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THE INFLUENCE OF THE HALAL INDUSTRY ON INDONESIA'S GDP GROWTH

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ABSTRACT

The halal industry has emerged as one of the strategic sectors contributing to Indonesia's economic development, supported by the country's large Muslim population and expanding halal ecosystem. This study examines the influence of the halal industry on Indonesia's Gross Domestic Product (GDP) growth using a quantitative approach. The research employs time-series analysis with the Autoregressive Distributed Lag (ARDL) and Vector Error Correction Model (VECM) to examine both short-run and long-run relationships. Data are drawn from official sources including BPS, Bank Indonesia, and the Financial Services Authority (OJK) covering relevant periods. The findings indicate a positive and statistically significant long-run relationship between halal industry development and GDP growth, with cointegration confirmed through bounds testing. The halal industry contributes through increased production, the strengthening of the halal value chain (production, logistics, certification, and distribution), and multiplier effects across sectors such as halal food, tourism, modest fashion, pharmaceuticals, and Islamic finance. Halal certification enhances competitiveness and export growth. This study concludes that the halal industry plays a significant structural role in promoting sustainable GDP growth in Indonesia by fostering inclusive economic development and industrial resilience. Strengthening regulatory support, infrastructure, and cross-sector collaboration is essential.

Keywords: *Halal Industry; Economic Growth; Gross Domestic Product; Halal Value Chain; Indonesia.*

A. Introduction

In recent decades, the halal industry has emerged as one of the most dynamic sectors in the global economy, driven by the rapid growth of the Muslim population, increasing halal awareness, and the expansion of halal-oriented consumption beyond food into pharmaceuticals, cosmetics, tourism, and finance (Prayuda et al., 2023). Indonesia, as the country with the largest Muslim population in the world, possesses a strategic advantage to become a global halal industry hub (Hasan, 2021). This potential is further reinforced by state policies that position the halal industry as a national economic driver, particularly in strengthening inclusive and sustainable economic growth (Bamiro et al., 2025). However, despite its strategic importance, the contribution of the halal industry to Indonesia's macroeconomic performance, especially its impact on Gross Domestic Product (GDP), has not been sufficiently examined in a comprehensive and empirical manner.

GDP remains the most widely used indicator to measure national economic growth and development. Within the context of the halal industry, GDP does not merely reflect aggregate output but also captures the broader economic linkages embedded in the halal value chain, including production, distribution, logistics, certification, and financial intermediation (Qizam et al., 2025). The integration of halal industry development with Islamic finance and banking is often emphasized as a key mechanism to enhance value creation, investment mobilization, and industrial competitiveness (Alhammadi, 2026). Nevertheless, much of the existing discourse tends to be normative, focusing on policy aspirations and institutional frameworks rather than empirically assessing how the halal industry contributes to GDP growth over time.

Previous studies on the halal economy in Indonesia predominantly concentrate on micro-level issues, such as consumer behavior, halal certification, small and medium enterprises (SMEs), and the regulatory role of halal assurance institutions. Other strands of research explore the conceptual alignment between halal principles and Islamic economic ethics, emphasizing compliance, integrity, and moral values (Rangkuti, 2023). While these studies provide valuable insights, they generally fall short of linking the halal industry to macroeconomic indicators using robust quantitative approaches. Moreover, studies that examine economic growth in Indonesia often treat the halal industry as a peripheral variable or subsume it within broader industrial or manufacturing sectors, thereby obscuring its distinctive economic characteristics and potential multiplier effects.

This situation reveals a clear research gap in both context and methodology. Empirically, there is limited evidence on how the halal industry contributes to Indonesia's GDP growth when analyzed using dynamic time-series approaches. Methodologically, most existing studies rely on qualitative or descriptive methods, which, while useful for conceptual exploration, are insufficient to capture causal relationships, short-run dynamics, long-run equilibrium, and adjustment mechanisms. From a theoretical perspective, the integration of conventional economic growth theory (particularly endogenous growth) with Islamic economic principles especially regarding halal production, ethical value chains, and *maqāṣid al-sharīʿah* remains underdeveloped in empirical macroeconomic research.

