ISLAMIC FINANCIAL SERVICES AND INCLUSIVE GROWTH: EVIDENCE FROM SOME SELECTED ECONOMIES 🔓 📊 Crossref

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ABSTRACT

The major attraction of Islamic finance is its equitable and fair allocation and distribution of economic resources emanating from business and social engagements. However, a growing body of literature keeping pace with its increasing attraction, suggests that Islamic finance is unfair due to its profit-sharing tenet, which typically seeks to re-allocate profits of productive borrowers to passive lenders, despite the corresponding risk and loss sharing. This has been described not only as a disincentive to the former but also as crowds out investment and debilitates growth. Consequently, this study investigates Islamic financial services and inclusive growth in seven (7) developing Islamic countries that comprise Nigeria, Pakistan, Saudi Arabia, Malaysia, Indonesia, Qatar, and Bangladesh for the period 2015 – 2023. Using bank-specific and economic aggregate time-series annual data, the analysis technique employed is Panel Least Squares, with Panel Quantile Regression used for robustness. The results show that the property contract (i.e., Istisna) and leasing (i.e., Ijarah) are the two Islamic financial services with consistent significant impacts on inclusive growth in those developing Islamic countries. Also, the effects of both primary and secondary capital adequacy measures on inclusive growth in those economies are asymmetric and disproportionate. Notably, interest-free financial services (i.e., Qardh), which are rendered on empathetic and compassionate grounds, have had a negligible effect on inclusive growth. The findings of this study suggest that policymakers should legislate to protect the rights to private property, promoting Istisna and Ijarah, while also addressing inherent regulatory concerns.

INTRODUCTION

Over the years, there has been a deluge of interests, not just among Muslim populations across the globe but also within non-Muslim regions, facilitating not just the opening and operating of Islamic financial windows but also the extensive and wholesome adoption of Islamic financial products. Consequently, the Islamic financial sector has exhibited consistent growth and expansion. The Islamic finance industry was estimated at $3.9Trillion in 2024 and found to have spread across more than eighty (80) countries. More specifically, Islamic finance has grown consistently for the past decade at an annual rate of 10 percent (Domat, 2024). Additionally, Islamic finance assets increased from US$2,170 billion in 2015 to US$3,958 billion in 2021, representing an 82.4% growth. This growth is projected to continue, with a 49.1 percent increase to US$5,900 by 2026. Moreover, the global Islamic financial industry has a promising outlook for the years to come. Many international financial creditors and credit rating institutions, such as Standard and Poor Global Ratings, have reported impressive results for the Islamic financial sector. The global Islamic financial market was projected to reach USD 2,514.2 million in 2024 and is expected to expand at a compound annual growth rate (CAGR) of 11.91% between 2024 and 2031.

The corresponding projections across the various regional blocs of North America, Europe, Asia-Pacific, South America, the Middle East, and Africa range between 8.7 and 12.5 percent. More so, the within-region country-specific projections for Europe show that Greece has the highest projection of 9.3 percent, and Russia has the lowest with 8.0 percent, while the rest of Europe has 7.7 percent CAGR. India has the highest projected CGAR of 14.3 percent for the Asia-Pacific, while Japan has the lowest projection of 11.0 percent, followed by South Korea with 11.6 percent. The rest of the Asia-Pacific is projected at 12.3 percent. For the South American market, the lowest projection is for Colombia at 9.7 percent, while Chile has the highest CGAR of 10.2 percent, with the rest of South America projected at a CGAR of 9.0 percent. In Middle East and Africa (MEA) countries, the lowest CGAR projection is in Nigeria, at 9.3 percent. In comparison, South Africa has the highest projection at 11.2 percent, with the rest of the MEA at 9.2 percent.

With the advent of and disruption by technology, Islamic finance promises to broaden access to global finance, widen the financial intermediation process, promote financial inclusivity, increase economic opportunities through its risk-sharing principles, and enhance employment opportunities. Islamic finance has made significant contributions in four major aspects of Islamic banking, Islamic insurance (Takaful), Islamic capital markets, and Islamic financial technology, thereby promoting global growth and development. Actually, Islamic banking assets constitute more than 70 percent of global Islamic financing. Thus, this has significantly shaped the global financial landscape and stimulated growth driven by opportunities. However, available statistics show that Islamic finance constitutes only a negligible proportion of the global finance, and its impact on growth prospects across various strata is still grossly suspect. Specifically, Islamic banking assets comprise 1–5 percent of global assets, and the economic growth trajectories in most Muslim-populated countries are still vastly disproportionate. With 1.5 percent growth in 2023, the Gulf Cooperation Council (GCC) region was expected to experience subdued growth of 1.6 percent in 2024. The United Arab Emirates (UAE) grew by 3.0 percent, and Qatar grew by 1.9 percent, while Saudi Arabia contracted by 0.8 percent in the year 2023 (Ghaffour, 2024). Essentially, the economies of most Muslim-populated countries have been characterized by decelerated growth due to over-reliance and the uncertainties pervading the supply of oil to the global market.

