Three of the four signed predictions are matched, the exception being ROE, and no coefficient is statistically significant. The lagged specification does not alter the conclusion that H4 is not supported.

Across the baseline and both robustness specifications, therefore, none of the hypotheses tested is supported at conventional significance levels, while the direction of

the estimates is broadly consistent with the predictions for the composite index and inconsistent with them for the environmental dimension. The interpretation of this pattern is taken up in the Discussion.

DISCUSSION

The analysis produced no statistically significant association between ESG integration and any of the five performance indicators. This section therefore separates two things that are easily conflated: what the sign pattern of the estimates is consistent with, and what the absence of significance permits to be concluded. The separation is maintained throughout, because a coefficient that cannot be distinguished from zero cannot support a claim about the existence or magnitude of an effect, however closely its sign matches theoretical expectation. The discussion is organized by hypothesis.

The Composite ESG-Syariah Index (H4)

H4 predicted that composite ESG integration would raise ROA and ROE and lower NPF and BOPO. The estimated signs match that prediction for all four indicators, yet no coefficient approaches conventional significance, and the null of no association cannot be rejected. The result is therefore a non-result, and it is informative chiefly in relation to what the literature leads one to expect. [Friede et al. \(2015\)](#), synthesizing more than two thousand empirical studies, report that a non-negative ESG–performance relationship predominates, while [Hieu et al. \(2026\)](#) and [Smaoui et al. \(2025\)](#) document positive associations in banking specifically. The present estimates neither corroborate nor contradict that body of work. With only sixteen observations, the confidence intervals are wide enough to encompass a substantial positive effect and no effect at all. What can properly be said is that the direction of the point estimates is not inconsistent with prior findings, which is a considerably weaker claim than the prior literature itself sustains.

Stakeholder theory, legitimacy theory, and the RBV provide the theoretical basis for expecting ESG integration to enhance bank performance through stakeholder trust, legitimacy, and strategic capabilities. However, this study estimates only the overall ESG–performance relationship rather than these underlying mechanisms; therefore, the theories serve solely as the basis for hypothesis development and are not directly validated by the empirical results.

The Environmental Dimension (H1)

H1 predicted that the environmental dimension would raise ROA and ROE and lower NPF and BOPO. Three of the four signs are contradicted: the coefficients are negative for ROA (−0.030) and ROE (−0.171) and positive for NPF (0.040), with only BOPO (−0.894) in the predicted direction. None is significant. Two readings are available, and the data do not distinguish between them. The first is that environmental practice in Indonesian Islamic banking is at too early a stage to generate measurable financial returns, since green financing requires substantial initial investment before yielding any return, an immaturity that [Jan et al. \(2019\)](#) observe in Islamic banking sustainability practice more broadly. The second is that the estimates are too imprecise to carry information about sign at all: the ROA coefficient of −0.030 is accompanied by a robust standard error of 0.387, more than twelve times its magnitude. The second reading is the more parsimonious, and the environmental result is therefore better described as uninformative than as evidence of a negative effect.

The Social and Governance Dimensions (H2 and H3)

H2 and H3 were tested through the joint dimension specification reported in [Table 9](#). Neither the social nor the governance coefficient attains significance for any performance

indicator, and their signs are unstable across indicators. This instability is expected rather than informative: because the three dimensions are constructed from the same disclosures, they are severely collinear, with variance inflation factors of 17.7 and 36.8 for the environmental and social dimensions, so the separate coefficients cannot be read as the independent contribution of each dimension. What can be said is only that, like the composite index, no dimension shows a detectable association with performance at this sample size. The descriptive ordering, in which social disclosure exceeds governance disclosure and governance disclosure exceeds environmental disclosure, remains a statement about reporting practice and carries no implication about financial consequence.

Interpreting the Absence of Statistical Significance

The imprecision of the estimates has a straightforward source. The baseline specification contains four parameters and is estimated on fifteen to sixteen observations, leaving eleven or twelve residual degrees of freedom. At that ratio, standard errors are large by construction, and the power to detect an effect of plausible magnitude is very low. The adjusted coefficient of determination reinforces the point: where the models retain explanatory power, it derives from the control variables, since the ESG coefficient is insignificant throughout. The insignificance of the coefficients is consequently uninformative about whether an economic relationship exists. It is a property of the research design rather than a finding about ESG.

A second consideration concerns measurement. The ESG-Syariah Index captures disclosure rather than actual sustainability outcomes; consequently, the estimated relationship reflects reported ESG integration, not implementation in practice. Banks that undertake sustainability initiatives without disclosing them receive no credit under the index, a limitation also noted by [Gati et al. \(2026\)](#) in the Indonesian Sharia context.

