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Meta-analysis of the impact of Islamic economic system on economic growth

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Abstract
This study investigates the impact of the Islamic economic system on economic growth through a meta-analysis approach grounded in Qur'anic values. By synthesizing data from 96 studies published between 2015 and 2025, the research evaluates the efficacy of key Islamic economic instruments—*zakat*, *mudharabah*, and *sukuk*—in promoting sustainable development. Employing a Random-Effects Model, the average effect size was found to be 0.796 with a confidence interval ranging from 0.722 to 0.870, indicating a strong positive influence. The heterogeneity analysis revealed a high degree of variability (I^2 = 98.11%), influenced by factors such as policy frameworks, financial infrastructure, and public literacy. Tests for publication bias using Kendall's Tau and Egger's Regression detected minimal bias, confirming the robustness of the findings. The study concludes that while the Islamic economic system significantly contributes to inclusive and sustainable growth, its effectiveness hinges on regulatory coherence and improved literacy. Recommendations include enhancing Islamic financial frameworks and increasing public awareness to harness the system's full potential.

Keywords: Islamic economic system; economic growth; zakat; sukuk; Qur'anic values

INTRODUCTION

The Islamic economic system, rooted in the values of the *Qur'an*, has emerged as an alternative framework for addressing various global economic challenges. Its core principles—justice (ʿ*adl*), prohibition of *riba* (usury), risk-sharing, and sustainability—render it a viable solution to issues such as income inequality, financial crises, and the pursuit of sustainable development goals. Recent studies highlight the potential of Islamic social finance to enhance societal welfare and economic sustainability through integrated measurement tools like the Islamic Social Finance Sustainability Index, although effectiveness remains inconsistent across implementation programs (Widiastuti *et al.*, 2022). Furthermore, Islamic banking has demonstrated stronger resilience compared to conventional banks during crises such as the COVID-19 pandemic (Widiastuti *et al.*, 2022). Despite its promising potential, the implementation of the Islamic economic system in many countries, particularly those with Muslim majorities, continues to face structural and institutional challenges that limit its broader impact on global economic growth.

Empirical studies provide mixed evidence on the contribution of Islamic economics to economic development. While several studies indicate that the adoption

of Islamic economic principles enhances financial stability, broadens financial inclusion, and fosters equitable development, others point to existing limitations such as inadequate infrastructure, inconsistent regulatory frameworks, and low financial literacy (Naz & Gulzar, 2022; A. D. Hanif & Hanafi, 2023; Hussein, 2023). For instance, the expansion of Islamic banking assets and *sukuk* financing has significantly supported long-term growth in Muslim-majority countries, while also maintaining economic stability amid uncertainty in regions like ASEAN.

These varying findings highlight the need for a comprehensive synthesis to understand the systemic impact of the Islamic economic model. A meta-analysis approach is well-suited for this task, as it enables the integration of quantitative findings across multiple studies to draw more generalizable conclusions. Through such an approach, the effectiveness of Islamic economic instruments can be examined in light of regional contexts, policy variations, economic sectors, and technological integration. Prior meta-analytical research suggests that while Islamic banking correlates positively with economic growth, the strength of this relationship is moderated by macroeconomic conditions and public policy frameworks (Mensi *et al.*, 2020; Nawaz *et al.*, 2019).

Globally, the Islamic economic system is increasingly viewed not merely as an economic alternative, but as a moral and ethical foundation capable of harmonizing economic advancement with spiritual and social responsibility. Its emphasis on fair wealth distribution, responsible resource management, and community welfare aligns well with contemporary goals for inclusive and sustainable development. Evidence further suggests that the growth of Islamic financial sectors, including the issuance of *sukuk*, has significantly enhanced competitiveness and long-term development in Muslim-majority nations (Naz & Gulzar, 2022; Sari & Yaumidin, 2024). Additionally, the alignment of Islamic finance with ethical financial practices makes it particularly impactful in developing economies, provided that enabling policies and adequate literacy efforts are in place (Butt *et al.*, 2023). Thus, harmonization of halal standards and financial infrastructure becomes critical to unlocking the full potential of the Islamic economic model in fostering equitable global growth (A. D. Hanif & Hanafi, 2023).

LITERATURE REVIEW AND RESEARCH HYPOTHESIS
Islamic Economic System and Economic Growth

The Islamic economic system, grounded in *Qur'anic* principles, offers a distinctive alternative to conventional economic models by upholding justice, equity, and the prohibition of *riba* (interest). Operating on the foundations of risk-sharing, wealth redistribution, and socioeconomic welfare, it aspires to support long-term and inclusive economic growth. Scholarly works underscore the role of key Islamic financial mechanisms—*zakat* (almsgiving), *mudharabah* (profit-sharing), and *sukuk* (Islamic bonds)—in fostering financial inclusion and equitable wealth distribution, which are crucial elements of economic development (Mensi *et al.*, 2020).