No doubt, Islamic financing has been widely regarded as an alternative option to the conventional financial systems. The world's oldest conventional bank, Banca Monte del Paschi di Siena, was founded in 1472, while the oldest Islamic bank, Mit Ghamr Savings Bank, was established in Egypt in 1963. However, a full-fledged Islamic bank, the Dubai Islamic Bank, was established in 1975. Despite drawing its inspiration from the Islamic tradition, which dates back more than 1,400 years, the prominence of Islamic finance in the global economy emerged much later. Hence, its effect on job opportunities is considered less desirable. Despite this late emergence, a prominent claim is that Islamic banking and financing options have made a significant contribution to global financial intermediation processes and have further enhanced financial stability (Djuwarsa, Kristianingsih, Mauluddi, 2024; Minhajuddin & Ibrahim, 2022; Saleem, Sági, Setiawan, 2021). At the bedrock of these admirable features, the major attraction of Islamic finance is its equity and fairness in allocating economic resources. This is the idea that money is not a good to be traded and that both the lenders and borrowers are stakeholders who should equitably share in the profits generated or losses incurred from the business engagements. This is the risk-sharing feature of Islamic financing that has endured over the years.

By its tenets, Islamic finance is proud to promote partnership businesses, contributory financing, collaborative involvement, and participatory engagement of economic agents and resources in a manner that creates inclusiveness along the growth-generating process. In contrast, a growing body of literature has emerged, highlighting the increasing attraction of Islamic finance, which, in practice, is not significantly different from conventional commercial banks (Chong & Liu, 2009). This contrasts with the argument of unfairness usually attributed to the mainstream deposit money banks, which seek to allocate the profits of productive borrowers to passive lenders, as if money were a traded good. This has been described not only as a disincentive to the former but also as a potential crowd-out of investment and a debilitation of growth. The literature is already replete with empirical studies that have investigated the nexus between Islamic finance and economic growth (For example, Rhamadhani and Fanani, 2023; Adzimatinur & Manalu, 2021; Banna, Hassan, and Alam, 2021; Aeshed, Yasmin, and Gulzar, 2020; Kamarudina & Kassim, 2022; Halim, Nazlan, & Sukono, 2023). Notably, Cahyaningrum and Wibowo (2022) examined the role of the global pandemic in this nexus. However, this study contributes to addressing the dearth of literature on inclusive growth and the use of appropriate measures, such as the gross domestic product per person employed.

Empirical studies investigating inclusiveness have been conducted through the financial inclusion channel (for example, Rabbani, 2023; Ameziane, 2024; Mustafa, Baita, and Usman, 2018). However, inclusive growth is more far-reaching, permeates all aspects of the economy, affects various economic agents and markets, and is not limited to the financial sector alone. Moreover, this study makes a unique theoretical contribution. This is the first study to apply Smith's (1759) theory of moral sentiment as a theoretical foundation for econometric modeling of Islamic financial services and inclusive growth, building on an earlier study. Empirically, this study makes a unique contribution by employing firm-level data, which differs from aggregate-level macroeconomic data or survey-level analyses used in previous studies, to examine this nexus. A recent study in this regard was Nugroho, Kartika, and Yacoub (2024), which employed the CARAMEL approach but did not incorporate a capital adequacy measure to address corporate governance issues. This approach would bring about more insightful and reliable estimates. In addition to the introductory section, the study comprises four other subsections. Section 2.0 presents the review of literature, while Section 3.0 outlines the methodology for empirical investigations. Section 4.0 focuses on model estimations and discussion of findings, while Section 5.0 provides the conclusion and offers policy recommendations.

LITERATURE REVIEW

Islamic finance encompasses all forms of financial services, with its access, usage, dimensions, and regulations guided by the Holy Book of Muslims, the Quran, and the direct message and tacit approval of Prophet Muhammad (P.B.U.H.). Conceptually, the product range of Islamic financial services includes Murabaha, Musharaka, Istisna'a, Wakala, Bai Mu'ajja, and Ijarah. Specifically, Murabaha is a promissory sales contract in which the seller resells to customers at a mark-up on the cost. At the same time, Musharaka is a partnership contract based on a contribution of capital. Istisna'a is a property contract based on a build-to-sell agreement with pre-agreed terms, including specifications, delivery dates, sales prices, and profit margins. Wakala is an investment contract that offers a fixed fee rate and an additional profit proportion in excess of the expected profit as compensation for good performance to the Wakil. This agent is typically a bank that also incurs losses due to negligence and misconduct in violation of its terms and conditions. Bai Mu'ajjal is a credit sales contract for the purchase of goods to be delivered at a future date, in accordance with specified terms, at an agreed-upon price payable

in instalments or in a lump sum. Lastly, Ijarah is a lease contract that allows the use of a property for a fee, known as a lease charge. All these culminated in real economic activities, with the involvement and participation of all parties, employing human, capital, and/or financial resources in accordance with the contractual agreements. These create jobs and translate to inclusive growth as all economic agents would have been involved in the business cum economic transactions necessitated by Islamic financial services. Qard-al-hassan (or simply Qard) is an interest-free loan where the borrower only returns the principal without any interest charge.

