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Islamic Finance, Financial Development and Economic Growth in Africa: Evidence from Structural Breaks and Threshold GMM

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Abstract
Given the fragility of global financial markets, Islamic finance has emerged as a credible alternative over the past decade. However, previous studies disagree on its effect on economic growth. This study therefore examines the nonlinear relationship between Islamic finance and growth. It accounts for the role of financial development. To do so, it combines the two-step system GMM, the structural break test of Ditzen et al. (2025) and threshold GMM. The sample covers 25 African countries from 2001 to 2020. The results show that Islamic finance has a positive effect on economic growth in Africa. Two structural breaks are identified, in 2007 and 2013. The effect is not significant from 2001 to 2007 and from 2013 to 2020. It is positive and significant between 2007 and 2013. Finally, the nonlinear analysis reveals a financial development threshold. When the overall financial development index is below 0.299, the effect of Islamic finance is positive and statistically significant. Beyond this threshold, it becomes insignificant. These results recommend that authorities promote Islamic finance primarily in countries with low financial development, while strengthening their regulatory and institutional frameworks to consolidate its effects on growth.

Keywords: *Islamic finance; Economic growth; Financial development; Structural breaks; Threshold GMM; Africa*
JEL codes: O16; Z12; O40

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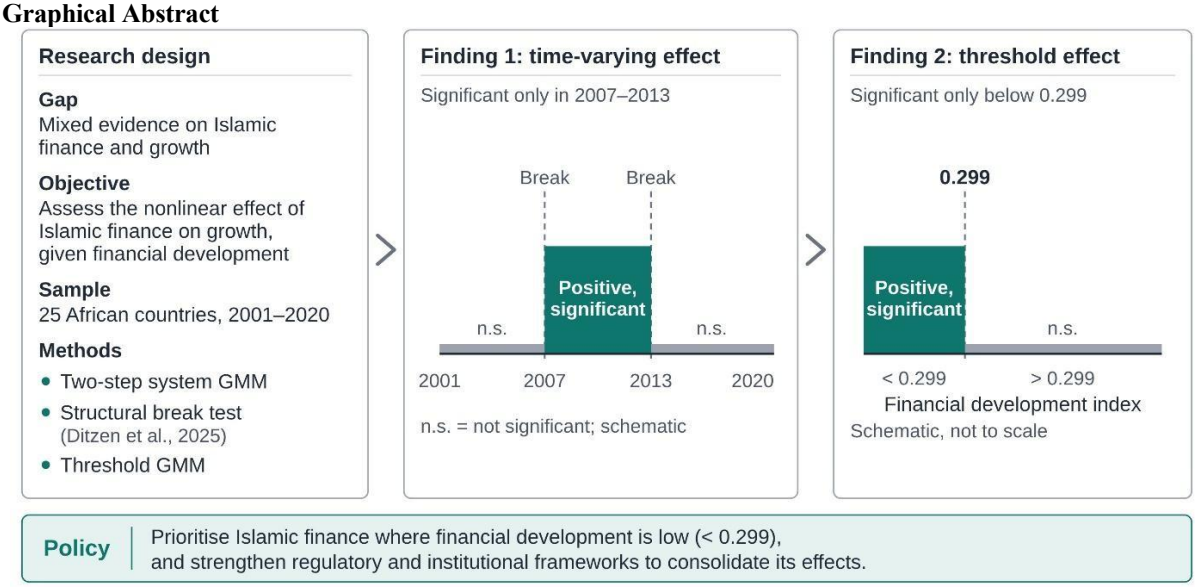
Graphical Abstract



I. Introduction

Financing growth is a major strategic issue for African economies, which seek to generate strong, stable and resilient growth in order to accelerate their structural transformation. Since independence, African countries have undertaken extensive programmes of modernisation, infrastructure development and productive capacity building, but insufficient domestic financial resources have often led governments to rely on external borrowing. At the same time, conventional finance has come under criticism: successive crises, the exclusion of part of the population from the banking system, information asymmetries and the growing financialisation of economies call into question its capacity to reconcile efficiency, stability and financial inclusion (Minsky, 1986;

Stiglitz & Weiss, 1981). This situation has made it necessary to diversify the sources of development finance and has drawn attention to Islamic finance.

Islamic finance rests on the prohibition of interest (riba), the limitation of excessive uncertainty (gharar) and speculation (maysir), risk sharing, and the backing of transactions by real assets. Through mudarabah, musharakah, murabahah, ijarah and sukuk, it offers alternative means of mobilising savings and financing investment. Its economic relevance extends beyond its religious dimension: risk sharing and the orientation towards the real economy may foster an allocation of resources more closely tied to productive activities (Zaher & Hassan, 2001). Islamic finance can thus be regarded as a component of financial development likely to contribute to growth.

The theoretical literature on this relationship divides into two strands. The first, and dominant, strand regards Islamic finance as a driver of growth. It extends the supply-leading hypothesis rooted in Schumpeter and Nichol (1934) and formalised by Patrick (1966), and enriched by (McKinnon, 1973), according to which the development of financial intermediaries precedes growth by channelling savings towards productive investment, a mechanism that endogenous growth models formalise through the accumulation of physical and human capital. Asset backing, the prohibition of interest and profit-and-loss sharing would tie credit to the real economy and limit leverage, while the cultural and religious barriers that Islamic finance overcomes and its social instruments would foster more inclusive growth. The second, minority strand argues that Islamic finance may constrain growth or leave it unaffected (Rofik et al., 2025). In dual banking systems, the expansion of a still immature sector alongside older conventional banks may lead to a sub-optimal allocation of capital and to market fragmentation. Added to this are Sharia compliance costs, a narrow product range, a shortage of liquidity infrastructure and, in rentier economies, growth that depends more on natural resources than on financial deepening. The quality of financial institutions could arbitrate between these two trajectories: a harmonised regulatory framework, credible Sharia governance and Sharia-compliant liquidity markets would activate the channels of the first strand and remove the frictions of the second.