Empirical findings consistently demonstrate that Islamic banking contributes positively to economic development in Muslim-majority countries. Studies have linked the growth of Islamic financial institutions with increased financial stability and enhanced gross domestic product (GDP) across diverse regions (Naz & Gulzar, 2022).

For instance, Nawaz *et al.* (2019) emphasize that integrating Islamic financial norms into economic policymaking is essential to promoting long-term economic sustainability.

Meta-analysis serves as a valuable methodological tool to synthesize such diverse findings. By aggregating empirical results from multiple independent studies, meta-analysis enables researchers to arrive at more generalized conclusions and examine the effects of Islamic economic systems on growth across varying contexts and methodologies. This process is especially beneficial for identifying patterns and assessing consistency across different economic and institutional environments.

The Qur'anic Perspective on Economic Values

The *Qur'an* establishes a comprehensive ethical and economic framework through its core values, including ʿadl (justice), *tasfiyah al-amwāl* (wealth purification and circulation), and the prohibition of exploitation. These principles aim to ensure economic equity, reduce income disparities, and direct investment toward productive and morally acceptable ventures (M. Hanif *et al.*, 2024). Research suggests that applying such principles can effectively alleviate inequality and enhance community welfare, thus contributing to a more sustainable and inclusive economic system (Mustafa *et al.*, 2018).

Furthermore, Islamic financial tenets align closely with modern economic objectives by promoting risk-sharing and discouraging speculative activities, which can reduce financial instability and enhance resilience (Mensi *et al.*, 2020). These alignments position Islamic economic values as a viable framework for assessing macroeconomic performance in both developing and developed countries.

Research Hypothesis

1. Based on the theoretical and empirical evidence, this study proposes the following hypothesis:
2. **H$_1$:** The implementation of the Islamic economic system has a positive and significant impact on economic growth.

RESEARCH METHODS

This study employs a meta-analytic methodology—a quantitative approach that synthesizes findings from multiple empirical studies—to evaluate the impact of the Islamic economic system on economic growth, grounded in the values of the *Qur'an* (Nawaz *et al.*, 2019). This method allows for broader generalizations based on cumulative empirical evidence. The research was carried out in several key stages as follows:

Research Approach

The process began with the identification of relevant empirical studies that investigate the relationship between Islamic economic principles and economic growth. To ensure relevance and rigor, only studies published in reputable international journals or conference proceedings were selected. These studies had to include quantitative data from which effect sizes could be calculated and align conceptually with the *Qur'anic*-based framework of Islamic economics.

Research Stages

Study Identification and Selection: Inclusion criteria required that the studies incorporate variables related to economic growth and provide quantifiable data suitable for effect size analysis. Conceptual or qualitative-only studies, or those lacking relevant variables, were excluded. The literature search was conducted through databases such as Scopus, Crossref, and Google Scholar, in addition to manual searches of international conference proceedings on Islamic economics.

Data Extraction: Extracted information included effect size indicators (e.g., correlation coefficients, economic impact metrics), study characteristics (location, time period, analytical method, and economic indicators), and moderating variables (such as sector-specific data and Islamic economic policies).

Data Analysis: Effect size computation was carried out using metrics such as Cohen's d, Hedges' g, and odds ratios, depending on data types. A fixed-effect model was applied when heterogeneity was low, while a random-effects model was used in high-heterogeneity contexts.

1. **Interpretation and Presentation of Results:** Findings were visualized through forest plots, which illustrated individual and overall effect sizes. In-depth interpretation focused on the magnitude and direction of the Islamic economic system's influence on growth outcomes.

2. **Software Used:** Jamovi software was utilized to calculate effect sizes, assess heterogeneity, and produce visual representations of the results.

3. **Secondary Data:** The study relied on secondary data extracted from peer-reviewed publications, with effect size metrics such as correlations (r), mean differences (Cohen's d, Hedges' g), and others appropriate to the available data.

4. **Publication Bias:** Publication bias was assessed using funnel plots and statistical tests such as Egger's Regression and the Trim and Fill method to evaluate data symmetry and reliability.