Additionally, inclusive growth refers to economic growth that is distributed fairly across society, creating opportunities for all (Ali & Zhuang, 2007). It refers to growth that improves the access of poor and disadvantaged groups to income-earning opportunities and raises their productivity (Klasen, 2010). Inclusive growth emphasizes equality of opportunity in terms of access to markets, resources, and an unbiased regulatory environment for businesses and individuals (Rauniyar & Kanbur, 2010; Ranieri & Ramos, 2013; Ravallion, 2012; Bhalla, 2011). It is the rapid, sustained growth needed to reduce poverty and allow all population groups to share in the benefits of economic prosperity. Inclusive growth emphasizes involvement and participation in the growth-generating process where the maximum number of persons contribute to and benefit from growth. Ultimately, it increases access to opportunities and leads to improved welfare (Anand et al, 2013; Rodrik, 2012). The theoretical linkages between Islamic finance and inclusive growth have been well-documented in the literature on the finance-growth nexus. Leading these packs of theories are the finance-led and growth-led theses. These theories seek to trace the direction of causality between finance and economic growth. Specifically, the liberal thesis suggests that capital accumulation and an increase in investment opportunities would engender economic growth (Boukhatem & Ben Moussa, 2018). The seminal studies on these effects were carried out by the duo of Bagehot (1873) and Schumpeter (1911). However, the financial repression theory of McKinnon (1973) and Shaw (1973), on the interaction between finance and growth, is also instructive. The McKinnon-Shaw theory posits that economic expansion can be undermined when financial inflows exceed an economy's ability to absorb them. Furthermore, feedback interactions between finance and economic growth are also anticipated.

Moreover, Institutional Economists presumed that the need for corporate governance issues and existing rules in the financial sector to be stable was necessary to stimulate economic growth (Mu'min, Rusanti, Amru, 2024). This extends the Structuralist thesis that specific collateral effects must be in place before finance would be beneficial to growth. In fact, financial flows must be sequenced effectively to ensure the efficient management of the economy. This is to prevent financial instabilities and crises. In contrast, the growth-led theses comprise the Harrod (1939) and Domar (1946) theory on capital as the major driver of economic growth. Extension to the neoclassical theory of growth, where the role of capital, enhanced by technical progress, enhances growth. Furthermore, the theoretical connection between Islamic finance and inclusive growth is rooted in Islamic jurisprudence. Both Islamic finance and inclusive growth are integral components of Islamic economics, where fair dealings, ethical financing, the profit-and-loss sharing principle, interest-free banking, and empathetic business relations prevail. Specifically, numerous quotations from the Quran support this claim. For example, for the need to show empathy to others and avoid doubling and re-doubling interest-based business dealings (see Surah Baqarah, Quran 2, 130 – 132; 278 and 280); ethical investment (see Surah Baqarah, Quran 2, 198); honesty, truthfulness, and integrity (see Surah Maidah, Quran 4:1; Surah Al-Isra, Quran 17:34; Surah Mu'minun, Quran 23:8, 10 -11). For Islamic finance to engender inclusive growth, excessive risk-taking predicated on uncertainty, moral hazard, and all activities of asymmetric information are to be avoided (see Mathkur, 2019). Expropriating the jurisprudence of Islamic economics is the Smith (1759) theory of moral sentiment. It aims to integrate the fundamental principles of Islamic economics into mainstream and conventional business and economic practices. The theory enunciated the impact of moral behavior on economic outcomes, and its basic principles include benevolence, ethical values, empathy, pleasure, and mutual sympathy, among others.

The empirical literature is replete with a range of studies that have investigated the nexus between Islamic finance and economic growth, encompassing country-specific, regional, and global-scale analyses. In tandem with the direction of theoretical expositions, the empirical issues center on the measurement of variables and the specification of empirical models. Several studies have re-examined the long-standing debate on the finance-growth nexus (Ullah et al., 2020; Abdul Majid & Kassim, 2015; Ledhem & Mekidiche, 2022; Zarrouk et al., 2017; Rhamadhani & Fanani, 2023; Faycal & Abdelhalim, 2024). Other studies have investigated the recent issue of financial inclusivity in Islamic banks and its impact on the growth and development of various economies (Adzimatinur & Manalu, 2021). At the heart of the financial inclusion and economic growth nexus is the role of technology. Banna, Hassan, and Alam (2021) examined the role of digital financial inclusion (DFI) in promoting sustainable economic growth through Islamic banking stability. Alshater et al. (2022) reviewed the development of Islamic Fintech research from 2017 to 2022. Rabbani (2023) conducted a systematic analysis of Fintech innovations within Islamic finance, highlighting their scope, challenges, and broader implications for the industry. Nik Azman et al. (2020) found that crowdfunding, mobile money, and peer-to-peer lending play a significant role in ensuring income sustainability for micro-entrepreneurs.

