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UNLOCKING GROWTH IN THE MUSLIM WORLD: FINANCIAL DEEPENING AND ECONOMIC DEVELOPMENT IN OIC COUNTRIES

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ABSTRACT

This article investigates the relationship between financial deepening and economic development in member countries of the Organisation of Islamic Cooperation (OIC) using a two-way fixed effects panel regression with data from the World Bank. The dependent variable is real GDP per capita, while the main variable of interest is domestic credit to the private sector as a percentage of GDP, controlling for trade, investment, inflation, government expenditure, FDI, and unemployment. The results show that financial deepening has a positive and statistically significant effect on income, supporting the view that robust financial intermediation remains a key engine of growth in the Muslim world. The effects of other macroeconomic controls are more context-specific and reflect the persistent heterogeneity of OIC economies. The study highlights the importance of strengthening prudent, inclusive, and well-regulated financial systems to promote sustainable development in OIC member states.

INTRODUCTION

Financial deepening, characterized by the expansion and improved accessibility of financial services, is widely recognized as a crucial determinant of economic development (King & Levine, 1993; Levine, 2005). Through enhanced resource allocation, risk management, and investment facilitation, well-functioning financial systems enable economies to achieve sustained growth and prosperity (Beck et al., 2000). The seminal work of Schumpeter (1911) first emphasized the role of financial intermediaries in fostering innovation, while recent empirical evidence confirms robust linkages between financial development and economic growth across diverse contexts (Levine et al., 2000).

The Organization of Islamic Cooperation (OIC), comprising 57 member states with over 1.8 billion people, faces persistent developmental challenges despite abundant resources in many countries (SESRIC, 2023). OIC nations exhibit considerable heterogeneity in economic performance and in the maturity of their financial systems. While countries like Malaysia, Turkey, and the UAE have achieved substantial financial sector development, others struggle with limited credit access and underdeveloped markets (IMF, 2023; World Bank, 2024).

The unique characteristics of OIC economies, including dual financial systems combining conventional and Islamic finance, varying oil dependency, and distinct socio-cultural contexts, require tailored approaches to understanding the finance-growth nexus (Imam &

Kpodar, 2016). Islamic finance, grounded in Sharia principles, has grown rapidly, with global assets reaching $3.95 trillion in 2023 (IFSB, 2024), offering both opportunities and challenges for financial deepening.

Despite extensive literature on financial development and growth, critical gaps remain. First, most studies focus on conventional systems, with limited attention to dual-banking environments in OIC countries (Alaabed et al., 2016). Second, comprehensive cross-country analyses incorporating recent data and regional heterogeneity are scarce (Tabash & Dhankar, 2014). Third, endogeneity concerns, particularly reverse causality between finance and growth, remain inadequately addressed in many OIC-focused studies (Hassan et al., 2011). Fourth, the role of financial deepening in promoting inclusive development across diverse OIC contexts, ranging from resource-rich Gulf states to lower-income Sub-Saharan African members, requires further empirical investigation (Imam & Kpodar, 2016).

This study examines the relationship between financial deepening and economic development across OIC countries from 2000 to 2023, using panel data with fixed effects. Financial deepening is measured by domestic credit to the private sector (% of GDP), a widely used indicator reflecting the extent to which the financial sector channels resources to private enterprises (Beck et al., 2000; Levine, 2005). The objectives are to: (1) empirically assess the impact of financial deepening on economic growth in OIC countries, (2) investigate whether this relationship varies across income groups and geographic regions, and (3) identify key control factors that moderate the finance-growth nexus in the OIC context.

This research contributes theoretically by incorporating institutional and religious dimensions specific to OIC economies, particularly the coexistence of Islamic and conventional finance (Imam & Kpodar, 2016). Methodologically, it employs fixed-effects panel data regression to control for time-invariant country-specific characteristics that may confound the finance-growth relationship. Empirically, it provides updated evidence covering recent periods, including the global financial crisis and COVID-19 pandemic, offering insights into how financial deepening dynamics evolved during economic turbulence. From a policy perspective, findings offer actionable insights for OIC policymakers and development institutions seeking to leverage financial sector development for inclusive growth and achievement of Sustainable Development Goals (SESRIC, 2023).