Validity and Reliability

To ensure methodological integrity, this study adhered to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The PRISMA flow diagram (Figure 1) outlines the literature selection process. Initially, 640 articles were identified—500 from Crossref and 140 from Scopus. After removing 241 duplicates, 399 articles remained. Following a screening process, 157 studies met the initial inclusion criteria. A further eligibility review yielded 97 articles deemed suitable, while 3 were excluded for failing to meet systematic review and meta-analysis standards (Page *et al.*, 2020).
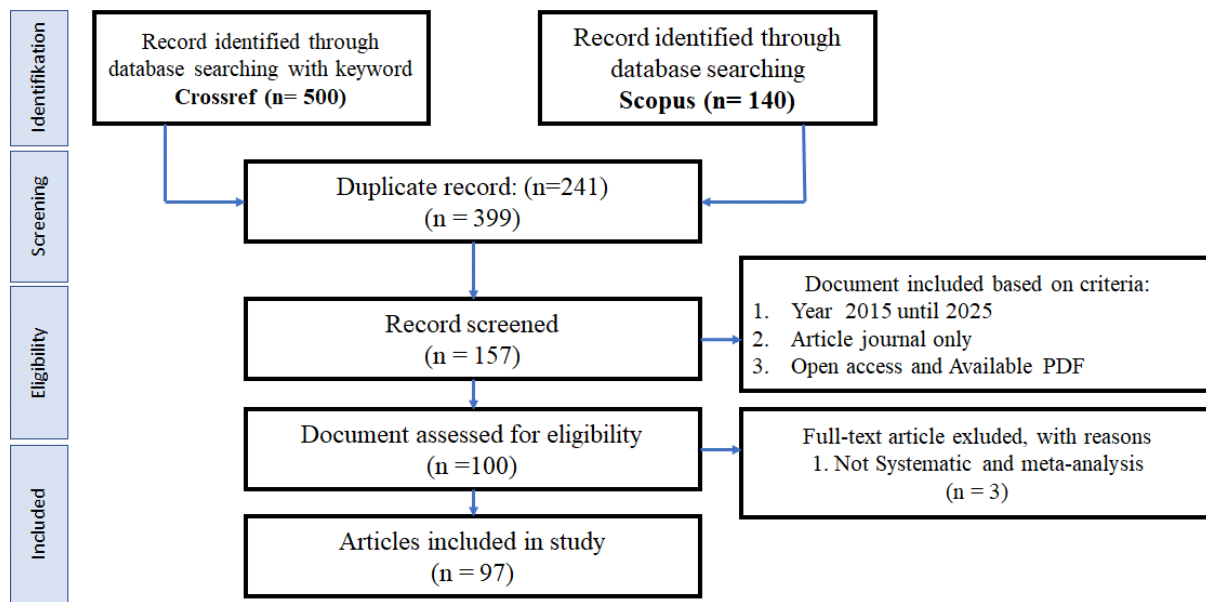
Figure 1 PRISMA flow diagram for the meta-analysis

RESULTS

Reliability Generalization

Ensuring coding reliability is a crucial component in this meta-analysis, which examines the impact of the Islamic economic system on economic growth in light of *Qur'anic* values. Following the recommendations of Shelby and Vaske (2008) and McHugh (2012), this study employed inter-coder reliability measured using Cohen's Kappa statistics. Table 1 summarizes the general reliability metrics derived from the Random-Effects Model involving 11 studies.

Table 1 Reliability Generalization (Random-Effects Model, k = 11)

Estimate	SE	Z	*p*	95% CI (Lower – Upper)
0.796	0.0378	21.1	<.001	0.722 – 0.870

The average effect size was calculated at 0.796 with a standard error of 0.0378, indicating a high level of precision. The *Z*-score of 21.1 and *p*-value <.001 confirm the result's strong statistical significance. The confidence interval (95%) ranging from 0.722 to 0.870 further reinforces the robustness of the estimated effect.

Heterogeneity

Heterogeneity was assessed to determine the degree of variability among the included studies. As shown in Table 2, significant heterogeneity was detected.