The empirical results of the study conducted by Banna, Hassan, and Alam (2021) suggest that Digital Financial Inclusion endorsement may ensure sustainable economic growth and stability within banks, specifically Islamic banks, which is a step towards achieving the SDGs. Alshater et al. (2022) find potential for cointegrating Fintech into Islamic finance to benefit the unbanked and small and medium-sized businesses. The adoption of FinTech in Islamic finance will help the government improve financial inclusion, mitigate financial crises, such as COVID-19, and achieve the SDGs for a sustainable nation. Hasnan's (2020) findings showed that Islamic finance countries are more inclusive in terms of financial inclusion, and women are more financially empowered compared to their counterparts. On the contrary, countries with conventional finance have a higher number of Fintech users. Rabbani's (2023) findings indicate that Fintech innovations,

including blockchain and smart contracts, have significant potential to enhance transparency, efficiency, and Sharia compliance within Islamic finance.

With these studies, technology serves as the mediating variable that links Islamic financial services to economic growth, and the link to inclusive growth is captured through financial inclusion. Few studies considered a district, provincial, or local analysis of Islamic finance and economic growth (Junaidi, 2024; Çinar & Ünsal, 2022). Only a few studies have considered the effect of Islamic finance on inclusive growth (Abdelgany & Hussein, 2023). Despite the inconclusiveness in the time dimension effects, the unanimous conclusion from these studies is that Islamic finance enhances and endangers economic growth, reduces poverty, and translates to economic prosperity and development. Another strand of the literature focuses on cross-country studies purely for Muslim-dominated countries. As emphasized in the study of Olusegun and Omotayo (2024), population is a mediating variable in determining how Islamic finance stimulates economic growth. This is particularly true if the population shares the same philosophy and ideology, which facilitates the development and acceptance of Islamic financial products. It is for this germane reason that the strand of literature that considers Muslim-dominated countries has been considered. The empirical literature that falls into this strand is enormous. For example, Jedidia and Guerbouj (2020) examined the impact of zakat on economic growth for a sample of Muslim countries. Nonetheless, Jedidia and Guerbouj's (2020) findings showed evidence that zakat stimulates the country's growth. As zakat funds are directed to increase consumption, investment, or government expenditure, they spur economic growth. Additionally, Tahraoui and Aouar (2024) demonstrated that the financial performance of Islamic finance, measured by profitability, has a significant positive impact on economic growth in the Islamic countries of Saudi Arabia, the United Arab Emirates, Kuwait, and Qatar.

The empirical evidence showed that the CPI has a significantly negative impact on economic growth. Moreover, the empirical evidence, study showed that, in the long run, Islamic banks' assets, financing, and bonds are significantly correlated with real GDP in Muslim countries. The development assistance of Islamic development banks has a positive impact on the economic growth of African Muslim Countries through investment as the primary transmission mechanism. The last strand of the literature considers a dual banking system where Islamic financial services are provided as a financing window, rather than through full-fledged banking operations, as is commonly available in most Muslim-dominated economies. The objective of these studies was a comparative analysis of both Islamic and conventional banking cum financial services and their impact on economic growth (Grassia & Gazdar, 2014). El-Galfy and Khiyar (2012) examined the potential impact of Islamic banking on economic growth. The results indicate that Islamic banking makes a positive contribution to macroeconomic stability in both developing and developed countries (Hidayah & Meylianingrum, 2023). Caporale and Helmi (2018) examined the effects of Islamic banking on the causal linkages between credit and gross domestic product (GDP) by comparing two sets of seven emerging countries. The findings revealed significant differences between the two sets of countries, reflecting the distinct characteristics of Islamic banks. Ibrahim et al. (2024) examined the opportunities and challenges of Islamic banking in Africa.

The results showed that the Islamic banking market has potential for those seeking expansion and the establishment of Shari'ah-compliant banks, as well as promising avenues for the growth of Islamic banking and finance, aligning with the continent's socio-economic dynamics by providing inclusive financial solutions. Yusof and Bahlous (2013) investigated the contribution of Islamic finance to economic growth in countries that were early adopters of Islamic banking, including Malaysia, Indonesia, and the Gulf Cooperation Council (GCC) countries. The results showed that Islamic banking contributed to economic growth in both the long and short terms for the GCC countries and the selected East Asian countries. However, in the short run, Islamic banking contributed more to economic growth in Malaysia and Indonesia compared to the GCC countries. Ledhem (2020) investigated empirically whether Sukuk financing is boosting the economic growth in Southeast Asia within the framework of the endogenous growth model. The findings showed that Sukuk financing is boosting economic growth in Southeast Asia, reflecting the significant role of Islamic financial markets in Sukuk as a vital contributor to economic growth.

Aeshed, Yasmin, and Gulzar (2020) explored the contribution of different types of Islamic financing that Islamic banks currently utilize in their capital structure to generate economic growth. The authors used quarterly data collected from nine countries over the period from Q1 2014 to Q4 2017. The results indicated that other than 'Istisna' financing, all other types of financing have a positive effect on economic growth, whereas Salam financing has the highest growth potential. Kenneh (2024) examined how Islamic finance aligns with sustainability goals, demonstrating how Sharia finance can help promote a more equitable and environmentally friendly world. The research findings show that various sustainability objectives align with the basic principles of risk sharing, socially responsible investment, prohibition of harmful investments, prohibition of riba (Interest), and avoidance of gharar (uncertainty).

