

Effects of Islamic banking on economic growth (The case of Islamic banks in Algeria)

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Abstract---This study aims to testing the relationship between the financing offered by islamic bank and their impact on economic growth as measured by the GDP of Algeria during the period 1998- 2023, where we adopted in the study of financial development in Algeria through the total funds provided by islamic banks represented in Al baraka and Salam bank ,we looked at the most important products offered by islamic banks through their total transactions. We have found that there is a strong relationship between the selected variables and economic growth in general. There is also a direct correlation between islamic financing and economic growth. Is that the Murabaha product is one of the most traded products in the Algerian market.

Keywords---Islamic banking products, Islamic financing, economic growth and ARDL models

JEL Classification: C5: O4

1- Introduction:

Money is considered the backbone of the economy. All previous studies in the field have demonstrated a direct relationship between bank financing and economic growth to name just a few: McKinnon (1973), and King and Levine (1993). There is also a reverse relationship, suggesting that economic growth influences bank financing, as shown in the study by Goldsmith (1996), who confirmed this hypothesis. However, studies focusing on Islamic banking finance and its impact on economic growth remain limited, due to the relatively recent emergence of this system, which is based on Islamic legal rulings. Islamic banks appeared in the 1960s as an alternative to the conventional financial system (Courcelles, 2010).

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Problem:

Since Islamic banking is a relatively new field in Algeria and is gradually growing as it continues to establish itself locally through various financial products that cater to some of the internal needs of Algerian citizens, we aim to identify the most in-demand Islamic banking products offered in the market. Additionally, we seek to determine whether the expansion of Islamic banking has an impact on Algeria's economic growth or conversely, whether economic growth influences the expansion of Islamic banking. In other words, to what extent does Islamic banking contribute to the Algerian economy?

Hypotheses: To address this topic, we propose the following hypotheses:

1. Islamic financing has a positive effect on economic growth in Algeria.
2. Macroeconomic variables have a positive effect on economic growth.
3. Murabaha is the most in-demand Islamic banking product locally.

Objective:

The objective of this study is to examine the relationship between Islamic banking practices and economic growth. Through this research, we will explore key concepts related to Islamic banking, as well as business organizations, particularly Islamic banks.

Studies:

Among the studies that have addressed the topic of Islamic banking and its relationship with economic growth as a relatively recent field is the work of Dr. Faisal Chiad and Dr. Ismail Moumni (2016). Their study aimed to examine the relationship between Islamic banks and economic growth by analyzing the total financing provided by Malaysian Islamic banks, in addition to GDP, foreign direct investment, and gross fixed capital formation. Using co-integration techniques and the Granger causality test, the study concluded that there is a co-integrated relationship between financing and economic growth, indicating a long-term equilibrium and a positive (direct) relationship.

Another relevant study is that of Raj S. Dhankar and Mosab 2014, which explored the relationship between the Islamic financial system and economic growth in the United Arab Emirates. It relied on variables such as Islamic bank loans to the private sector, GDP, gross capital formation, and foreign direct investment, using unit root analysis, co-integration, and Granger causality. The results showed a positive relationship between Islamic banks and economic growth.

Helmi and Caporale 2016 conducted a study on the relationship between real credit to the private sector and GDP growth in a group of countries. They measured this relationship first without Islamic banks, then with their inclusion. Using co-integration and causality analysis, they found evidence of long-term causality running from real credit to GDP, and short-run bidirectional causality in countries with Islamic banks. Over the long run, the direction of causality runs from economic growth to real credit attributed to Islamic financial products being rooted in the real economy.

In contrast, Hakim Bm and MD Akther 2016 aimed to highlight the role of Islamic banking finance in economic growth, using the VECM–ARDL model and variables such as Islamic bank financing to the private sector, GDP, gross fixed capital formation, and CPI. The study concluded that the contribution of the Islamic banking sector was weak, and that GDP does not rely significantly on Islamic finance.

The study by Mohammed Yahya Al-Rafiq 2007 addressed the impact of Islamic banking finance on certain macroeconomic variables and development in Yemen through an analytical and empirical approach. It found out that the contribution of Islamic banks across different economic sectors helped boost their presence and that Salam contracts could be a viable alternative to conventional banking.