This literature has three limitations. First, financial development usually enters growth regressions as a control or through a simple interaction term. Few studies treat it as the transition variable that governs the effect of Islamic finance, and the threshold at which this effect changes regime remains unidentified. Second, evidence on Africa is scarce. Existing samples are dominated by the Gulf and Southeast Asia, and African evidence rests mostly on single-country studies such as Nigeria (Tabash et al., 2022). Third, African financial systems are shallow and heterogeneous, which makes the regime-dependent hypothesis especially relevant there.

Against this background, this article examines the extent to which Islamic finance contributes to economic growth in Africa and how this relationship varies over time and with the level of financial development. It first assesses the direct effect of Islamic finance, then examines the temporal stability of the relationship and identifies any structural breaks, and finally analyses the role of financial development in moderating this effect. The general hypothesis is that the effect of Islamic finance on growth depends on the level of financial development of African countries.

To test this hypothesis, the study uses a panel of 25 African countries over the period 2001–2020 and employs two-step system GMM, the structural break test of Ditzen et al. (2025), and a threshold GMM with financial development as the transition variable.

The article makes three contributions. Theoretically, it extends the supply-leading hypothesis and endogenous growth models by testing whether Islamic finance affects growth directly or conditionally on financial development, and it moves beyond the opposition between the two strands of the literature through a conditional reading. Methodologically, it combines within a single framework three approaches rarely brought together in the study of Islamic finance, namely system GMM, a structural break test and threshold GMM, and thereby goes beyond the estimation of a single average effect (Rofik et al., 2025). From a policy perspective, it informs African policymakers about the conditions under which Islamic finance supports growth.

The remainder of the article is organised in three sections. Section 2 presents the theoretical and empirical foundations of the relationship, Section 3 sets out the methodology, and Section 4 presents and discusses the results, before the conclusion.

II. Littérature review on islamic finance, Financial developpement and economic growth.

2.1 The effect of islamic finance on economic growth.

The question of whether Islamic finance fosters growth extends the broader finance–growth debate to a system that prohibits interest (riba), excessive uncertainty (gharar) and speculation (maysir), and requires financing to be backed by real assets. The theoretical literature divides into two strands.

The dominant strand extends the supply-leading view of finance. (Schumpeter and Nichol (1934) placed the banker at the heart of development, as the agent who finances innovating entrepreneurs. (Patrick, 1966)formalised the distinction between a supply-leading pattern, in which financial intermediation precedes and induces growth, and a demand-following pattern, in which it merely responds to it. McKinnon (1973), added that liberalised, deeper financial systems raise both the volume and the productivity of investment by channelling savings towards their most profitable uses. In ndogenous growth models, finance affects growth through the share of savings converted into investment, the marginal productivity of capital and the saving rate (Pagano, 1993), while financial functions such as information production, monitoring and risk diversification raise the accumulation of physical and human capital and the pace of technological change (King & Levine, 1993; Levine, 2005). Islamic finance performs these same functions and, its proponents argue, adds four specific channels.

The first channel is real-economy anchoring. Because every Sharia-compliant contract must be backed by a tangible asset or a real transaction, credit cannot expand far beyond the underlying economic activity. This limits leverage and speculative bubbles, and the resulting stability is itself conducive to growth. Islamic banks were better capitalised, held higher-quality assets and were less likely to disintermediate during the global financial crisis (Beck et al., 2013).

The second channel is profit-and-loss sharing (PLS). Under mudarabah and musharakah contracts, the return to the financier depends on the outcome of the project, not on a predetermined interest rate. Funds should therefore be allocated according to expected profitability rather than collateral, which strengthens ex ante screening and favours productive, innovative projects (Gheeraert & Weill, 2015). Risk sharing between depositors, banks and entrepreneurs also cushions shocks.

The third channel is financial inclusion. A share of Muslim households and firms voluntarily excludes itself from interest-based finance. By offering compatible products, Islamic banks mobilise these idle savings and extend the depositor base (Demirguc-Kunt et al., 2014; Naceur et al., 2017). Imam and Kpodar (2016) identify capital accumulation and improved access to deposits as the main transmission channels in a sample of 52 countries over 1990–2010. In 22 dual-banking Muslim countries, Abedifar et al. (2016) find that the market share of Islamic banks is positively associated with financial intermediation, financial deepening and economic welfare, and with greater efficiency among conventional banks, which points to a competitive spillover.

The fourth channel is redistributive. Social instruments such as zakat, waqf and qard hassan finance education, health and micro-enterprise, so that growth is expected to be more inclusive (Farah et al., 2025).

Empirical studies largely support this strand. Positive long-run relationships have been documented for Malaysia (Kassim, 2016) and Indonesia (Abduh & Omar, 2012). In the Gulf, (Grassa & Gazdar, 2014) find that Islamic finance drives growth while conventional financial development has no significant effect. Recent cross-country work confirms these results using system GMM in Southeast Asia (Ledhem & Mekidiche, 2022), the composite Islamic Finance Development Indicator for 67 countries over 2012–2020 (Butt et al., 2023), and an unbalanced panel of 27 countries over 2013–2021 (Ansari et al., 2025).

The second, minority strand argues that Islamic finance may hinder growth or leave it unaffected (Goaied & Sassi, 2011; Hafez & Halim, 2019; Rofik et al., 2025)(Goaied and Sassi, 2011; Hafez and Halim, 2019; Rofik et al., 2025). Its arguments fall into five groups.