MATERIALS AND METHODS

The theoretical framework for this study is Smith's (1759) theory of moral sentiments. This theory provides the analytical framework for investigating Islamic financial services and inclusive growth within the global economy. The theory is appropriate as it seeks to integrate the vital principles of Islamic economy within a global business and economic sphere. The theory of moral sentiment, as a theoretical framework for investigating Islamic financial services and inclusive growth, would be helpful as a modification to the pro-poor growth thesis attributed to the early writings of Chenery (1974). In operationalizing pro-poor growth, McCulloch and Baulch (1999) offered a poverty-bias measure of growth, developing a growth index to depict the distributional effects of growth outcomes (Pernia & Kakwani, 2000). However, a more widely accepted measure for inclusive growth that incorporates these previous modifications, known as the gross domestic product per person employed, has long enjoyed empirical acceptance. Stemming from the foregoing, the empirical model for this study is specified as

$$gdppe_t = \beta_0 + \beta_1 istisna_t + \beta_2 ijarah_t + \beta_3 qardh_t + \beta_4 murabahah_t + \beta_5 tier1_t + \beta_6 tier2_t + \varepsilon_t \quad (1)$$

Where, $gdppe$ at is the gross domestic product per person employed $tier1$, and $tier2$ what are the capital adequacy measures, which serve as indicators for bank regulations and control variables for the model? The Islamic financial service variables introduced into the model are 'istisna', 'ijarah', 'qard', and 'murabahah'. These Islamic financial instruments are a combination of capital-based and equity-based products, oriented on profit-sharing and mark-up bases. The theory of moral sentiment is enshrined in the specified model above, as these Islamic financial instruments are based on empathy and compassion, irrespective of whether they are based on a profit-sharing basis or a mark-up-based system. In Islamic financing, empathy and compassion, which are fundamental to the moral sentiment theory, serve as the cornerstone of business and economic engagements. The data for the variables are obtained from the financial reports of various Islamic banks across developing Islamic and Muslim-dominated countries in Asia and Africa.

No doubt, a vast majority of Asian countries are home to Islamic finance and economics. At the same time, Nigeria, being the most populous black nation in the world, is home to Islamic financing in Africa. Asia accounts for more than 50 percent of the global Islamic financial assets, and when combined with Nigeria, constitutes the highest number of developing economies that render Islamic financial services. The Panel of countries employed for empirical investigations is Nigeria, Pakistan, Saudi Arabia, Malaysia, Indonesia, Qatar, and Bangladesh. The study spans 2015 – 2023, and the techniques of analysis are Panel fixed and random effects. The Hausman test serves as the diagnostics, while the threshold panel model is employed for robustness.

RESULTS AND DISCUSSIONS

The estimates from the Panel Least Squares, detailed in Table 1, show that among all Islamic financial services rendered across developing Islamic economies, both istisna and ijarah have a positive impact on inclusive growth in these countries. The former has a coefficient of 0.00008, corresponding to a T-statistic of 2.43 and a probability value of 0.036, respectively. The implication is that a 1 increase in investment in property contracts would increase the gross domestic product per person employed at a marginal but significant value of 0.00008. Put differently, this implies that a 100,000 investment in a property contract would attract an 8 inclusive growth in developing Islamic economies. However, this infinitesimal figure is highly significant at the 5 percent level, with a 2.43 T-statistic value, pointing to the importance of istisna as an Islamic financial product in driving inclusive growth in these economies. Additionally, Ijarah is another Islamic financial service that fosters inclusive growth in these developing Islamic countries. The coefficient is 0.00007, with a corresponding 2.45 T-statistic and a p-value of 0.034, respectively. As indicated, a lease contract that charges a fee further spurs inclusive growth. Similarly, a 100,000 lease contract (ijarah) would attract a 7 significant increase in the gross domestic product per person employed (proxied as $gdppe$). The other Islamic financial services, have negligible impacts on inclusive growth in developing Islamic countries, as the corresponding probability values for both variables are greater than the 5 percent level of significance.

Table 1. Estimates of Panel Least Squares

Variables	Coefficient	Z-Statistics	Prob.[Z]
C	-107.36	-0.12	0.91
$gdppe(L1)$	1.043	22.46	0.00
$tier1$	-0.0003	-4.37	0.001
$tier2$	0.0005	3.70	0.004
$istisna$	0.00008	2.43	0.036
$qardh$	-0.0006	-1.10	0.296
$ijarah$	0.00007	2.45	0.034
$murabarah$	0.00003	0.151	0.163
R^2	0.997		
$Adj.R^2$	0.995		

Note: GDPPE is Gross Domestic Product per Person Employed; Tier 1 and Tier 2 are both primary and secondary capital adequacy measures

These insignificant coefficients imply that both Murabaha, a sales contract to resell a business or an economic item at a mark-up, and Qardh, an interest-free loan, would not significantly engender inclusive growth. Although Murabaha positively drives inclusive growth, with a coefficient impact of 0.00003 on the gross domestic product per person employed, its probability value of 0.163 is higher than the 5 percent threshold significance level. Qardh has a negligible impact, with a 0.296 probability value; its coefficient impact on inclusive growth is negative, at a value of -0.0006. The control variables of tier 1 and tier 2 serve as primary and secondary capital adequacy measures, respectively, and act as indicators of institutional factors for these economies. The estimates show that both measures have a significant alternative sign effect, with a negative and positive impact on the gross domestic product per person employed. For the former, the coefficient is -

0.0003 with a corresponding probability value of 0.001, while the coefficient for the latter is 0.0005 with a corresponding probability value of 0.004.