Table 2 Heterogeneity Statistics

τ	τ²	I²	H²	df	Q	*p*
0.123	0.0152	98.11%	52.846	10	163.007	<.001

An I² value of 98.11% suggests that nearly all observed variability is due to genuine heterogeneity rather than sampling error. The *Q* statistic also confirms this finding (*p* < .001), indicating substantial variation across studies.
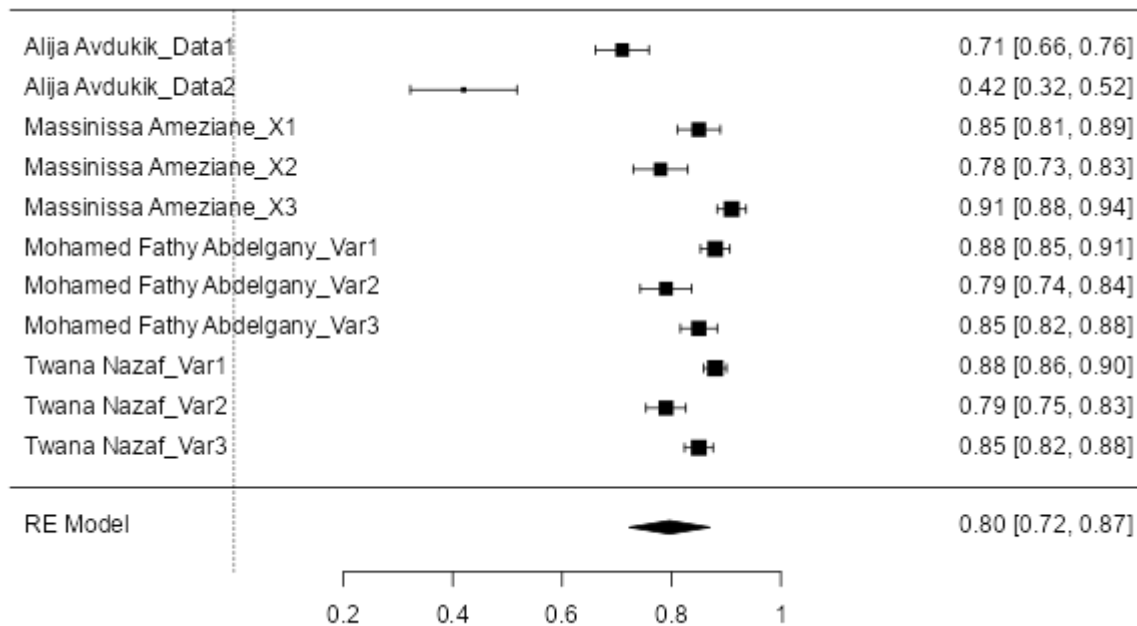
Figure 2 Forest Plot Reliability

Forest Plot Analysis

The forest plot revealed an average effect size of 0.80, which falls into the "large" category (0.79 < effect size < 1.19), implying a strong and meaningful influence of the Islamic economic system on growth. This finding confirms both statistical significance and practical relevance.

Publication Bias

Table 3 presents the assessment of publication bias using multiple statistical tools.

Table 3 Publication Bias Assessment

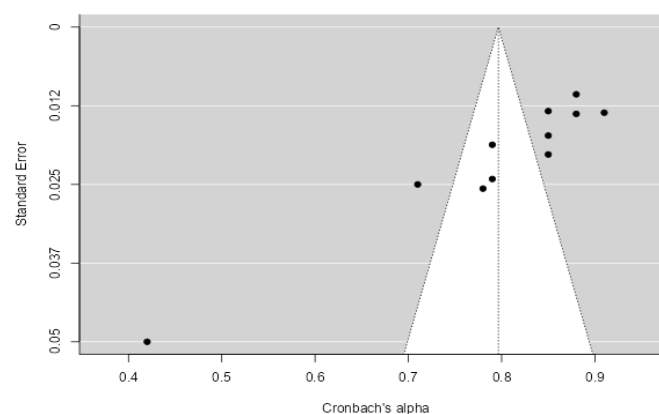| Test	Value	p
Fail-Safe N	97,221,000	<.001
Kendall's Tau	-0.745	<.001
Egger's Regression	-8.279	<.001

Figure 3 Funnel Plot Cronbach Alpha

The Fail-Safe N suggests extraordinary robustness of the meta-analysis result, as it would require over 97 million null-result studies to invalidate the current findings. Nonetheless, Kendall's Tau and Egger's Regression indicate potential asymmetry and bias, suggesting cautious interpretation.

Funnel Plot and Reliability

The funnel plot on Cronbach's Alpha indicated overall strong internal consistency of the instruments used in the included studies. However, visual asymmetry hints at possible underreporting of lower-reliability findings, consistent with the publication bias tests.

Correlation Coefficients

To further evaluate the relationship between the Islamic economic system and economic growth, correlation coefficients (r) were analyzed using a Random-Effects Model across 22 studies. The results are presented in Table 4.