First, the gap between theory and practice may neutralise the distinctive channels described above. Because PLS contracts expose the financier to moral hazard and adverse selection, Islamic banks favour debt-like, mark-up instruments such as murabahah (Aggarwal & Yousef, 2000). In Malaysia, only a negligible share of Islamic financing is PLS-based and Islamic deposit returns are closely pegged to conventional rates (Chong & Liu, 2009); across countries, Islamic banking appears to differ more in form than in substance. If Islamic finance largely replicates conventional finance, it cannot be expected to produce a distinct growth effect.

Second, in dual banking systems an immature Islamic segment competes with older, larger conventional banks. Its expansion may then fragment the market and lead to a sub-optimal allocation of capital. Rofik et al. (2025) illustrate this tension for 33 Indonesian provinces over 2010–2021: total Islamic financing raises growth, yet a larger market share of Sharia financing constrains it, which the authors attribute to an underdeveloped market for Sharia products.

Third, Islamic finance bears structural costs. Sharia compliance and governance add transaction costs, and Islamic banks are less cost-effective than conventional banks (Beck et al., 2013). The product range remains narrow, and the shortage of Sharia-compliant liquidity instruments, interbank markets and lender-of-last-resort facilities forces Islamic banks to hold idle liquidity and to favour short-term trade finance over long-term productive investment.

Fourth, in rentier economies, where Islamic finance is most developed, growth depends more on natural resources than on financial deepening. The wider finance–growth literature also shows that the growth effect of finance weakens over time and turns negative beyond a certain level of private credit (Arcand et al., 2015; Rousseau & Wach[TEL], 2011).

Fifth, a substantial share of Islamic financing goes to household consumption and real estate rather than to productive investment, which limits its contribution to capital accumulation.

Recent evidence lends some support to these arguments. For 23 jurisdictions with systemically important Islamic finance over 2000–2019, (Smolo & Nagayev, 2023) find that financial development is either insignificant or growth-reducing, depending on the proxy used. A pooled mean group estimation for 12 countries reports a significant negative long-run relationship between Islamic finance and growth, total Islamic bank assets excepted (Yakubu et al., 2025). In Nigeria, the contribution of Islamic banking is positive but statistically insignificant in both the short and the long run (Tabash et al., 2022).

2.2 Towards a conditional view: The role of Financial developpement

The recent literature reconciles the two strands by treating the effect of Islamic finance on growth as conditional on the overall level of financial development. Financial development then acts as a transition variable: the sign and size of the Islamic finance–growth relationship vary with the depth of the financial system in which Islamic institutions operate.

This view builds on the non-monotonic finance–growth literature. Rioja and Valev (2004) show that the growth effect of finance is uncertain at very low levels of financial development, large in an intermediate region and positive but smaller at high levels. Beyond a certain depth, the effect weakens and may turn negative (Arcand et al., 2015; Rousseau & Wach[TEL], 2011). Panel smooth transition regression models allow such regime changes to occur gradually around an estimated threshold of the transition variable (González et al., 2017).

Transposed to Islamic finance, this framework yields three regimes. In shallow financial systems, Islamic institutions can mobilise savings that conventional banks cannot reach, but the absence of Sharia-compliant liquidity markets, regulation and supervision limits their capacity to finance long-term investment, so their growth effect remains weak. At intermediate levels of financial development, Islamic and conventional banking become complementary. (Gheeraert and Weill (2015) shows that Islamic banking development raises overall banking sector development without crowding out conventional banks, and acts as a complement once the Islamic sector reaches a medium share of the banking system. In the MENA region, Islamic banking leads growth and also stimulates the development of conventional banking (c). In deep financial systems, diminishing returns set in: beyond a certain point, further expansion of Islamic banking reduces macroeconomic efficiency (Gheeraert & Weill, 2015), and a larger Sharia share may constrain growth where the market for Sharia products is still underdeveloped (Rofik et al., 2025).

Empirical evidence supports a regime-dependent relationship but rarely models it explicitly. Imam and Kpodar (2016) find that Islamic banking remains positively associated with growth after controlling for financial depth, which they treat as a control variable rather than a source of heterogeneity. Using panel smooth transition models for Islamic countries, Mensi et al. (2020) find a positive non-linear relationship between Islamic banking development and growth, with regime-dependent effects of financial development and macroeconomic variables. The growth effect of Islamic banking is also stronger in low-income countries (Abedifar et al., 2016) and in developing economies (Butt et al., 2023), which typically have shallower financial systems. Conversely, (Ansari et al. (2025) find little robust evidence of non-linearity, and Smolo and Nagayev (2023) report that financial development is insignificant or growth-reducing in jurisdictions where Islamic finance is systemically important. Institutional quality conditions the relationship in a similar way, since Islamic finance supports growth or investment mainly where institutions are strong enough (Mimoun et al., 2024).

This literature leaves three gaps. First, few studies treat financial development as the transition variable that governs the effect of Islamic finance on growth. Second, evidence on Africa remains scarce. Third, African financial systems are shallow and heterogeneous, which makes the regime-dependent hypothesis especially relevant there. The objective of this analysis is therefore to assess the extent to which Islamic finance contributes to economic growth in Africa, and to determine how this effect varies over time and with the level of financial development.