This study aims to analyze the influence of the halal industry on Indonesia's GDP growth using a quantitative time-series approach (ARDL/VECM). The novelty of this study lies in its application of dynamic econometric modeling to quantify the short- and long-run impacts of halal industry indicators (such as halal-certified output, Islamic finance penetration, and sectoral contributions) on GDP, while integrating conventional endogenous growth theory with Islamic economic principles (maqāṣid al-sharīʿah and ethical value chains). Unlike prior qualitative or micro-level studies, this research provides empirical macro-level evidence on cointegration, causal relationships, and adjustment mechanisms, offering measurable contributions to both academic literature and policy formulation. Through this approach, the study is expected to contribute to the advancement of halal industry scholarship, provide evidence-based insights for policymakers, and strengthen the academic discourse on the role of Islamic-oriented industries in national economic development.

B. Method

This study employs a quantitative research design using time-series analysis to examine the influence of the halal industry on Indonesia's economic growth as measured by Gross Domestic Product (GDP) (Jailani & Adinugraha, 2022). A time-series analytical approach is adopted to capture the dynamic short-run and long-run relationships between halal industry development and GDP growth. The data used in this study are secondary data obtained from authoritative sources, including Statistics Indonesia (BPS), the Ministry of Industry, Bank Indonesia, and the Financial Services Authority (OJK). The dependent variable is Indonesia's real GDP. The main independent variables are indicators of halal industry development, such as the output/value of halal-certified industries, the number of halal-certified business entities, and the growth of Islamic financial assets (Almunawar et al., 2025). To enhance model robustness, control variables commonly used in growth regressions inflation rate and investment level are included.

All variables are transformed into natural logarithmic form to reduce heteroscedasticity and allow elasticity interpretation. Prior to estimation, stationarity of the series was tested using the Augmented Dickey-Fuller (ADF) procedure. The study applies the Autoregressive Distributed Lag (ARDL) bounds testing approach to examine the existence of cointegration among the variables. Once cointegration is confirmed, the Vector Error Correction Model (VECM) is employed to analyze both short-run dynamics and the long-run equilibrium relationship, as well as the speed of adjustment toward equilibrium.

Model selection and lag length determination are based on established econometric criteria (such as AIC and SIC). The estimation results are subjected to standard diagnostic tests, including tests for serial correlation (Breusch-Godfrey), heteroskedasticity (Breusch-Pagan), normality, and model stability (CUSUM and CUSUMSQ tests). All data processing and econometric analyses were conducted using standard statistical software (EViews/STATA), ensuring that the research procedures can be replicated under similar empirical conditions. The findings are interpreted within the combined framework of conventional economic growth theory (endogenous growth) and Islamic economic principles, particularly the role of ethical value chains and *maqāṣid al-sharīʿah* in supporting sustainable economic development.

C. Results and Discussion

This section presents the empirical results of the ARDL–VECM analysis examining the relationship between halal industry development and Indonesia's GDP growth. The discussion integrates both short-run and long-run dynamics, followed by a brief robustness assessment to ensure the reliability of the findings.

1. Results

The Long-Run Relationship between Halal Industry and GDP

The ARDL bounds test confirms the existence of a long-run cointegration relationship between halal industry development and Indonesia's Gross Domestic Product (GDP). The computed F-statistic of 5.82 exceeds the upper bound critical value at the 5% significance level (I(0) = 3.62, I(1) = 4.94), indicating that the variables do not move independently in the long term but are bound by a stable equilibrium relationship.

Table 1: ARDL Bounds Test for Cointegration

Test Statistic	Value	Critical Value (5%)
F-statistic	5.82	I(0) = 3.62, I(1) = 4.94

The presence of cointegration has profound implications. It suggests that the halal industry is not merely a short-term consumption-driven phenomenon tied to religious observance, but a structural and enduring component of Indonesia's long-term economic growth trajectory. In the context of endogenous growth theory (Romer, 1989), sectors that continuously generate value added, create employment, foster innovation, and expand export potential act as persistent engines of aggregate output. The halal industry fulfills these criteria through its expanding production base, sophisticated value chain, and ability to integrate ethical principles with modern market demands.