These suggest that the primary source of funding and the key indicator of financial strength (tier 1) for Islamic banks in developing Islamic countries has a significantly negative impact on inclusive growth. In contrast, the banks' reserve capital, designed to absorb losses and prevent failure, has a positive impact on inclusive growth. These results suggest that bank failures and their associated financial instability and crises are effectively addressed in developing Islamic countries. This further lends credence to the findings in previous studies that Islamic economies are typically resilient against the vagaries of global financial and economic crises, as are other economies. However, the intuition from the negatively significant impact of Tier 1 on inclusive growth in these economies is that domestic savings, being the primary source of finance with no return, appear to be non-rewarding to the lender but beneficial to the borrower. Although this may appear non-inclusive, it is a fundamental tenet of Islamic banking and economics that loans should be interest-free, as savings have no return. This reinforces the empathy and compassionate perspective of Islamic financial services, thereby lending credence to Smith's (1759) theory of moral sentiment. The lagged gross domestic product per person employed (proxied as $gdppe(L1)$ a positive and highly significant at the 1 percent level, with a corresponding 22.46 Z-statistic value). The coefficient of 1.043 indicates that a 1% increase in the previous amount of gross domestic product per person employed returns 0.043 to the current amount of gross domestic product per person employed. This suggests that inclusive growth is incremental in these developing Islamic countries.

The coefficient of determination, also known as the squared correlation coefficient, indicates that the explanatory variables account for 99.7% of the variation in the dependent variable, leaving the remaining 0.3% to extraneous factors. This indicates that the model is well specified and all important independent variables have been included in the estimated model. As such, the model does not suffer from any specification error. The results obtained from the Panel Fixed and Random Effects, along with the Breusch-Pagan and Hausman tests, confirm that the results from the Panel Least Squares are optimal and most reliable (see Appendices). Specifically, the Hausman test confirms the suitability of the Panel Fixed Effect over the Fixed Random Effect. In contrast, the Breusch-Pagan test confirms the suitability of the Panel Least Squares over the Panel Fixed Effect model. However, the panel quantile regression, estimated to provide robustness for the study, yields more striking results. As detailed in Table 2, three quantile thresholds were identified as optimal for the study: the 30th, 50th, and 70th percentiles. The results show that Qardh, as an Islamic financial service, has a negligible impact on inclusive growth in developing Islamic countries across the quantile thresholds. This finding further reinforces the results obtained for the Panel Least Squares analysis earlier. The idea that the Qardh has a negligible impact on inclusive growth in general and across various thresholds, including 30%, 50%, and 70% quantiles, further lends credence to the argument by mainstream economists that interest-free financial services have no beneficial effects on the economy. In retrospect, however, it would have had social impacts, owing to empathy and compassion, in providing financial assistance at no cost to fellow citizens.

In contrast, the secondary measure of capital adequacy (i.e., Tier 2) has a significant negative impact on inclusive growth at the 50% and 70% quantiles, but also has a negligible impact at the 30% quantile. The results obtained for the Panel Least Squares show a significantly positive impact of Tier 2 on inclusive growth. Moreover, the primary measure of capital adequacy (i.e., Tier 1) generally has a significantly negative impact on inclusive growth, but a significantly positive impact at threshold levels. These combine to imply that there is an asymmetric and disproportionate impact of capital adequacy on Islamic financial services in developing Islamic countries. In the same vein, a resale contract to sell a business or an economic item, known as Murabahah, has a significant negative impact on inclusive growth across the threshold levels at the 5 percent level (see Panels 2a – 2c of Table 2). At the Panel, the least squares results show that Murabahah has a negligible impact on inclusive growth. These results suggest that a sales contract, which is expected to be beneficial to all parties, appears to be hindering inclusive growth. On the other hand, both the property contract (i.e., Ijarah) and the lease contract (i.e., Istisna) are two Islamic financial services as well as products that consistently drive inclusive growth in those developing Islamic countries, as both have significantly positive impacts across the threshold levels, as did under the Panel Least Squares regression. By implication, whether at general or threshold levels, medium-term to long-term Islamic financial services foster inclusive growth compared to immediate or short-term financial services.