III. Research methodology

3.1 Theoritical model

This study builds on the baseline model of Mankiw et al. (1992), extended by Demetriades and Law (2006) and further developed by Diop et al. (2025) in their analysis of financial development and economic growth in sub-Saharan Africa. We therefore assume that the output of each country is determined by the

following Cobb–Douglas production function:

$$Y_{it} = K_{it}^{\alpha}(A_{it}L_{it})^{1-\alpha} \quad (1)$$

where Y_{it} denotes the real output of country i in period t; K_{it} is the stock of physical capital; L_{it} is the stock of unskilled labour; and A_{it} is a labour-augmenting efficiency factor reflecting the level of technology and efficiency of country i in period t.

It is assumed that $0 < \alpha < 1$, which implies diminishing returns to capital. Unskilled labour and labour-augmenting technology are assumed to evolve according to the following functions:

$$L_{it} = L_0 e^{n_{it}} \text{ et } A_{it} = A_0 e^{g_t + \gamma Z_{it}} \quad (2)$$

where n denotes the exogenous growth rate of the labour force in country i; g is the exogenous rate of technological progress in country i; z is a vector comprising the level of financial development, institutional quality and other factors likely to influence the level of technology and efficiency of country i in period t; and γ is a vector of coefficients associated with these variables.

In a neoclassical growth framework such as the one presented here, the effects of financial development and institutional quality on growth can only be transitory. Indeed, it is assumed that $\Delta z = 0$ in the steady state, although this change may be positive or negative during the transition phase.

However, the level of z may differ across countries in the steady state. As a result, the level of income per capita may also differ across countries. Different countries may therefore converge towards distinct steady states, depending on their equilibrium levels of financial and institutional development.

In the steady state, output per effective worker, Y/AL, remains constant, while output per worker, Y/L, grows at the exogenous rate g. Thus:

$$y_{it} = \frac{Y_{it}}{L_{it}} = A_{it}(K_{it})^{\alpha} \quad (3)$$

Taking the logarithm of this equation yields:

$$lny_{it} = lnA_{it} + \alpha lnK_{it} \quad (4)$$

Substituting the expression for A_{it} from (2) into (4) gives:

$$lny_{it} = lnA_0 + (1-\alpha)g_{it} + (1-\alpha)\theta_{it}Z_{it} + \alpha lnk_{it} \quad (5)$$

Equation (5) thus describes the evolution of output per worker, or labour productivity, as a function of a vector of financial and institutional variables that may vary over time, the level of physical capital and the exogenous growth rate of output. Accordingly, for the purposes of this study, the equation can be written as follows:

$$y_{it} = \alpha_0 + \alpha_1 FDI_{it} + \alpha_2 FISLAM_{it} + \gamma X_{it} \quad (6)$$

where FDI and FISLAM denote the financial development index and Islamic finance, respectively, and X is the matrix of control variables.

3.2. Empirical Approach

3.2.1. Structural Break

In econometric analysis, the assumption of parameter stability is crucial for obtaining reliable estimates. Yet this assumption rarely holds over long periods, particularly in panel data, which combine time-series and cross-sectional observations. Major events such as economic crises, regulatory reforms or technological shocks may cause structural breaks. Ignoring such breaks can lead to biased estimates and misguided policy decisions. Identifying these breaks and incorporating them into panel models is therefore an essential step in ensuring the robustness of econometric analysis.

In this study, we use the structural break test of Ditzen et al. (2025), which is designed for dynamic panels and accommodates cross-sectional dependence, heteroskedastic errors and multiple breaks. By contrast, the original tests of (Bai and Perron (2003) assume cross-sectional independence when applied to panels and are ill-suited to handling multiple breaks in long, heterogeneous panels.

The test proposed by Ditzen et al. (2025) proceeds in two main steps. First, the UDmax test is used to detect the presence of breaks at unknown dates and to determine their number. UDmax is given by the double maximum statistic:

$$WD\max F(s_{\max}) = \max_{1\le s\le s_{\max}} \frac{c_{\alpha,1}}{c_{\alpha,s}} \sup F(s) \tag{7}$$

where $c_{\alpha,1}$ is the critical value of sup$F(s)$ at significance level α with s breaks. Weighting by $\frac{c_{\alpha,1}}{c_{\alpha,s}}$ ensures that the marginal p-values of the weighted supremum statistics are all equal. This offsets the decrease in the marginal p-value of sup$F(s)$ as s increases, and the resulting loss of power when s is large. The test statistic with weights $\frac{c_{\alpha,1}}{c_{\alpha,s}} = 1$ for all s is called UDmax. Second, the test estimates the exact number of breaks using the $F(s + 1 \mid s)$ statistic, which is obtained as follows:

$$F(s+1\mid s) = \sup_{1\le j\le s+1} \sup_{\tau\in\hat{\mathrm{T}}_{j,\epsilon}} F(\tau \mid \hat{\mathrm{T}}_s) \tag{8}$$

where $\hat{\mathrm{T}}_s$ contains the estimates of the s breaks stipulated under the null hypothesis, τ is the additional $(s + 1)$th break under the alternative hypothesis, and $\hat{\mathrm{T}}_{j,\epsilon}$ is the set of admissible breaks between the $(j - 1)$th and jth estimated breaks. $F(s + 1 \mid s)$ thus tests the null hypothesis of s breaks against the alternative that there is one additional break somewhere within the regimes stipulated under the alternative hypothesis of the preceding test. Finally, $F(\tau \mid \hat{\mathrm{T}}_s)$ is the F-statistic obtained by taking the estimated break dates in $\hat{\mathrm{T}}_s$ as given and testing for an additional break at τ.

We now turn to the precise location of the breaks, in order to identify their underlying causes. The standard approach in the literature is to estimate the breaks by minimising the sum of squared residuals. Bai and Perron (2003) and Ditzen et al. (2025) proceed in the same way. The break date estimator included in this test is given by:

$$\hat{T}_s = \arg\min_{\hat{T}_s \in \hat{T}_{s,\varepsilon}} SSR(\hat{T}_s) \tag{9}$$

where $SSR(\tau)$ is the sum of squared residuals based on s breaks.