Yahia Ghaleb Hassan Nasrallah 2017 conducted a study on the sources of Islamic finance and the role of Islamic financing methods in economic development. One of the key findings was that Murabaha is highly demanded due to its compatibility with Islamic law, as well as its simple procedures and guarantees. The limited use of non-Murabaha instruments was attributed to insufficient guarantees from clients and a lack of supportive policies. The study also noted a rise in overall investments by Islamic banks in Gaza. (See also: Financing and Investment Criteria in Islamic Banks, Miloud Ben Massouda, 2008.)

Dr. Amer Abdul Rahim 2017 built an econometric model to study the impact of banking system development on economic growth using SME financing as a key indicator. The results showed a long-term equilibrium relationship among the variables and highlighted the importance of the banking system in strengthening the positive relationship between SME activity and growth rates.

Baha Al-Din Bassam Mushtaha 2008 conducted a study to understand how Islamic banks operate in Palestine and to analyze the investment climate. One of the findings was that Islamic banking indicators represent only a small share of economic growth, unlike conventional banks, and that their contribution to GDP was marginal.

Hussein Ahmad Al-Mashharawi 2003 assessed the role of Islamic banks in financing economic development. Although deposits and assets of Islamic banks grew rapidly, they remained lower than those of conventional banks. Murabaha was found to be the most commonly used product, with Islamic banks contributing only modestly to GDP growth.

Finally, Khadija Khaldi conducted a study focusing on investments and financing provided by Islamic banks, especially toward small and medium enterprises. The researcher found that the proportion of financing granted to small and medium enterprises was significant, reaching 48.48% of total Islamic bank financing in 2003.

By 2001, the number of Islamic financial institutions had exceeded 270, and the total assets of Islamic banks and investment companies amounted to approximately \$262 milliard, according to the General Council for Islamic Banks and Financial Institutions (Abdel-Moneim Qusay, 2005). Forecasts indicated that these assets were expected to reach \$1.8 trillion by 2013 (Islamic Banking: Sustained Strong Growth, 2006). After the 2000s, Islamic finance evolved and notably extended beyond the geographic boundaries of the Muslim world, becoming a global concern. These differences largely stem from the Islamic approach to financial transactions, which avoids interest based practices common in conventional banking.

What distinguishes this study is its focus on these Sharia-based financial instruments in Algeria, which are still in the process of development and proving the effectiveness of Islamic banking in practice. This comes in response to the growing calls from many experts to adopt such a system, given its significant importance in stimulating the economy and driving real investment.

2- Islamic Banks:

Islamic banks are considered business organizations, sharing the same general definition: a group of individuals working together to achieve a common goal through the integration of available capabilities and resources. What makes them unique, however, is that they operate solely according to the principles, teachings, and values derived from Islamic Sharia (Dr. Abdelhamid Abdel Fattah Al-Maghribi, 2004/1425H).

They are defined as financial investment institutions with a developmental, humanitarian, and social mission. Their aim is to mobilize funds and ensure the optimal use of resources in accordance with Islamic legal rules and principles, with the goal of building a society based on Islamic solidarity (Mahmoud Hassan Al-Sawan, 2001).

Islamic banks function as financial institutions that offer banking and financial services, as well as engage in financing and investment activities across various sectors, all in accordance with the rules and principles of Islamic Sharia. Their purpose is to promote Islamic ethical and moral values in financial dealings and contribute to social and economic development by utilizing funds in ways that help achieve a dignified and prosperous life for the Islamic nation (Mahmoud Hassan Al-Sawan, 2001).

3-Islamic Banking: Globally and in Algeria

This section will address some historical contexts regarding the development of Islamic banking both globally and locally.

3-1 Islamic banking Worldwide

According to geographical distribution, the south and southeast Asia region hosts approximately 50% of Islamic financial institutions, with the Middle East and Gulf countries accounting for 73% of Islamic banking activity. However, there is a noticeable lack of transparency in the data published by banks managing Islamic assets in this market, as only 42% of them disclose their financial statements (Ahmed Mohamed AL-Masri, 2006, P,46)

The total assets of Al Rajhi Bank in Saudi Arabia increased from \$77 milliard in 1996 to \$281 milliard in 2007. Kuwait Finance House grew from \$43 milliard to \$218 milliard, while Dubai Islamic Bank rose from \$15 milliard to \$175 milliard. According to the Union of Arab Banks, Islamic finance assets eventually reached around \$1.3 million trillion.