Contributions and Practical Implications

This study contributes to sustainable Islamic finance both theoretically and methodologically by integrating stakeholder theory, legitimacy theory, the RBV, and *Maqasid al-Sharia* into a unified framework, while developing an ESG-Syariah Index that links conventional ESG indicators with *maqasid* objectives through content analysis. The index enables assessment of Islamic banks beyond the coverage of commercial ESG rating agencies. Although no significant ESG–performance relationship was found, the findings highlight the need for stronger environmental disclosure, provide regulators with a Sharia-aligned ESG disclosure framework, and underscore the importance of expanding sustainability reporting across the sector. Overall, the study establishes a practical measurement instrument for ESG disclosure in Islamic banking, while future research should employ larger samples and longer observation periods to more rigorously examine its relationship with financial performance.

CONCLUSION

This study examined whether ESG integration is associated with the financial performance of Indonesian Islamic banks, using an ESG-Syariah Index constructed through content analysis of sustainability reports and applied to the four Islamic commercial banks listed on the Indonesia Stock Exchange over the 2021–2024 period.

The principal empirical finding is negative: no statistically significant association was detected between ESG integration and any of the five performance indicators. In the baseline specification, the coefficient on the composite index carried the predicted sign for ROA, ROE, NPF, and BOPO, but the smallest p-value across the five models was

0.273, and H4 is not supported. In the dimension-level specification, in which the three dimensions enter jointly, none of the ESG coefficients is significant for any indicator, so H1, H2, and H3 are likewise not supported; the dimension coefficients are in any case uninterpretable in isolation because the dimensions are severely collinear. Introducing a one-period lag of the ESG measure altered none of these conclusions.

This null result is a property of the research design rather than evidence against a relationship: with four parameters estimated on fifteen to sixteen observations, the study has very little power to detect an effect of plausible magnitude, and the explanatory power the models show derives from the control variables rather than from ESG.

The descriptive results are more informative than the regression results. Disclosure is markedly uneven across the three dimensions: social disclosure is the highest, governance disclosure second, and environmental disclosure the lowest. The environmental shortfall arises principally where indicators are reported narratively or in monetary terms rather than in the physical units that substantive environmental reporting requires.

The contribution of the study is accordingly methodological rather than inferential. The ESG-Syariah Index provides a thirty-nine-item instrument in which every indicator is anchored simultaneously to established sustainability reporting practice and to an objective of *Maqasid al-Sharia*, and which requires only published reports, making it computable for the Islamic banks that commercial rating agencies do not cover.

For Islamic banks, three specific actions follow from the disclosure profile. First, environmental indicators should be reported in physical units, with energy in kilowatt-hours, water in cubic meters, waste in tons, and emissions in tons of CO₂ equivalent, because narrative and rupiah-only reporting is where environmental scores are most frequently forfeited. Second, ESG content currently dispersed across the annual report and the corporate governance report should be consolidated into the sustainability report, which is the document that assessment frameworks read. Third, the reporting boundary and reporting period should be stated for each indicator, so that year-on-year comparison becomes possible.

For the Financial Services Authority, three measures follow. First, the sustainability reporting obligation under POJK 51/2017 could be supplemented by a minimum quantitative disclosure requirement for environmental indicators, since narrative reporting currently satisfies the obligation in practice. Second, a disclosure template specific to Islamic banking, covering the Sharia Supervisory Board, ZISWAF and *qardhul hasan* funds, and Sharia compliance, would render disclosure comparable across institutions precisely on the dimensions that distinguish Islamic banks from conventional ones. Third, extending sustainability reporting in practice to unlisted Islamic commercial banks would remove the constraint that presently makes sector-wide analysis impossible.

The study therefore does not establish that ESG integration improves the financial performance of Islamic banks, nor that it fails to. What it establishes is an instrument for measuring ESG disclosure in Islamic banking, and evidence that disclosure among the listed Indonesian Islamic banks is concentrated in the social and governance dimensions while remaining thin in the environmental dimension.

LIMITATION

This study has several limitations. First, it examines only the four Islamic commercial banks listed on the Indonesia Stock Exchange during 2021–2024, limiting the generalizability of the findings. Second, the small sample size constrains the statistical power and the number of variables that can be included in the regression model. Third, the ESG-Syariah Index measures disclosure rather than actual sustainability performance and relies exclusively on sustainability reports, potentially overlooking ESG information disclosed elsewhere. Fourth, financial performance is assessed solely through accounting-based indicators without incorporating market-based measures or macroeconomic controls. Finally, the content analysis was conducted by a single coder, and no formal intercoder reliability statistic (e.g., Cohen's kappa) was calculated, leaving coding consistency unquantified.

Future research should address the sample constraint directly rather than through more elaborate estimation. Extending the ESG-Syariah Index to unlisted Islamic commercial banks and lengthening the observation window would raise the number of observations to a level at which the association could be tested with meaningful power; applying dynamic panel estimators or the Generalized Method of Moments to a panel of the present size would not. Once such a panel exists, the relative financial contribution of the three ESG dimensions can be estimated, and the mediating or moderating roles of Islamic corporate governance, green financing, and Sharia compliance can be examined.

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DECLARATION OF CONFLICTING INTERESTS

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