Ultimately, this procedure also makes it possible to split the sample into the regimes defined by the breaks, which facilitates the analysis of economic effects within each distinct period.

3.2.2. Two steps system GMM and Threshold GMM specification

Following (Fengju & Wubishet, 2024), we adopt the two-step system GMM estimator. This method is particularly suited to panels in which the number of cross-sectional units exceeds the time dimension. It makes it possible to limit instrument proliferation and to control for the endogeneity of regressors and cross-sectional dependence, while efficiently handling heteroskedasticity and autocorrelation in the errors.

The baseline equations for our estimations are specified as follows:

$$lGDPPC_{it} = \zeta_{it} + \alpha lGDPPC_{it-1} + \beta_1 FISLAM_{it} + \beta_2 NAT_{it} + \beta_3 LAB_{it} + \beta_4 PSAV + \beta_5 TRAD_{it} + \mu_i + \psi_t + \varepsilon_{it} \tag{10}$$

In equation (10), lGDPPC, FISLAM, NAT, PSAV and TRAD denote, respectively, the logarithm of GDP per capita, Islamic finance, natural resources, the labour force, political stability and absence of violence, and trade openness. ζ is the constant term, μ is the individual fixed effect, ψ is the time fixed effect and ε_{it} is the error term.

Furthermore, given the characteristics of our dataset, the threshold GMM model of Seo et al. (2019) is the most appropriate econometric approach. It not only identifies distinct economic regimes but also yields robust and consistent estimates of the effects of the explanatory variables on economic growth within a non-linear, dynamic framework.

$$\begin{aligned} lGDPPC_{it} &= (\delta_0 lGDPPC_{it-1} + \delta_1 FISLAM_{it} + \delta_2 NAT_{it} + \beta_3 LAB_{it} + \beta_4 PSAV_{it} + \beta_5 TRAD_{it}).1(FDI < r) \\ &+ (\delta_{0j} lGDPPC_{it-1} + \beta_{1j} FISLAM_{it} + \delta_{2j} NAT_{it} + \beta_{3j} LAB_{it} + \beta_{4j} PSAV_{it} + \beta_{5j} TRAD_{it}).1(FDI \geq r) + \mu_{i,t} + \varepsilon_{it} \end{aligned} \tag{11}$$

where i and t denote countries and years, respectively. ε_{it} is the error term, and $\mu_{i,t}$ captures country-specific fixed effects, thereby controlling for unobserved time-invariant characteristics. The parameter r is the threshold value, estimated endogenously, of the financial development index (FDI), which serves as the threshold variable, and $1(\cdot)$ is the indicator function defining the regimes.

3.2 Data description

This research examines the relationship between Islamic finance and economic growth, with particular attention to the role of financial development in this relationship. To this end, we use a dataset covering 25 African countries over the period 2001–2020, so that the number of cross-sectional units exceeds the time dimension.

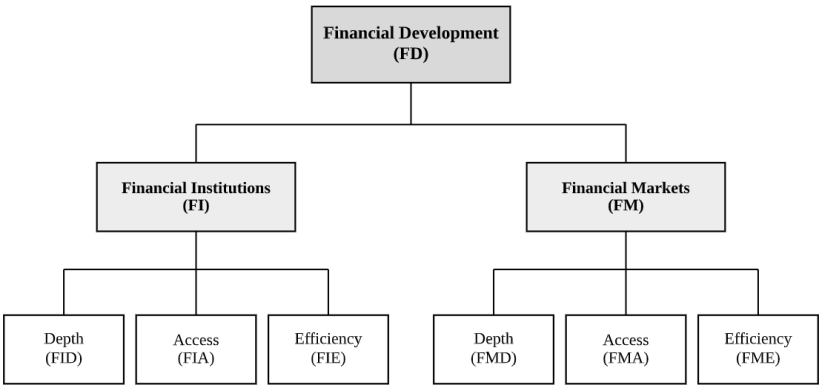
The variables used can be divided into three categories: the endogenous or dependent variable, the exogenous or independent variables of interest, and the control variables.

- **Dependent variable**

GDP per capita (GDPPC) is gross domestic product, that is, the total income generated by the production of goods and services within an economic territory over a given period, divided by the population. It is expressed in constant 2015 US dollars, 2015 being the base year used for price adjustment.

- **Interest Variable**

Islamic finance (FISLAM) is measured by the total amount of financing extended to African countries by the Islamic Development Bank (IsDB), expressed in millions of US dollars. Financial development is captured by the financial development index (FDI), which reflects countries' relative position in terms of the depth, access and efficiency of their financial institutions and markets, and combines the financial institutions index and the financial markets index (Svirydzenka, 2016).



- **Control variables**

In addition to our variables of interest, the literature identifies other macroeconomic variables that are likely to explain economic growth.

Each of the selected control variables rests on a theoretical foundation. Natural resource rents (NAT), the sum of oil, gas, coal, mineral and forest rents, can support growth when well managed, but expose countries to the "resource curse" where institutions are weak and the economy is poorly diversified (Gelbard et al., 2014). The labour force participation rate (LAB), measured for the population aged 15–64, fosters human capital accumulation, investment and productivity (Becker, 1962). Political stability and absence of violence (PSAV), an indicator of perceived political instability and terrorism, reflects the institutional quality that reduces risk and encourages productive investment (Acemoglu & Robinson, 2008). Finally, trade openness (TRAD), the ratio of the sum of exports and imports to GDP, stimulates growth through specialisation, economies of scale and technology diffusion (Krugman, 1979), although its effects vary with human capital, institutions and financial development.