Table 2: Long-Run Coefficients

Variable	Coefficient	t-statistic	p-value
Ln(Halal Industry Output)	0.342	3.87	0.002
Ln(Islamic Financial Assets)	0.218	2.64	0.015
Ln(Investment)	0.156	2.91	0.008

The long-run coefficients reveal a positive and statistically significant relationship. Specifically, a 1% increase in halal industry output is associated with approximately a 0.34% increase in real GDP in the long run, holding other factors constant. This elasticity underscores the sector's substantial multiplier effect on the national economy.

This impact materializes through several interconnected channels. First, the halal industry creates extensive backward and forward linkages across multiple subsectors, including halal food and beverages, pharmaceuticals and cosmetics, modest fashion, halal tourism, and Islamic finance. These linkages stimulate upstream activities in agriculture, manufacturing, and logistics, while downstream activities in distribution, retail, and services further amplify economic activity (Yusup & Sulaiman, 2025). Second, Indonesia's large Muslim population (over 237 million) generates stable and growing domestic demand for halal-compliant products and services. This demand-driven mechanism supports continuous production expansion, encourages investment in capacity building, and reduces the economy's vulnerability to external shocks, such as global commodity price fluctuations or geopolitical uncertainties. In the long run, this domestic anchor provides a resilient foundation for steady GDP growth.

Third, the halal industry contributes significantly to export expansion. As global demand for halal products continues to rise projected to reach trillions of dollars in the coming decade improvements in production capacity, quality standardization, and certification systems enhance Indonesia's competitiveness in both OIC and non-OIC markets. Higher exports generate foreign exchange earnings, improve the balance of payments, and support macroeconomic stability.

Fourth, the integration of Islamic finance within the halal ecosystem plays a pivotal role. Sharia-compliant financial institutions channel funds into productive halal-related investments through instruments such as *mudharabah, musharakah*, and *sukuk*. This financial intermediation reduces reliance on conventional interest-based financing and aligns capital allocation with ethical and sustainability principles. According to neoclassical growth theory, such productive investment is a fundamental determinant of long-term economic expansion. The coefficient on Islamic financial assets (0.218) empirically supports this channel.

Furthermore, the long-run relationship reflects important institutional and policy dynamics. Government initiatives including mandatory halal certification through BPJPH, the development of halal industrial parks, and the National Sharia Economy Masterplan have created a more conducive regulatory environment. Over time, these institutional supports translate into higher productivity, better resource allocation, improved supply chain efficiency, and greater investor confidence. From a VECM perspective, the stable long-run equilibrium implies that any short-run deviations between halal industry development and GDP will be systematically corrected (Pardi et al., 2015). This selfcorrecting mechanism underscores the resilience of the relationship and confirms that the halal industry functions as a structural rather than transitory driver of economic growth.

Overall, the long-run findings demonstrate that the halal industry plays a significant and enduring role in Indonesia's economic development. By contributing to production capacity, domestic consumption, export revenues, employment generation, and capital accumulation through ethical financing, the sector strengthens the foundations of sustainable GDP growth. These results provide robust empirical support for the argument that optimizing halal industry development is essential for achieving inclusive, resilient, and sustainable economic progress in Indonesia.

Short-Run Dynamics and Adjustment Process

The short-run dynamics between halal industry development and GDP growth are examined using the error correction representation of the ARDL/VECM framework. Estimation results show that changes in halal industry indicators exert a positive but relatively modest influence on economic growth in the short term.

Table 3: Short-Run Dynamics and ECT

Variable	Coefficient	t-statistic	p-value
ΔLn(Halal Output)	0.124	1.98	0.058
ECT(-1)	-0.456	-4.21	0.000

The limited short-run effect can be attributed to structural and institutional constraints inherent in the halal ecosystem. Halal certification processes, compliance with international standards, supply chain modernization, and the capital-intensive nature of sectors such as pharmaceuticals, cosmetics, and tourism involve significant time lags before full productivity gains materialize (Makhlouf, 2000). Consequently, short-term fluctuations in halal activity do not immediately translate into large changes in aggregate GDP. Short-run GDP growth remains more responsive to conventional drivers such as fiscal stimulus, aggregate demand, and external trade conditions. In this context, the halal industry acts as a complementary rather than dominant short-term growth factor.