The theoretical link between financial development and economic growth goes back to Schumpeter, who argued that well-functioning financial intermediaries are crucial for innovation and entrepreneurship. Financial systems foster growth by mobilizing savings, allocating capital to high-return projects, monitoring firms, diversifying risk, and facilitating transactions (Levine, 1997, 2005). Building on this view, McKinnon (1973) and Shaw (1973) showed that financial repression, such as interest-rate ceilings and directed credit, distorts resource allocation and hampers growth. Endogenous growth models further suggest that by reducing information asymmetries and transaction costs, financial intermediaries enhance total factor productivity and long-run growth (Greenwood & Jovanovic, 1990; King

& Levine, 1993). At the same time, more recent studies warn that "too much finance" can generate systemic risk, misallocation of talent, and weaker growth when the financial sector becomes excessively large (Arcand et al., 2015; Cecchetti & Kharroubi, 2012).

Empirical work generally finds a positive finance–growth nexus in cross-country and panel settings. Using data for a broad set of economies, King and Levine (1993) and Beck et al. (2000) show that higher initial financial development predicts faster subsequent growth, mainly through productivity and capital accumulation. To address endogeneity, Levine et al. (2000) employ dynamic panel methods and legal-origin instruments and still find that exogenous components of financial development raise growth. At the sectoral level, Rajan and Zingales (1998) show that industries more dependent on external finance grow faster in countries with more developed financial markets, supporting the mechanism that finance relaxes funding constraints. However, evidence also points to non-linear and heterogeneous effects: financial depth beyond certain thresholds can have diminishing or even negative impacts on growth, and causality between finance and growth can be bidirectional in some cases (Demetriades & Hussein, 1996; Arcand et al., 2015).

Islamic finance adds a distinct dimension to this literature by prohibiting interest, excessive uncertainty, and speculation, and by emphasizing profit-and-loss sharing and asset-backed transactions (Iqbal & Mirakhor, 2011; Chapra, 2000). These principles are expected to strengthen links with the real sector, promote risk sharing, and support more equitable development. Empirical evidence from dual-banking systems suggests that Islamic finance can contribute positively to growth. Studies for Malaysia and the UAE find that Islamic banking development is associated with higher output, often through improved financial inclusion and stability (Furqani & Mulyany, 2009; Kassim, 2016; Tabash & Dhankar, 2014). At a broader level, Imam and Kpodar (2016) show that Islamic banking development supports growth especially in countries with large Muslim populations and supportive regulatory frameworks, mainly via inclusion channels. Nonetheless, Islamic finance still faces constraints such as limited product diversity, fragmented regulation, and the dominance of debt-like over equity-based contracts, which may limit its full developmental potential (Mohieldin et al., 2012).

OIC member states display wide disparities in financial depth and institutional quality. High-income OIC economies in the Gulf often have financial indicators comparable to advanced economies, while many low-income members in Sub-Saharan Africa and South Asia remain financially shallow (SESRIC, 2023; World Bank, 2024). Country and regional studies generally confirm that deeper financial systems are associated with higher growth in OIC contexts, but they also highlight the importance of governance, property rights, and regulatory quality in shaping the strength of this relationship (Hassan et al., 2011; Lebdaoui & Wild, 2016; Yüksel & Canöz, 2017). Overall, the evidence suggests that both Islamic and conventional segments in dual systems can play complementary roles in supporting real-sector development.

Financial deepening is typically measured with ratios that relate financial aggregates to GDP, such as domestic credit to the private sector, broad money (M2), or bank deposits, and sometimes stock market capitalization and turnover (King & Levine, 1993; Beck et al., 2000; Levine, 2005). These indicators aim to capture the size, activity, and liquidity of the financial system. More recent work proposes composite indices that incorporate depth, access, efficiency, and stability dimensions (Čihák et al., 2012; Svirydzenka, 2016). For OIC countries with dual banking systems, aggregate indicators like private credit to GDP remain useful proxies of overall financial deepening, even though they mix Islamic and conventional activities and detailed data on Islamic assets are not always consistently available (Imam & Kpodar, 2016). This justifies their use in cross-country panel studies that focus on the combined financial resources available to the real economy.