Tableau 1 : Summary of variables

Variable	Code	Mesure	Unit	Obs	Mean	Std Dev	Min	Max	VIF	Source
Economic Growth	GDPPC	GDP per capita	US dollars constant 2015	500	7.195	0.825	5.759	9.526	-	WDI, 2024
Islamic Finance	FISLAM	Amount of Islamic financing	Million of US Dollars	500	0.533	0.788	0	5.346	1.13	IDB, 2024
Financial development	IDF	Financial development Index		500	0.148	0.124	0	0.583	1.20	FMI, 2025
Natural resources	NAT	Natural resource rents	%GDP	500	0.607	0.126	0.395	0.860	1.30	WDI, 2024
Labor	LAB	labour force participation rate	%GDP	500	-0.710	0.776	-2.665	0.831	1.10	WDI, 2024
Institution Stability	*PSAV*	Political stability and absence of violence	Index	500	-0.577	0.213	0.995	1.263	1.10	WDI, 2024
Ouverture commerciale	OC	Ouverture commerciale	%GDP	500	11.603	10.733	0.194	66.059	1.30	WDI, 2024

Source : Author, based on the literature review.

IV.Results and Discussions

4.1 Structural break result

Even in the presence of strong correlations, structural breaks may alter the dynamics between variables and bias the estimates. We therefore apply the structural break test of Ditzen et al. (2025) under Hypothesis 2, which allows one or more breaks to be detected at unknown dates. The UDmax statistic, equal to 76.37, far exceeds the critical values at the 1%, 5% and 10% levels (12.37, 8.88 and 7.46, respectively). The null hypothesis of no break is therefore clearly rejected. The model exhibits at least one significant structural break over the study period.

Tableau 2 : Structural break test, Hypothesis 2.

	Test Statistic	1%	5%	10%
UDmax	76,37	12,37	8,88	7,46

Source : Author's calculations based on data from the IsDB (2024), WDI (2024)

We then apply the test of Ditzen et al. (2025) under Hypothesis 3. This test determines whether, once *s* breaks have been identified, an additional undetected break exists. In other words, it tests the null hypothesis of *s* breaks against the alternative of *s* + 1 breaks. The procedure relies on the $F(s + 1 \mid s)$ statistic.

Tableau 3 : Structural break test, Hypothesis 3

	Test Statistic	1%	5%	10%
F(1|0)	76,37	12.29	8.58	7.04
F(2|1)	21,72	13.89	10.13	8.51
F(3|2)	12,72	14.80	11.14	9.41
Number of threshold		**2**	**3**	**3**

Source : Author's calculations based on data from the IsDB (2024), WDI (2024)

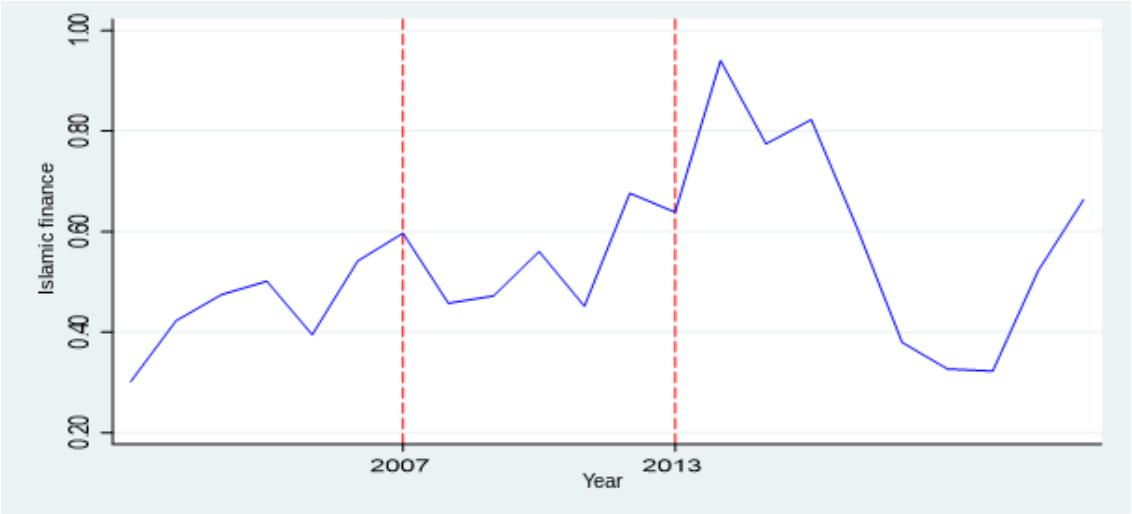
The test reveals two significant structural breaks. The statistic F(1 | 0) = 76.37 far exceeds the critical values at the 1%, 5% and 10% levels (12.29, 8.58 and 7.04), providing evidence of a robust first break. The statistic F(2 | 1) = 21.72 also exceeds these thresholds and confirms a second break. By contrast, F(3 | 2) = 12.72 exceeds only the 5% and 10% critical values, not the 1% value, so the existence of a third break is less certain. We therefore retain two breaks as optimal, selected on the basis of the F(s + 1 | s) statistics and their consistency with the economic context.

Tableau 4 : structural break

Period	Break date	Confidence interval
1	2007	1991-2023
2	2013	1949-2077

Source : Author's calculations based on data from the IsDB (2024), WDI (2024)

The two optimal structural breaks correspond to two key dates. The first break occurs in 2007 and the second in 2013. The study period is thus divided into three sub-periods: [2001 ; 2007], [2007 ; 2013] and [2013 ; 2020].