In the last decade, Islamic finance recorded some of the fastest growth within the global financial system. There are now more than 700 Islamic financial institutions operating in 60 countries. Of these, about 250 are based in the Gulf region, and 100 in other Arab countries. Islamic banks have around 3 million clients globally. Before 2007, around 80% of the potential client base had not yet been reached. In 2007, Islamic financial assets slightly exceeded \$150 milliard. By the end of that year, they were close to \$700 milliard with \$300 milliard held by Islamic banks and \$400 milliard in financial investments. Between 2000 and 2007, Islamic financial assets grew at a rate between 15% and 23%, depending on the activity sector (Ahmed Mohamed Al-Masri, 2006).

In terms of geographic distribution during 2006 and 2007, Sub-Saharan Africa recorded a growth of 55%, GCC countries 39%, The MENA region 31%, Asia 21% And Europe, America, and Australia 6% (Elyès Jouini & Olivier Pastré, 2008).

3-2 Islamic Banking in Algeria

Islamic banking in Algeria is still relatively new. This is partly because of the historical gap caused by French colonization, which distanced the country from its Islamic roots. In the past, financial practices were closely tied to Islamic law, but the modern system is mostly secular, separating religion from daily life. As a result, Islamic banks based on Sharia principles only started to appear recently.

These banks operate in an environment dominated by conventional banks, all of which follow the same legal framework built around the traditional banking system. There is no dedicated legal system for Islamic finance. Like other Arab and Western countries, Algeria granted licenses to some Islamic banks but classified them as regular commercial banks.

One example is AL Baraka Bank, established in 1991 as a joint-stock company. It operates under Article 114 of the 1990 Monetary and Credit law and Article 44 defines the responsibilities of the Monetary and Credit Council, including rules for creating banks and financial institutions and opening foreign bank branches. In addition to regular banking services, Al Baraka runs programs such as: Zakat distribution, Investment services, Home-based business funding for women, Endowment (waqf) investments, A micro-participation program for microenterprise financing (Annual Financial Report, 2015).

These programs are likely supported by funds from interest-bearing accounts at the central bank. Al Baraka Bank in Algeria is linked to the first Islamic bank in Jordan, which was created in 1978. Today, it operates around 30 Branches across the country .

3-3 Islamic Banking in Algeria After the Oil Crisis (Drop in Oil Prices)

After the oil crisis and the decline in liquidity in the treasury, Algeria adopted a new strategy to attract money circulating in the market. This included opening the door for tax evaders to deposit their money in banks by paying only a 7% flat penalty. The government also issued bonds with different interest rates to absorb liquidity, but these efforts were largely unsuccessful. As a result, by the end of 2017, Islamic banking and financial services were introduced in two public banks , with plans to expand to more banks later (as stated by the Prime Minister, Anadolu News Agency). He explained that Islamic financial services — including Islamic banking and sukuk — would first be adopted by two public banks, and expanded to four more in 2018. According to the Prime Minister, this move reflects the government's intention to use Islamic finance as a tool to attract funds from the informal market into the official banking system . He also rejected opposition claims that the government had no real interest in this financing model, saying they were baseless. The Prime Minister estimated the size of the informal financial market at about 2700 milliard dinars (Algeria TV Channel, 04/07/2018).

Algeria formally adopted this approach through Regulation No 18-02 in 2018, which set the rules for so called -participatory products -that do not involve the payment or receipt of interest. This regulation marked the official beginning of Islamic finance within public banks, allowing them to open dedicated Islamic finance windows (Official Gazette, 2018).

Later, Law N° 23-09 on Monetary and Banking Affairs , issued in 2023, further strengthened the legal framework for Islamic banking. It represented a major step forward by recognizing the distinct nature of Islamic finance and mandating Shari'ah oversight through the national sharia board for Islamic finance ,which is responsible for ensuring compliance with Islamic law. However, .

Currently, Islamic banking activity in Algeria is limited to two Islamic banks Al Baraka Bank, Algeria and Al Salam Bank Algeria along with 10 conventional banks that offer Islamic services through dedicated windows .The performance of these banks remains modest. Their deposits account for only 5,25 % of total banking deposits, and their financing operation represents just 3,44% of total bank financing. Most of their activity relies heavily on Murabaha contracts,, rather than profit-and-loss sharing models such as Musharakah or Mudarabah.