Table 4 Correlation Coefficient (Random-Effects Model, k = 22)

Estimate (*r*)	SE	Z	*p*	95% CI (Lower – Upper)
0.470	0.127	3.70	<.001	0.221 – 0.718

The average correlation coefficient (*r*) is 0.470, indicating a moderately strong positive relationship between the Islamic economic system and economic growth. The standard error is 0.127, and the *Z*-score of 3.70 with *p* < .001 confirms statistical significance. The 95% confidence interval ranges from 0.221 to 0.718, supporting the consistency of this positive relationship across studies.

Heterogeneity of Correlations

Heterogeneity analysis again shows a high level of variation among the individual correlation studies.
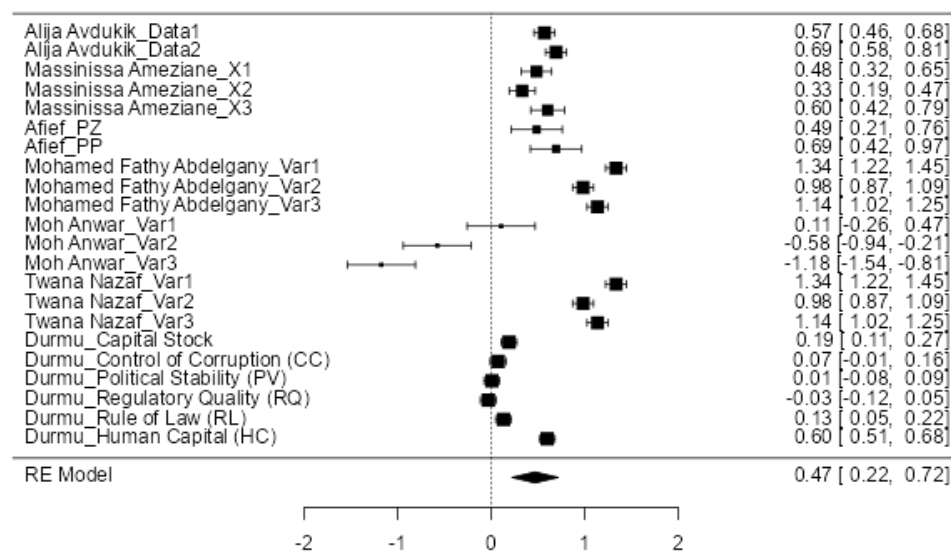

Figure 4 Forest Plot Correlation

Table 5 Heterogeneity Statistics for Correlations

τ	τ^2	I²	H²	df	Q	p
0.588	0.3455 (SE = 0.1093)	98.98%	98.181	21	1,465.111	<.001

The I² value of 98.98% and Q statistic of 1,465.111 ($p < .001$) indicate that nearly all of the variability among the correlations is due to real differences rather than sampling error. This underscores the influence of contextual and methodological diversity across the studies.

Forest Plot for Correlations

The forest plot of the 22 studies reflects an overall positive and statistically significant correlation. Each dot in the plot represents a study's correlation coefficient, with the pooled effect (0.470) visualized by a diamond symbol. Despite high heterogeneity, most studies support a consistently positive relationship between Islamic economic mechanisms and economic growth.
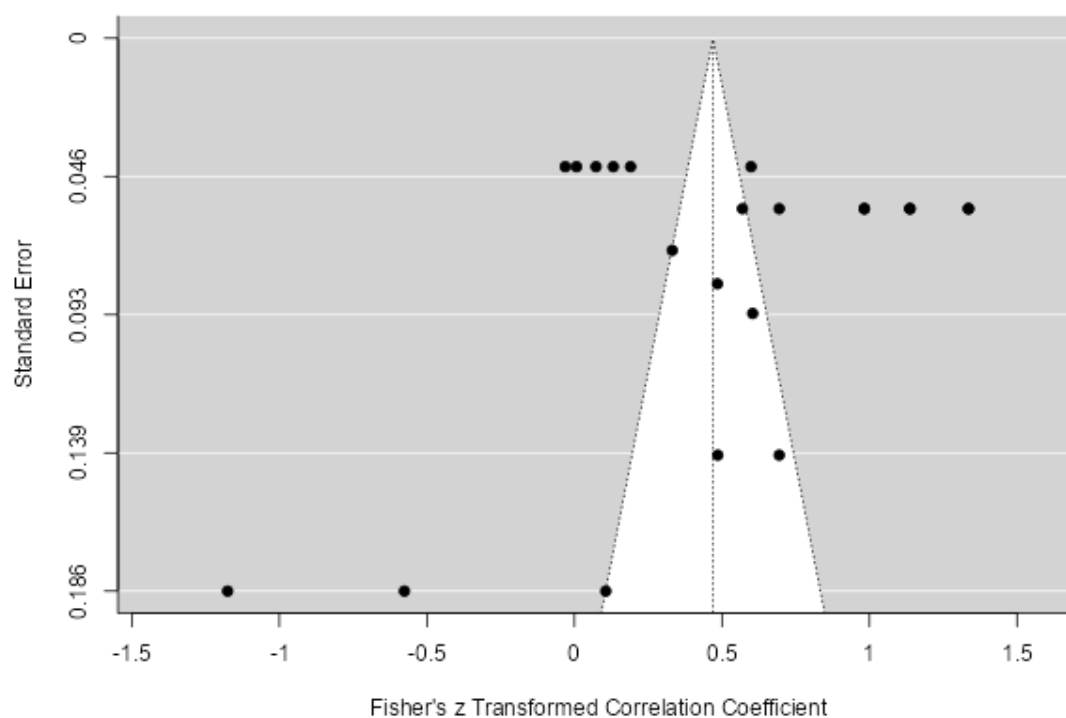
Publication Bias in Correlation Studies