Graphique 13 : Graphical representation of structural break periods

Source : Author's calculations based on data from WDI (2024).

The 2007 break coincides with the global and African expansion of Islamic finance, marked by the opening of Islamic financial markets in sub-Saharan Africa and by the adoption, in several countries, of legal and regulatory frameworks conducive to Islamic banks, sukuk and Islamic microfinance (Gelbard et al., 2014).

Above all, however, it marks the onset of the global financial crisis (Dridi & Hasan, 2010). This is consistent with the rise in asset volumes and in the number of Islamic institutions between 2001 and 2007, followed by a sharp decline in the FISLAM series immediately after 2007.

The 2013 break reflects a regulatory and structural turning point. Several African countries strengthened their regulatory frameworks and integrated Islamic finance into their national financial development policies, while the inflow of foreign investment and the introduction of new instruments altered the dynamics of the sector (Gelbard et al., 2014). This second turning point corresponds to a phase of consolidation and more mature expansion. Being statistically robust and consistent with the economic and regulatory context, these two breaks justify splitting the period in order to analyse the differentiated effects of Islamic finance on financial development and growth across the sector's stages of maturity.

4.1.1 Two step GMM system result

This section presents and discusses the results of the two-step system GMM estimations (Table 5). It assesses the effect of Islamic finance on economic growth, first for the full period (Model I) and then for the sub-periods defined by the structural breaks (Models II, III and IV). The diagnostic tests are satisfactory. First-order autocorrelation is expected, while the p-values of the AR(2) test are non-significant in all models, which supports the instrumental structure. The Sargan and Hansen tests yield p-values well above 10%, so the validity of the instruments is not rejected. Finally, with 20 instruments for 25 groups, the instrument-to-group ratio remains acceptable and rules out the risk of instrument proliferation. These results confirm the reliability of the estimates and warrant the interpretation of the coefficients.

Tableau 5 : Two step GMM système result

	MODEL I	MODEL II	MODEL III	MODEL IV
lGDPPC .L1	**0.998*** (0.000)**	**1.005*** (0.000)**	**0.998*** (0.000)**	**1.003*** (0.000)**
FISLAM	**0.006***	-	-	-
	(0.051)	-	-	-
FISLAM 1	-	**0.004**	-	-
	-	**(0.318)**	-	-
FISLAM 2	-	-	**0.023** (0.013)**	-
	-	-		-
FISLAM 3	-	-	-	**0.001**
	-	-	-	**(0.648)**
LAB	0.080***	0.063**	0.086***	0.079***
	(0.001)	(0.017)	(0.000)	(0.001)
PSAV	0.008* (0.099)	0.005	0.008* (0.070)	0.007
		(0.282)		(0.131)
TRAD	0.012	0.013	0.011	0.013
	(0.390)	(0.315)	(0.417)	(0.276)
NAT	0.000	-0.000	0.000	0.000
	(0.306)	(0.645)	(0.325)	(0.911)
Constant	-0.036	-0.066	-0.034	-0.062
	(0.455)	(0.173)	(0.514)	(0.244)
	25	25	25	25
Instrument Groups	20	20	20	20
AR1	-1.11	-1.10	-1.10	-1.10
	(0.268)	(0.270)	(0.270)	(0.270)
AR2	0.85	0.86	0.84	0.85
	(0.395)	(0.392)	(0.403)	(0.396)
Sargan test	10.92	7.02	9.48	12.51
	(0.618)	(0.901)	(0.736)	(0.487)
Hansen Test	14.46	13.63	13.51	12.90
	(0.342)	(0.401)	(0.409)	(0.456)

Source: Author's calculations based on data from the IsDB (2024), WDI (2024) and WGI (2024). Note: ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

The coefficient on lagged GDP per capita, ranging from 0.998 to 1.005 and significant at the 1% level in all models, indicates that the growth path is largely conditioned by its past dynamics. Growth policies will therefore take effect only over time. The overall effect of Islamic finance is positive but fragile (0.006, significant only at the 10% level in Model I). This result is consistent with Jawad and Christian (2019) and Bella et al. (2022), and can be explained by the role of financial intermediation and of profit-and-loss sharing contracts (mudarabah, musharakah) in productive investment and risk sharing (McKinnon, 1973).

The breakdown by sub-period shows, however, that this effect is neither linear nor uniform. Over 2001–2007, the coefficient (0.004) is not significant, reflecting an emergence phase whose effects remain statistically undetectable. Over 2007–2013, it rises to 0.023 and becomes significant at the 5% level. The maturing of the sector and the enhanced credibility of instruments perceived as more prudent after the 2008 crisis may have strengthened its capacity to mobilise savings and finance productive projects, which is consistent with Beck and Levine (2004) on the role of financial depth and institutional resilience. Over 2013–2020, the coefficient (0.001) becomes non-significant again. The transmission channel to the real economy weakens under structural constraints (low financial inclusion, credit concentration and dependence on international markets), in line with Demirgüç-Kunt and Levine (2018) on the need to diversify the financial offering. Islamic finance thus appears as a conditional driver of growth, whose impact depends on the depth of the sector, the institutional framework and the quality of Islamic banks. This calls for regulatory and institutional innovation and for better integration of Islamic finance instruments into macroeconomic policy.

4.1.2 Threshold GMM result

Threshold GMM estimation makes it possible to move beyond the linear framework and to test whether the effect of Islamic finance on growth depends on the level of financial development. Three indicators are used as threshold variables. The overall financial development index (FDI, Model I), the financial markets index (FMI, Model II) and the financial institutions index (FII, Model III).