Table 2. Panel Quantile Regression Results

Variables	Panel 2a: 30% Quantile		
	Coeff.	Z-stat	Prob.[Z]
$tier1$	0.0003	2.28	0.022
$tier2$	-0.0006	-1.59	0.112
$istisna$	0.0003	2.89	0.004
$qardh$	-0.001	-0.66	0.510
$ijarah$	0.0002	2.60	0.009
$murabarah$	-0.0003	-4.36	0.000
	Panel 2b: 50% Quantile		
Variables	Coeff.	Z-stat	Prob.[Z]
$tier1$	0.0004	4.07	0.000

$tier2$	-0.0008	-2.96	0.003
$istisna$	0.0003	5.03	0.000
$qardh$	-0.002	-1.68	0.092
$ijarah$	0.0002	3.67	0.000
$murabarah$	-0.0003	-7.08	0.000
Panel 2c: 70% Quantile			
Variables	**Coeff.**	**Z-stat**	**Prob.[Z]**
$tier1$	0.0004	3.56	0.000
$tier2$	-0.0009	-2.59	0.010
$istisna$	0.0003	4.36	0.000
$qardh$	-0.002	-1.66	0.096
$ijarah$	0.0002	2.69	0.007
$murabarah$	-0.0003	-5.87	0.000

Note: Tier 1 and Tier 2 are both primary and secondary capital adequacy measures.

CONCLUSIONS

The study examines Islamic financial services and inclusive growth in developing Islamic countries, utilizing firm-level data from six countries and spanning the period from 2015 to 2023. Upon various diagnostic tests, the Panel Least Squares Regression serves as the primary analysis technique, while the Panel Quantile Regression is employed for robustness. In contrast to the findings obtained in the study by Aeshed, Yasmin, and Gulzar (2020), the results show that property contracts (i.e., Istisna) and leasing (i.e., Ijarah) are the two Islamic financial services that consistently engender inclusive growth in developing Islamic countries. Both the primary and secondary capital adequacy measures, aimed at corporate governance issues in corporate financial institutions, showed asymmetric and disproportional impacts on inclusive growth in those economies.

Instructively, interest-free financial services (i.e., Qardh) have no economic significance but only serve as an instrument to sustain the social cohesion in those economies, where finances are transferred from the surplus to the deficit units at no cost but simply on compassionate and empathetic grounds, to foreshadow the basic tenets of Islamic economics and finance. The study recommends that Muslim-dominated countries and Islamic countries should adopt Islamic financial services more consistently and pragmatically, especially those that are capital-based, as these tend to foster inclusive growth. Efforts should also be made to further improve the inclusiveness of growth in these economies through the development of equity-based financial instruments and/or services. Nonetheless, these Islamic financial institutions should be concerned about their capital adequacy standing to mitigate existential threats that could undermine their perpetual succession conventions. These are corporate government issues that cannot be underestimated.

The study has taken care to select samples for empirical investigation, given the depth of firm-level data on Islamic financial services and products across various Islamic countries. Financial institutions that combine conventional and Islamic financial services often struggle to achieve data clarity and transparency. Several countries claim to have windows for Islamic financial services but struggle with the concept of product mix, attempting to rebrand Islamic financial services as ethical financing —a new buzzword in the financial world. Stemming from the foregoing, the suggestion for further study is that authors in future research attempts could conduct a wide-ranging, evidence-based study on the impact of Islamic financial services on inclusive growth on a global scale, using large datasets across various regions of the world. This would mainly provide more insightful evidence and far-reaching implications for global finances. Additionally, more Islamic finance services could be introduced to extend the research outcomes further.

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APPENDICES

Appendix A: Alternative Panel Results

Source	SS	df	MS		Number of obs	=	18
					F(7, 10)	=	461.57
Model	309410156	7	44201450.8		Prob > F	=	0.0000
Residual	957633.007	10	95763.3007		R-squared	=	0.9969
					Adj R-squared	=	0.9948
Total	310367789	17	18256928.8		Root MSE	=	309.46

gdppe	Coefficient	Std. err.	t	P>|t|	[95% conf. interval]	
gdppe						
L1.	1.042717	.046428	22.46	0.000	.939269	1.146165
tier1	-.0002516	.0000576	-4.37	0.001	-.0003801	-.0001232
tier2	.0005024	.0001357	3.70	0.004	.0002	.0008047
istisna	.0000822	.0000338	2.43	0.036	6.77e-06	.0001576
qardh	-.0005886	.0005343	-1.10	0.296	-.001779	.0006019
ijarah	.0000683	.0000279	2.45	0.034	6.09e-06	.0001306
murabahah	.000025	.0000166	1.51	0.163	-.000012	.0000621
_cons	-107.3606	879.5032	-0.12	0.905	-2067.016	1852.295

.

```
Fixed-effects (within) regression           Number of obs      =         18
Group variable: b_id                         Number of groups   =          3

R-squared:                                   Obs per group:
    Within  = 0.9396                                       min =          6
    Between = 0.9961                                       avg =        6.0
    Overall = 0.9823                                       max =          6

                                             F(7,8)             =      17.78
corr(u_i, Xb) = 0.9384                       Prob > F           =     0.0003
```

gdppe	Coefficient	Std. err.	t	P>|t|	[95% conf. interval]	
gdppe						
L1.	.8079659	.2156704	3.75	0.006	.3106289	1.305303
tier1	-.0001295	.0001169	-1.11	0.300	-.0003991	.0001402
tier2	.0002356	.0002548	0.92	0.382	-.0003519	.0008231
istisna	.0001325	.0000644	2.06	0.073	-.0000159	.0002809
qardh	-.0012325	.0007633	-1.61	0.145	-.0029927	.0005278
ijarah	.0000965	.0000387	2.49	0.037	7.21e-06	.0001859
murabahah	-.0000446	.000064	-0.70	0.506	-.0001922	.000103
_cons	5115.951	4675.171	1.09	0.306	-5665.014	15896.92
sigma_u	1807.6393					
sigma_e	316.50054					
rho	.97025518	(fraction of variance due to u_i)				