METHOD RESEARCH

This study employs a panel-data framework to analyse the relationship between financial deepening and economic development in OIC member countries. The dependent variable is real GDP per capita (GDPPC), while the main variable of interest is financial deepening, proxied by domestic credit to the private sector as a percentage of GDP (CREDIT). Additional macroeconomic controls include trade openness (TRADE), gross capital formation (INVEST), inflation (INFL), general government final consumption expenditure (GOVE), foreign direct investment (FDI), and unemployment (UNEMP), all measured as standard World Development Indicators (WDI) ratios or rates.

Where appropriate, logarithmic transformations are applied to level variables (such as GDPPC) to reduce skewness and allow semi-elasticity or elasticity interpretations of the coefficients, while percentage or ratio variables may be kept in levels or transformed depending on distributional properties and stationarity tests. Prior to estimation, the panel is balanced as far as possible by restricting to years and countries with sufficient data coverage, and outliers or implausible observations are checked to reduce the influence of extreme values on regression results.

The baseline estimator is the within (fixed effects) estimator, which differences out i by using deviations from individual country means. Fixed effects are preferred over random effects because unobserved country characteristics are likely correlated with financial and macroeconomic variables, violating the random-effects orthogonality assumption. Hausman-type considerations and the focus on controlling for country-specific heterogeneity justify the choice of a fixed-effects specification for OIC panels.

The empirical model is a linear panel-data regression of the form:

$$Log(GDPPC)_{it} = \alpha_0 + \alpha_1 Log(CREDIT)_{it} + X_{it} + a_i + \mu_t + u_{it}$$

where i indexes countries and t time (years). Country-specific fixed effects i capture time-invariant heterogeneity such as geography, culture, and long-run institutional characteristics, while time dummies t control for standard global shocks affecting all OIC

members in a given year. X_{it} are a set of control variables and the coefficient 1 measures the partial association between financial deepening (CREDIT) and economic development (GDPPC), holding other macroeconomic factors constant.

To obtain reliable inference in the presence of heteroskedasticity and serial correlation within panels, the study employs country-level cluster-robust standard errors. This correction allows for arbitrary heteroskedasticity across countries and autocorrelation over time within each country, improving the robustness of t-statistics and confidence intervals.

RESULT AND DISCUSSION

Table 1 provides a descriptive overview of the variables included in the empirical model. GDP per capita displays substantial variation across the sample, ranging from USD 429 to nearly USD 99,000, suggesting strong heterogeneity among OIC countries. Financial depth (CREDIT) also varies widely, with values between 1.26 and 286 percent of GDP, reflecting significant differences in financial sector development. Trade openness (TRADE) averages 78 percent of GDP, while investment (INVEST) averages around 25 percent, indicating moderate integration and capital formation within the region.

Table 1. Summary Statistics

Variable	mean	sd	min	max
GDPPC	12,087.5962	17,719.5704	429.5373	98,998.0880
CREDIT	42.3376	33.9266	1.2669	286.5574
TRADE	78.3669	38.1122	2.6988	220.4068
INVEST	25.6519	8.0735	1.2252	57.9904
INFL	8.4597	22.2204	-3.7491	359.0930
GOVE	20.4456	8.1332	3.7921	49.0372
FDI	3.4391	4.9092	-24.5285	55.0729
UNEMP	7.0047	4.8696	0.1000	29.7700

Source(s): Author Calculation

Inflation (INFL) exhibits substantial dispersion, with the standard deviation exceeding the mean, implying episodes of macroeconomic instability among several countries. Government expenditure (GOVE) ranges from 3.79 to 49 percent of GDP, reflecting diverse fiscal profiles. FDI inflows (FDI) also show considerable spread, including negative values, which indicate net disinvestment in certain periods. Finally, unemployment (UNEMP) averages around 7 percent, with a wide range between 0.1 and 29 percent.