In each model, the endogenously estimated threshold *r* separates two regimes in which the effect may differ in sign and magnitude. It is estimated at 0.299 (Model I), 0.230 (Model II) and 0.236 (Model III), and is significant at the 1% level in all three cases. This confirms the presence of non-linearity in the relationship between Islamic finance and growth and justifies a regime-specific interpretation. Table 6 reports these three regime-switching models, an approach particularly suited to developing countries, where the effects of explanatory variables vary across phases of financial expansion, consolidation or vulnerability.

Table 6: Threshold GMM result

Model I : IDF			**Modèle II : IMF**		**Modèle III : IIF**	
	Régim 1	Régim 2	Régim 1	Régim 2	Régim 1	Régim 2
lGDPPC	1.262*** (0.000)	-1.170 (0.102)	0.149 (0.240)	3.343** (0.038)	0.855*** (0.000)	0.103 (0.569)
FISLAM	**0.013*** (0.002)**	**0.016 (0.303)**	**0.115** (0.028)**	**-0.148*** (0.000)**	**0.048*** (0.000)**	**-0.026 (0.345)**
LAB	-1.129 (0.372)	1.203 (0.786)	3.438*** (0.003)	-12.430* (0.054)	-1.448 (0.121)	-0.348 (0.816)
PSAV	0.085* (0.099)	0.458 (0.153)	0.021 (0.739)	0.143 (0.543)	0.083 (0.301)	0.353** (0.016)
TRAD	0.613*** (0.001)	-2.755*** (0.007)	0.124 (0.520)	1.695* (0.098)	0.473*** (0.000)	0.331 (0.608)
NAT	-0.004 (0.186)	0.072** (0.018)	0.000 (0.845)	-0.018 (0.399)	-0.001 (0.564)	0.000 (0.966)
Constant		9.764 (0.058)		-15.451 (0.037)		-0.548 (0.789)
r		**0.299*** (0.000)**		**0.230*** (0.000)**		**0.236*** (0.002)**

Source : Author's calculations based on data from the IsDB (2024), WDI (2024) and WGI (2024). Note : ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

The threshold estimates show that the effect of Islamic finance on growth depends on the level of financial development, and that this effect fades or reverses in more advanced financial systems.

In Model I, the coefficient on FISLAM below the threshold is 0.013, positive and significant at the 1% level. Islamic finance then plays a role of functional substitution. In the absence of deep and accessible markets, its instruments, particularly risk-sharing contracts, provide an alternative channel for mobilising savings and financing productive activity. Above the threshold, the coefficient (0.016) is no longer significant, as conventional finance absorbs most of the demand for financing. This is consistent with the conditional complementarity argument of Demirgüç-Kunt and Levine (2018).

Model II yields the most contrasting results. Below the threshold, the coefficient reaches 0.115, significant at the 5% level and the highest across all specifications. Islamic finance is particularly effective where capital markets are shallow and access to finance is limited. Above the threshold, the coefficient becomes negative and highly significant (−0.148, at the 1% level). Two mechanisms may explain this. First, the coexistence of two financial systems may generate allocative inefficiencies, liquidity fragmentation and counterproductive competition. Second, the regulatory rigidities specific to Islamic instruments limit their adaptability to more sophisticated environments. This result calls on policymakers to contain the risks of financial dualism in emerging economies.

In Model III, the coefficient below the threshold is 0.048, positive and significant at the 1% level. Islamic finance contributes most to growth in institutionally fragile contexts, where it compensates for the failures of formal institutions. Above the threshold, the coefficient is negative (−0.026) but not significant, meaning that the effect vanishes without becoming harmful, unlike in Model II.

The three models converge on two conclusions. First, Islamic finance is a lever for growth in underdeveloped financial systems, and its contribution fades, or even turns negative, as these systems develop. Second, the negative effect appears only when the threshold relates to financial market depth, which indicates that competition between the two systems plays out mainly in markets rather than in institutions.

V. Conclusion and policy suggestion

This article analyses the relationship between Islamic finance and economic growth in a panel of 25 African countries over the period 2001–2020, using two-step system GMM and threshold GMM.

Three main findings emerge. First, Islamic finance has a positive but modest effect on growth, suggesting that its potential remains underexploited. Second, this effect is not constant over time. The structural breaks identified in 2007 and 2013 using the test of Ditzen et al. (2025) delimit three phases : an emergence phase with no significant effect between 2001 and 2007, a phase of maximum effectiveness between 2007 and 2013, and a phase of stagnation between 2013 and 2020. Third, the effect depends on the level of financial development. Below the thresholds of 0.299 for the overall index, 0.230 for financial markets and 0.236 for financial institutions, Islamic finance has a positive and robust effect, acting as a substitute in shallow conventional financial systems. Above these thresholds, the effect weakens or even reverses, revealing a risk of counterproductive financial dualism. Islamic finance thus emerges as a conditional complement to conventional finance, rather than an exclusive alternative or a universal solution.

These findings call, first, for strengthening the regulatory, legal and institutional framework of Islamic finance. Governments would benefit from developing arrangements tailored to sukuk, mudarabah and musharakah in order to enhance legal certainty, reduce transaction costs and attract institutional investors, particularly from the Gulf countries. Second, promotion strategies should be differentiated according to the level of financial development. Countries with underdeveloped financial systems should actively encourage this form of finance to improve financial inclusion and support private investment, whereas countries with more advanced markets should ensure genuine complementarity with conventional finance in order to avoid market segmentation, allocative inefficiencies and liquidity fragmentation.

These insights contribute to the scholarly debate by showing that the relationship between Islamic finance and growth is more complex than linear approaches suggest. Future research could explore the channels through which Islamic finance affects growth, its interactions with institutional quality and its complementarities with green and sustainable finance in African economies.

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