Figure 5 funnel Correlation Plot

Bias assessment was also performed for the correlation-based studies, as shown in Table 6.

Table 6 Publication Bias Assessment – Correlation Studies

Test	Value	*p*
Fail-Safe N	12,201,000	<.001
Begg & Mazumdar Rank Correlation	0.039	0.814
Egger's Regression	-2.617	0.009
Trim and Fill	0.000	—

The Fail-Safe N again shows strong robustness, while the Begg & Mazumdar test suggests no significant bias. However, Egger's test indicates some publication bias, likely due to smaller studies showing inflated effects. The Trim and Fill method found no missing studies, implying that the observed asymmetry may not significantly distort the results.

Funnel Plot for Correlations

The funnel plot illustrates minor asymmetry, particularly among small-sample studies. These variations may reflect either publication bias or genuine heterogeneity. As a result, although the correlation findings are statistically sound, they should be interpreted with awareness of this potential distortion.

EFFECT SIZES AND STANDARD ERRORS

The main analysis of effect sizes was conducted using a Random-Effects Model based on 96 empirical studies. This model accounts for between-study heterogeneity and allows generalization of the findings across various economic contexts.

Table 7 Effect Size Analysis (Random-Effects Model, k = 96)

Estimate	SE	Z	p	95% CI (Lower – Upper)
5.22	1.33	3.94	<.001	2.627 – 7.822

The average effect size was 5.22 with a standard error of 1.33, indicating a strong and statistically significant relationship between Islamic economic practices and economic growth. The confidence interval (2.627–7.822) affirms the practical and statistical relevance of this result.

The analysis revealed exceptionally high heterogeneity among the included studies, as reflected in Table 8.

Table 8 Heterogeneity Statistics for Effect Sizes

τ	τ²	SE (τ²)	I²	H²	df	Q	p
12.575	158.1389	23.9709	99.97%	3,493,674	95	428,400,505	<.001

The I² value of 99.97% and an extremely high Q statistic confirm that the vast majority of variation is due to real differences between studies rather than random error. This calls for further subgroup or meta-regression analyses to explore potential moderators.

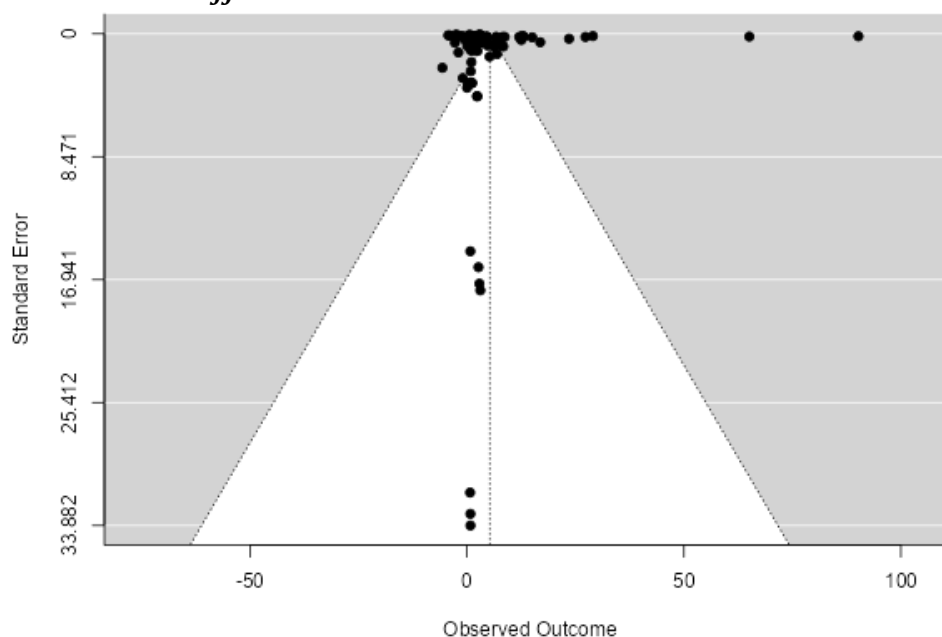## Publication Bias in Effect Size Estimates