Correlation results in Table 2 reveal several notable patterns. GDP per capita is positively correlated with CREDIT (0.354) and TRADE (0.446), suggesting that more financially developed and outward-oriented economies tend to exhibit higher income levels. Conversely, GDP per capita is negatively correlated with unemployment (–0.411), aligning with theoretical expectations.

Table 2. Correlation Matrix

GDPPC	CREDIT	TRADE	INVEST	INFL	GOVE	FDI	UNEMP
1.000	0.354	0.446	0.043	-0.131	-0.132	-0.005	-0.411
0.354	1.000	0.582	0.087	-0.162	0.326	0.110	-0.102
0.446	0.582	1.000	0.029	-0.204	0.010	0.242	-0.251
0.043	0.087	0.029	1.000	-0.269	0.063	0.166	0.060
-0.131	-0.162	-0.204	-0.269	1.000	-0.116	-0.028	0.174
-0.132	0.326	0.010	0.063	-0.116	1.000	0.039	0.443
-0.005	0.110	0.242	0.166	-0.028	0.039	1.000	0.038
-0.411	-0.102	-0.251	0.060	0.174	0.443	0.038	1.000

Source(s): Author Calculation

Some moderate correlations are observed among explanatory variables, such as between CREDIT and TRADE (0.582) and between CREDIT and GOVE (0.326). However, no pairwise correlation exceeds the commonly accepted threshold of 0.8, indicating that multicollinearity is not a substantial concern in the regression models.

The fixed effects estimation results are reported in Table 1. The coefficient on log (CREDIT) is positive and statistically significant at the 1 percent level, indicating that deeper financial systems are associated with higher GDP per capita in OIC countries. This suggests that financial sector development remains an important driver of economic performance.

Table 3. Fixed Effects Regression with Clustered SE

Variable	Coeff	Std-Error	t-value	p-value
Log (CREDIT)	0.2546	0.0848	3.0010	0.0030
Log (TRADE)	-0.2564	0.1459	-1.7571	0.0805
Log (INVEST)	0.0856	0.0899	0.9519	0.3423

INFL	0.0067	0.0023	2.8485	0.0049
Log (GOVE)	-0.5210	0.1977	-2.6352	0.0091
FDI	0.0017	0.0021	0.8387	0.4027
UNEMP	-0.0332	0.0178	-1.8581	0.0646
Year FE		Yes		
Country FE		Yes		
R^2		0.415		
$Adj\ R^2$		0.326		
Obs		228		
Country		32		

Source(s): Author Calculation

Log (TRADE) carries a negative coefficient, significant at the 10 percent level, implying that higher trade openness may exert downward pressure on income levels, potentially reflecting vulnerability to external shocks or dependence on primary exports among several sample countries. INFL is positive and significant, although the magnitude is relatively small, implying that modest inflation is associated with higher GDP per capita—possibly capturing the link between moderate price increases and economic activity in developing economies. Government expenditure log (GOVE) exerts a negative and statistically significant effect, suggesting that higher public spending does not necessarily translate into improved economic performance and may reflect inefficiencies in fiscal allocation. Other variables such as log (INVEST), FDI, and UNEMP are not statistically significant, although unemployment displays the expected negative sign. Overall, the regression explains approximately 41 percent of the within-country variation in GDP per capita.

Table 4. Autocorrelation and Heteroskedasticity Test

Test	Statistic	P-value
Wooldridge Autocorrelation Test	90.3263	0.000
Breusch-Pagan Heteroskedasticity Test	29.9559	0.000

Source(s): Author Calculation

The Wooldridge test for serial correlation yields a test statistic of 90.326 and a p-value of 0.000. This strongly rejects the null hypothesis of no autocorrelation, confirming the presence of serial correlation in the idiosyncratic errors. Furthermore, The Breusch–Pagan

test also rejects the null hypothesis of homoskedasticity (p-value = 0.0001). This indicates the presence of heteroskedasticity across countries. Accordingly, the use of heteroskedasticity and autocorrelation-consistent (clustered) standard errors is justified and necessary for valid inference.