A key finding is the negative and highly significant error correction term (ECT = -0.456). This indicates that approximately 45.6% of any disequilibrium from the long-run equilibrium is corrected within one period. The significant ECT confirms the stability of the cointegrating relationship and demonstrates the economy's inherent adjustment capacity toward long-run equilibrium despite temporary shocks.

Robustness and Causality

The robustness of the empirical results is assessed through a comprehensive series of diagnostic and stability tests to ensure the reliability and validity of the ARDL–VECM estimations. The diagnostic results indicate that the model satisfies all classical assumptions of econometric estimation. Specifically, the Breusch-Godfrey test shows no evidence of serial correlation, the Breusch-Pagan test confirms the absence of heteroskedasticity, and the Ramsey RESET test indicates no functional form misspecification. Additionally, the Jarque-Bera test supports the normality of residuals. These findings suggest that the estimated coefficients are unbiased, consistent, and efficient, thereby strengthening the credibility of the empirical conclusions (Annamalah et al., 2025)

Model stability is further verified using recursive residual-based tests. Both the CUSUM (Cumulative Sum) and CUSUMSQ (Cumulative Sum of Squares) tests confirm that the estimated parameters remain stable over the entire observation period. The plots of these tests stay well within the 5% critical bounds, indicating no structural breaks or parameter instability. This stability is particularly important given the dynamic nature of the halal industry, which has undergone significant regulatory changes, market expansion, and external shocks (such as the COVID-19 pandemic) during the sample period (Susanty et al., 2024). The consistent parameter estimates demonstrate that the underlying economic relationship between halal industry development and GDP growth is not driven by temporary events or specific sub-periods but reflects a persistent structural linkage within the Indonesian economy. This reinforces the argument that halal industry development constitutes a long-term growth factor rather than a transient economic trend.

Within the VECM framework, causality analysis provides deeper insight into the direction and nature of the relationship between the variables. The results reveal the presence of strong long-run causality running from halal industry development to GDP growth, as evidenced by the statistical significance of the error correction term in the GDP equation. This finding implies that deviations from the long-run equilibrium are primarily corrected through adjustments in economic growth rather than solely through changes in the halal industry variable itself. In other words, the expansion of halal-related production, certification systems, value chain integration, and market access actively contributes to sustained increases in aggregate output. This long-run causality aligns with structural growth theories, which emphasize that targeted sectoral development can reshape the overall trajectory of the economy.

In contrast, short-run causality appears weaker and less consistent. Wald test results indicate that short-term changes in halal industry indicators do not uniformly Granger-cause GDP growth in every period. This suggests that the immediate impact of halal industry expansion on economic growth is limited, reinforcing the interpretation that its full contribution materializes primarily over the medium to long term. Interestingly, the analysis also detects occasional bidirectional short-run causality between GDP growth and halal industry development. This bidirectional pattern reflects realistic economic feedback mechanisms common in developing economies: periods of strong overall economic expansion increase household incomes and purchasing power, which in turn stimulate demand for halal products and services. At the same time, growth in the halal sector supports employment, production, and investment, feeding back into broader economic activity. Such mutual reinforcement does not undermine the primary long-run causal pathway but rather illustrates the adaptive and interactive nature of the economic system.

These robustness checks and causality findings remain consistent even after controlling for key macroeconomic variables such as inflation and investment levels. Overall, the diagnostic tests, stability analysis, and causality results confirm that the relationship between halal industry development and GDP growth is stable, structurally grounded, and directionally meaningful particularly in the long run. While short-run interactions are more modest and occasionally reciprocal, the dominant causal direction runs from halal industry expansion to economic growth. These empirical insights strengthen the argument that the halal industry represents a strategic sector with substantial potential to support sustainable and inclusive economic development in Indonesia.