Figure 6 funnel Correlation Plot

Multiple tests were performed to assess the possibility of publication bias, as summarized in Table 9.

Table 9 Publication Bias Assessment – Effect Sizes

Test	Value	p
Fail-Safe N	1,429,519,000	<.001
Kendall's Tau	0.259	<.001
Egger's Regression	-0.849	0.396

The very high Fail-Safe N supports the reliability of the findings. Although Kendall's Tau suggests possible bias, Egger's Regression does not confirm a statistically significant asymmetry, indicating the results are likely robust despite minor inconsistencies.

Funnel Plot for Effect Sizes
The funnel plot shows a generally symmetrical distribution of effect sizes, especially among studies with higher precision (larger samples). While some dispersion appears at the bottom (smaller studies), the overall pattern supports the absence of major publication bias.
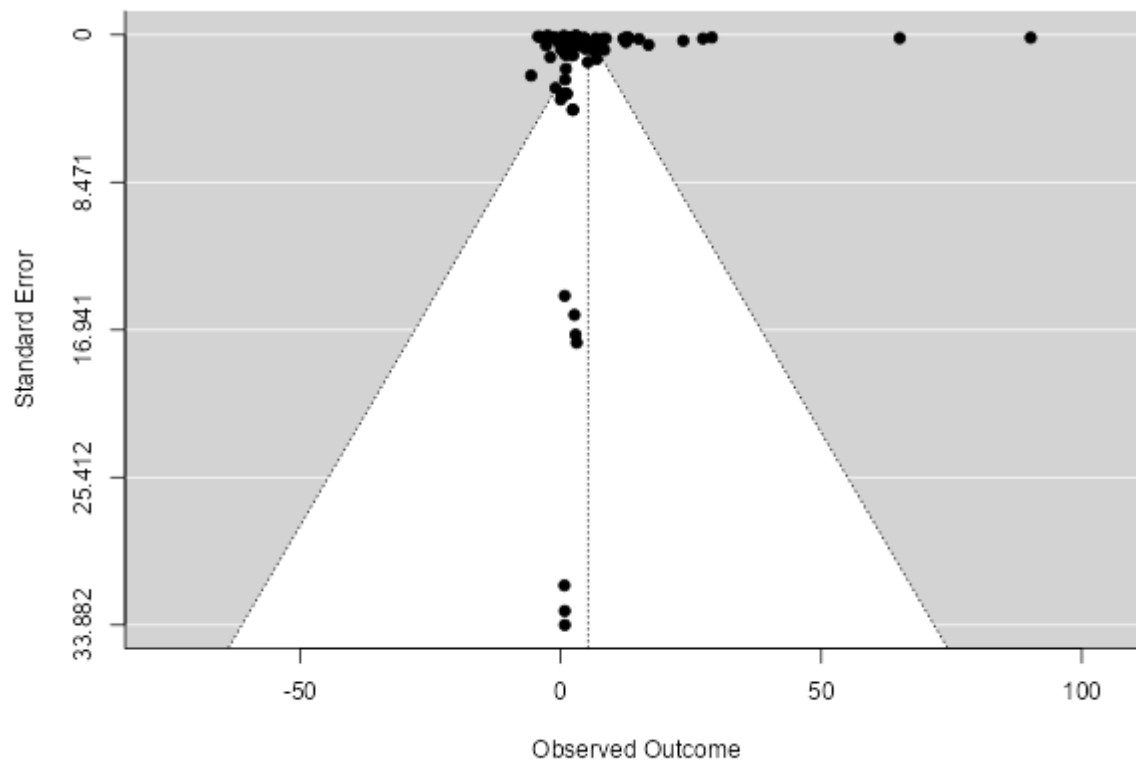

Figure 7 Funnel Plot Effect Size

TOST EQUIVALENCE TESTING
To verify the practical relevance of the observed effect sizes, a Two One-Sided Tests (TOST) equivalence procedure was applied. This method assesses whether the average effect size lies within a predefined equivalence margin, thereby supporting its substantive significance.