The estimation results provide clear evidence that financial deepening is positively associated with economic development in OIC member countries, even after controlling for a rich set of macroeconomic variables and unobserved country and time effects. The positive and statistically significant coefficient on log(CREDIT) suggests that, within OIC economies, increases in domestic credit to the private sector are systematically linked to higher real GDP per capita. This finding is in line with the mainstream finance–growth literature, which argues that deeper financial systems help mobilize savings, improve capital allocation, and support productivity-enhancing investment, thereby raising income levels over time (King & Levine, 1993; Beck et al., 2000; Levine, 2005). In the OIC context, where many countries operate dual banking systems, the result implies that the combined intermediation capacity of Islamic and conventional finance is an important driver of development, consistent with empirical evidence that both segments can play complementary roles in supporting growth.

The control variables paint a more nuanced picture and highlight several OIC-specific patterns. The weakly negative association between trade openness and GDP per capita, once fixed effects and other controls are included, contrasts with the standard expectation that openness fosters growth, and may reflect structural features of some OIC economies that rely heavily on commodity exports or have limited diversification. In such settings, higher trade ratios can coincide with vulnerability to external shocks and terms-of-trade volatility rather than broad-based development gains. The insignificant coefficients on investment and FDI suggest that, in this sample and timeframe, quantity-based measures of capital inflows and formation do not automatically translate into higher income levels; institutional quality, project selection, and sectoral allocation likely condition their growth payoffs, as highlighted in prior work on developing and OIC economies. The negative and (marginally) significant estimates for government consumption and unemployment are in line with the view that excessive or inefficient public spending and persistent labour-market slack can constrain private-sector-led growth, reinforcing arguments for improving the composition and effectiveness of fiscal policy and labour-market institutions in the Muslim world.

From a methodological perspective, the presence of heteroskedasticity and serial correlation in the error term, as indicated by the diagnostic tests, validates the use of clustered standard errors and a two-way fixed effects specification. This strengthens confidence that the reported significance levels are not driven by understated standard errors but reflect robust within-country relationships over time. At the same time, the results should be interpreted as conditional associations rather than strict causal effects: reverse causality (richer countries developing deeper financial systems) and omitted time-varying factors cannot be fully ruled out without more advanced identification

strategies. Future research could build on this study by incorporating explicit measures of Islamic versus conventional financial depth, exploring non-linearities or thresholds in the finance–growth relationship within OIC countries, and using dynamic panel or instrumental-variable approaches to better address endogeneity concerns. Nevertheless, the current findings already offer important policy implications: strengthening prudent financial deepening—through sound regulation, inclusion-oriented initiatives, and support for productive credit—appears to be a promising lever for enhancing economic development in the Muslim world, provided improvements in macroeconomic management, public sector efficiency, and labour-market performance accompany it.

CONCLUSION

This study finds robust evidence that financial deepening—measured by domestic credit to the private sector (% of GDP)—is positively and significantly associated with real GDP per capita across OIC member countries, after accounting for macroeconomic controls and fixed effects. The result supports the finance–growth theory in the Muslim world, suggesting that strengthening financial intermediation can play a key role in economic development across OIC economies. However, the effects of trade openness, investment, FDI, government expenditure, and unemployment are mixed or less robust, highlighting persistent structural and institutional heterogeneity across OIC countries. These findings align with international empirical literature that emphasizes the need for well-regulated, inclusive, and efficient financial sectors to maximize development outcomes in emerging and Muslim-majority markets.

Policy Implications and Recommendations:

1. Policymakers in OIC countries should continue to support prudent financial sector deepening—through reforms to strengthen banking supervision, improve credit access (including sharia-compliant products), and foster responsible lending practices—while ensuring financial inclusion for underserved populations.
2. Complementary reforms are needed to increase the effectiveness of government spending, attract quality FDI, and stimulate productive employment. Improvements in regulatory quality, financial literacy, and macroeconomic management are essential to maximize the growth benefits of deepening finance.
3. Future research should distinguish more clearly between Islamic and conventional finance, explore threshold or non-linear effects, and leverage dynamic panel approaches to further clarify causality.

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