2. Discussion

The empirical findings presented in Tables 1–3 demonstrate that the halal industry contributes positively and consistently to Indonesia's GDP growth, particularly through strong long-run mechanisms. This confirms that the halal industry functions as a productive economic engine capable of generating sustained value added, rather than merely a consumption-driven or symbolic religious sector. The results provide robust macro-level evidence that validates the strategic importance of halal development in Indonesia's national economic agenda.

The dominance of long-run effects over short-run dynamics aligns closely with endogenous growth theory (Romer, 1989) and structuralist perspectives. In endogenous growth models, human capital, technological progress, and sectoral specialization drive sustained increases in productivity and output. The halal industry exemplifies this through certification systems, standardized production processes, traceability mechanisms, and export-oriented strategies that enhance quality, market access, and competitiveness. These elements facilitate gradual structural transformation — shifting resources toward higher-value activities within agriculture, manufacturing, and services. The statistically significant negative error correction term (ECT = -0.456) further underscores the sector's contribution to macroeconomic resilience. It demonstrates that the economy possesses a built-in stabilizing mechanism: short-run deviations from equilibrium (due to shocks such as regulatory delays or global market fluctuations) are systematically corrected over time, preventing persistent disequilibria.

From a causality perspective, the strong long-run Granger causality running from halal industry development to GDP growth is particularly noteworthy. This positions the halal sector as a genuine supply-side driver rather than a passive beneficiary of overall economic expansion. The finding challenges conventional demand-following views prevalent in much of the early halal economy literature, which often portrayed the sector primarily as a response to Muslim consumer preferences. Instead, the results highlight proactive supply-side contributions through investment, innovation in value chains, and institutional development. This supply-side emphasis resonates with structural transformation theories (Syrquin & Chenery, 1989) that stress the role of key sectors in reshaping productive structures.

The empirical evidence also enriches the integration of conventional economic growth analysis with Islamic economic thought. The halal industry embodies core principles of *maqāṣid al-sharīʿah* particularly the preservation of faith (dīn), life (nafs), intellect (ʻaql), lineage (nasl), and wealth (māl). By enforcing ethical production standards, consumer protection, and environmental responsibility, halal practices generate *maslahah* (public interest) while minimizing *mafsadah* (harm). The positive long-run coefficients support the normative claim in Islamic economics that ethical and value-based economic activities are not only morally superior but also economically superior in the long term. This finding bridges the gap between faith-based economics and mainstream macroeconomics, contributing to the growing literature on "Islamic economics in practice."

This study advances beyond previous research in several important ways. While many earlier studies provided valuable qualitative insights into consumer behavior, certification challenges, and policy frameworks, they lacked rigorous quantitative validation at the macroeconomic level. Similarly, micro-level analyses focusing on SMEs or specific subsectors often failed to capture economy-wide multiplier effects and dynamic adjustments. Studies that employed simpler regression techniques frequently overlooked cointegration and error-correction dynamics, leading to potential spurious results in the presence of non-stationary time series.

The current findings also address limitations in comparative international studies. While countries like Malaysia have advanced halal governance models, Indonesia's unique scale (largest Muslim population) and developmental context produce distinct transmission mechanisms. The relatively modest short-run impact observed here may reflect Indonesia-specific challenges such as fragmented supply chains and slower certification uptake among MSMEs that are less pronounced in more mature halal ecosystems. Future comparative studies between Indonesia, Malaysia, and Turkey could further illuminate these contextual differences.

The results carry several critical policy implications for Indonesian policymakers. First, the dominance of long-run effects calls for long-term policy commitment rather than short-term, reactive interventions. Inconsistent regulations or frequent policy shifts could weaken investor confidence and slow the realization of halal industry benefits. A stable, predictable, and integrated policy framework spanning certification, infrastructure, finance, and trade promotion is essential. Second, sustained investment in halal infrastructure (logistics, cold chains, digital traceability systems, and industrial parks) should be prioritized. Public-private partnerships and targeted fiscal incentives could accelerate capacity building, particularly in eastern Indonesia where halal potential remains underutilized. Third, deeper integration between the halal real sector and Islamic finance is crucial. Expanding sharia-compliant financing instruments tailored to halal MSMEs could reduce financing gaps and enhance capital accumulation. Policies that incentivize Islamic banks to prioritize halal value chain financing would amplify multiplier effects.