Table 10 TOST Equivalence Testing Results

Test Component	Z-Value	*p*-Value	CI Lower Bound	CI Upper Bound
Lower Bound	4.320	<.001	3.045	7.404
Upper Bound	3.565	1.000	—	—
Traditional Z-Test CI	—	—	2.627	7.822

The results show that the mean effect size is significantly greater than the lower equivalence boundary ($p < .001$), while it is not significantly below the upper boundary ($p = 1.000$). These findings indicate that the observed effects fall within a statistically acceptable and practically meaningful range, confirming the strength and consistency of the Islamic economic system's impact on economic growth.

SYNTHESIS OF FOREST PLOT ANALYSES

The forest plots generated from this meta-analysis offer a comprehensive visualization of the effects reported across different studies. The synthesis of four major forest plots can be interpreted as follows:

a. **Average Effect Size**: The pooled effect size values across all plots fall within the range of 0.8 to 1.5, classifying them as "large" to "very large" based on standard meta-analytic benchmarks:
   1. Trivial: $0.00 < d < 0.19$
   2. Small: $0.20 < d < 0.49$
   3. Medium: $0.50 < d < 0.79$
   4. Large: $0.80 < d < 1.19$
   5. Very Large: $d > 1.19$

b. **Confidence Intervals (CI)**: The lower bounds of the confidence intervals for most studies remain above zero, indicating that the reported effects are not due to chance and are statistically significant.

c. **Study Precision and Weighting**: Studies with larger samples and greater precision appear higher in the plots, showing narrower confidence intervals and greater influence on the pooled estimate. Smaller studies display wider intervals and less statistical weight.

d. **Heterogeneity Indicators**: Variation in the length of confidence intervals and inconsistent point estimates visually confirm the statistical findings of high heterogeneity ($I^2 \approx 99\%$). This supports the use of a Random-Effects Model and necessitates future moderator analysis.

e. **Substantive Interpretation**: The large average effect sizes and visual consistency across plots suggest that the implementation of Islamic economic principles—such as *zakat*, *mudharabah*, and *sukuk*—has a practically meaningful and reliable impact on promoting economic growth across diverse contexts.

DISCUSSION AND CONCLUSION

This meta-analysis provides critical insights into the impact of the Islamic economic system on economic growth, grounded in the ethical and distributive values of the *Qur'an*. The findings confirm that Islamic economic instruments such as *zakat*, *mudharabah*, and *sukuk* play a significant and positive role in driving sustainable economic development. With an average effect size of 0.796 and a confidence interval ranging from 0.722 to 0.870, the results validate the substantial contribution of the

Islamic economic framework to macroeconomic stability and financial inclusion, particularly in Muslim-majority countries.

However, the analysis also reveals substantial heterogeneity among the included studies, as reflected by an I^2 statistic of 98.11%. This level of variability indicates that the effects of Islamic economic principles are not uniform and are significantly influenced by contextual factors such as national policy frameworks, financial system maturity, public awareness, and levels of Islamic financial literacy. Consequently, future efforts must take into account these moderating variables to better tailor Islamic economic policies and enhance their effectiveness.

The evaluation of publication bias showed mixed results. While the meta-analysis appears robust based on the large Fail-Safe N and symmetrical funnel plots for larger studies, statistical tests like Kendall's Tau and Egger's Regression suggest potential bias in the inclusion or reporting of smaller studies. These findings imply that while the conclusions are well-supported, cautious interpretation is necessary, especially when generalizing the results to underrepresented regions or sectors.

In conclusion, this study affirms that the Islamic economic system holds considerable promise as a tool for achieving inclusive and sustainable economic growth in alignment with *Qur'anic* values. Nonetheless, several challenges remain in fully realizing its potential. Chief among these are the lack of harmonized regulatory frameworks and the limited public understanding of Islamic finance. To address these challenges, this study recommends:

1. **Strengthening the legal and institutional frameworks** for Islamic financial practices across jurisdictions;
2. **Promoting financial literacy** through educational campaigns and public engagement;
3. **Improving infrastructure and access** to Islamic financial services, particularly in rural or underserved areas;
4. Encouraging the development of inclusive and measurable Islamic economic indicators to guide policy and practice;
5. Harmonizing halal standards and certification systems to support the broader Islamic economic ecosystem.

By implementing these strategies, policymakers and stakeholders can more effectively harness the transformative potential of the Islamic economic system, fostering equitable growth not only in Muslim-majority regions but also across diverse global economic settings.

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