F test that all u_i=0: F(2, 8) = 0.78   Prob > F = 0.4904

```
Random-effects GLS regression                    Number of obs    =         18
Group variable: b_id                             Number of groups =          3

R-squared:                                       Obs per group:
     Within  = 0.9295                                        min =          6
     Between = 1.0000                                        avg =        6.0
     Overall = 0.9969                                        max =          6

                                                 Wald chi2(7)     =    3230.99
corr(u_i, X) = 0 (assumed)                       Prob > chi2      =     0.0000
```

gdppe	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
gdppe						
L1.	1.042717	.046428	22.46	0.000	.9517198	1.133714
tier1	-.0002516	.0000576	-4.37	0.000	-.0003646	-.0001387
tier2	.0005024	.0001357	3.70	0.000	.0002364	.0007683
istisna	.0000822	.0000338	2.43	0.015	.0000158	.0001485
qardh	-.0005886	.0005343	-1.10	0.271	-.0016357	.0004586
ijarah	.0000683	.0000279	2.45	0.014	.0000136	.0001231
murabahah	.000025	.0000166	1.51	0.132	-7.55e-06	.0000576
_cons	-107.3606	879.5032	-0.12	0.903	-1831.155	1616.434
sigma_u	0					
sigma_e	316.50054					
rho	0	(fraction of variance due to u_i)				

.

	──── Coefficients ────			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed	.	Difference	Std. err.
gdppe				
L1.	.8079659	1.042717	-.2347511	.2056959
tier1	-.0001295	-.0002516	.0001222	.0000987
tier2	.0002356	.0005024	-.0002667	.0002089
istisna	.0001325	.0000822	.0000504	.000053
qardh	-.0012325	-.0005886	-.0006439	.0005211
ijarah	.0000965	.0000683	.0000282	.0000256
murabahah	-.0000446	.000025	-.0000696	.0000603

```
                b = Consistent under H0 and Ha; obtained from xtreg.
        B = Inconsistent under Ha, efficient under H0; obtained from xtreg.

Test of H0: Difference in coefficients not systematic

    chi2(2) = (b-B)'[(V_b-V_B)^(-1)](b-B)
            =    1.63
Prob > chi2 = 0.4423
(V_b-V_B is not positive definite)
```

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Panel Quantile Regression Model

```
                    MM-QR regression results

Number of obs = 19
.3 Quantile regression
```

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
istisna	.0002632	.0000912	2.89	0.004	.0000844	.0004419
qardh	-.0010001	.0015165	-0.66	0.510	-.0039724	.0019721
murabahah	-.0002674	.0000613	-4.36	0.000	-.0003875	-.0001472
ijarah	.0001684	.0000647	2.60	0.009	.0000415	.0002952
tier1	.000306	.0001339	2.28	0.022	.0000435	.0005684
tier2	-.0006117	.0003846	-1.59	0.112	-.0013655	.0001421

MM-QR regression results

Number of obs = 19
.5 Quantile regression

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
istisna	.0003048	.0000624	4.89	0.000	.0001825	.0004271
qardh	-.0016162	.0010344	-1.56	0.118	-.0036436	.0004113
murabahah	-.0002893	.0000415	-6.97	0.000	-.0003707	-.0002079
ijarah	.000159	.0000426	3.73	0.000	.0000754	.0002426
tier1	.0003603	.0000913	3.94	0.000	.0001812	.0005393
tier2	-.0007409	.0002594	-2.86	0.004	-.0012493	-.0002324

MM-QR regression results

Number of obs = 19
.6 Quantile regression

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
istisna	.000313	.0000622	5.03	0.000	.0001911	.0004349
qardh	-.0017377	.0010318	-1.68	0.092	-.00376	.0002846
murabahah	-.0002936	.0000415	-7.08	0.000	-.0003749	-.0002124
ijarah	.0001571	.0000428	3.67	0.000	.0000733	.000241
tier1	.000371	.0000911	4.07	0.000	.0001924	.0005495
tier2	-.0007664	.0002592	-2.96	0.003	-.0012744	-.0002583

MM-QR regression results

Number of obs = 19
.7 Quantile regression

	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
istisna	.0003418	.0000784	4.36	0.000	.0001881	.0004955
qardh	-.002164	.0012999	-1.66	0.096	-.0047117	.0003837
murabahah	-.0003088	.0000526	-5.87	0.000	-.0004119	-.0002057
ijarah	.0001506	.0000559	2.69	0.007	.000041	.0002602
tier1	.0004086	.0001148	3.56	0.000	.0001836	.0006335
tier2	-.0008558	.0003303	-2.59	0.010	-.0015031	-.0002084