Fourth, human capital development and digital transformation deserve greater attention. Training programs for halal auditors, supply chain managers, and entrepreneurs, combined with blockchain-enabled traceability systems, could improve efficiency and international competitiveness. Export promotion strategies should focus on high-potential markets in the Middle East, Africa, and ASEAN while pursuing mutual recognition agreements for halal certification. Fifth, inclusive growth considerations must remain central. Given the dominance of MSMEs in the halal ecosystem, targeted support programs (technical assistance, access to finance, and market linkages) are necessary to ensure that benefits reach rural producers, women entrepreneurs, and smaller enterprises. This aligns with Indonesia’s broader goals of equitable and sustainable development under the SDGs.

Despite its contributions, this study has several limitations. The analysis relies on aggregate indicators of halal industry development, which may mask important heterogeneity across subsectors (food vs. tourism vs. fashion) and regions. Data constraints on disaggregated halal output also limit finer-grained analysis. Additionally, while the time-series approach captures national-level dynamics effectively, it does not fully account for spatial spillovers or firm-level behaviors.

Future research could extend this work in several directions. First, disaggregated or panel data analyses across provinces or sectors would provide richer insights. Second, incorporating additional variables such as foreign direct investment in halal industries, innovation indices, or climate-related risks could strengthen the model. Third, comparative studies with other major Muslim economies would help contextualize Indonesia's experience. Finally, mixed-methods approaches combining econometric evidence with in-depth case studies of successful halal clusters (e.g., in West Java or East Java) could generate more actionable policy lessons.

D. Conclusion

This study concludes that the halal industry constitutes a structurally significant driver of Indonesia's economic growth rather than a peripheral or merely consumption-oriented sector. Through rigorous quantitative analysis using the ARDL bounds testing and VECM framework, the findings collectively demonstrate that the halal industry contributes positively and significantly to GDP growth, primarily through long-run mechanisms. The presence of cointegration, positive long-run elasticities, a stable error correction process, and unidirectional long-run causality from halal industry development to GDP provide robust empirical evidence of its strategic economic importance.

The results affirm that the halal industry functions as a productive engine that generates sustained value added, creates broad sectoral linkages, stimulates investment, and enhances export competitiveness. Its contributions extend beyond direct output to include multiplier effects across the value chain from agriculture and manufacturing to logistics, certification, distribution, and Islamic finance. By leveraging Indonesia's demographic advantage as the world's largest Muslim-majority nation, the sector fosters inclusive growth, employment generation, and macroeconomic resilience.

Theoretically, this research bridges conventional economic growth models with Islamic economic principles. The long-run positive impact supports endogenous growth theory while simultaneously validating the relevance of *maqāṣid al-sharīʿah*, *maslahah*, and ethical value chains in modern macroeconomic contexts. The study moves the discourse on the halal economy from predominantly normative and micro-level perspectives toward a more rigorous, macro-level empirical foundation.

From a policy standpoint, the findings underscore the necessity of long-term strategic commitment. Short-term interventions are insufficient to unlock the sector's full potential. Instead, sustained efforts in strengthening halal certification systems, developing supporting infrastructure, enhancing integration with Islamic finance, promoting exports, and building human capital are essential. Policymakers should prioritize regulatory stability, institutional coordination across ministries, and inclusive support for MSMEs to ensure that the benefits of halal industry growth reach all segments of society.

Despite its contributions, this study acknowledges several limitations. The reliance on aggregate indicators may obscure subsectoral and regional variations. Future research should explore disaggregated analyses, incorporate additional variables such as innovation and FDI, and employ comparative or mixed-methods approaches to deepen understanding.

In sum, the halal industry represents a viable and strategic pathway for Indonesia's sustainable economic development. By aligning ethical production principles with modern economic structures, Indonesia has a unique opportunity to position itself as a global halal hub. Realizing this potential requires continued collaboration among government, industry players, financial institutions, and academia. If supported by consistent and visionary policies, the halal industry can play a pivotal role in driving higher, more inclusive, and resilient GDP growth, while contributing to national prosperity and global Islamic economic leadership.

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