4-Islamic Financial Products and Short- and Long-run Investment:

Bank financing, regardless of its form, plays an important role in supporting investment in any country. It is considered the heart that pumps funds into the economy and helps assess the level of investment development. In a study titled "Financing Small and Medium Enterprises as an Indicator of Financial Development and a Driver of Economic Growth," which covered the period from 1995 to 2015, several variables related to economic growth were analyzed.

The study found clear evidence of a **long-term equilibrium relationship** between variables such as **foreign direct investment, gross fixed capital formation, government spending, and trade openness**. Additionally, the study identified a **positive effect** of the development of the banking system on economic growth in Algeria (*Amer Abdel Rahim, 2017*).

In terms of financial resources, **public banks in Algeria hold the majority**, accounting for about **92% of total banking resources annually**, while **private banks**, including Islamic banks, share the remaining **8%**. The Algerian banking system includes:

- 6 public banks,
- 9 private banks,
- 4 foreign bank branches,
- and 1 bank with mixed capital.

Among them, **two are fully Islamic banks** operating entirely with Sharia-compliant products, while **two others** offer both conventional and Islamic financial services. The following table illustrates this distribution.

Table No. 01: Financial Resources

year	Public banks	Private conventionnel banks	Mixed Private banks	Islamic bank
2006	95.61 %	3.13 %	0.24 %	1.06 %
2007	96.29 %	3.45 %	0.26 %	1.01 %
2008	94.22 %	4.38 %	0.31 %	1.09 %
2009	92.44 %	5.39 %	0.61 %	1.57 %
2010	91.93 %	5.48 %	0.87 %	1.74 %
2011	91.87 %	5.41 %	0.95 %	1.78 %
2012	90.42 %	6.26 %	1.36 %	1.97 %
2013	89.41 %	6.91 %	1.69 %	1.99 %
2014	90.19 %	6.31 %	1.81 %	1.69 %
2015	89.85%	6.50%	1.90%	1.75%
2016	89.50%	6.70%	2.00%	1.80%
2017	89.05%	7.00%	2.10%	1.85%
2018	88.50%	7.30%	2.20%	2.00%
2019	87.80%	7.60%	2.40%	2.20%
2020	86.90%	8.00%	2.60%	2.50%
2021	85.70%	8.50%	2.80%	3.00%
2022	84.50%	9.00%	3.00%	3.50%
2023	83.10%	9.50%	3.20%	4.20%

Source: Prepared by the researchers based on the 2023 Annual Financial Report of the Bank of Algeria

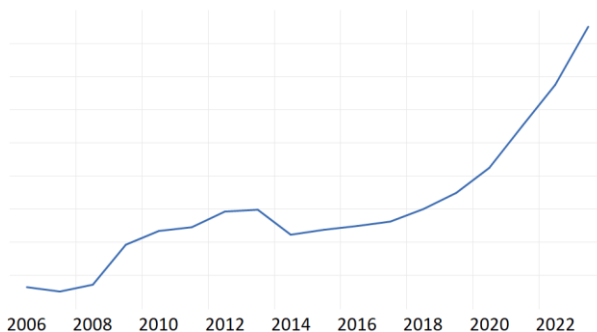
According to the table above, growth remains slow for Islamic banks compared to conventional banks, mainly due to the dominance of public banks, which hold 83,1% of the market. Islamic banks account for only a portion of the remainin17% . Looking at the period from 2006 To 2023, their average market share is approximately4,2% .However, it is worth noting that this reflects a positive development compared to earlier years in 2006 ,their share was only 1%. This indicates a strong sign of growth and increasing public trust in Islamic banking in recent years.

We observe an acceleration in the growth of Islamic banking during the period 2020-2024, mainly due to law 23-09 and the expansion of Islamic banking windows. It is expected that the market share of Islamic banks will reach 5% by 2024.

According to a previous study, there is a strong relationship between the development of Islamic banking and the overall market, as shown by a correlation coefficient of 0,947 . The model obtained using the OLS method was as follows: $y = -53856.26 + 0.025188x$.

This means that a one unit increase in total market resources leads to an increase of 0,025 or 25%, in the resources of Islamic banks (SAMI Abdesslam, 2016, p. 32).

Figure 01: Financing at Al Baraka Islamic Bank



Source: Prepared by the researchers based on the annual reports of Al Baraka Bank.

We observe from the figure an upward trend in the value of Islamic bank financing, showing rapid growth, though interrupted by period of stability or stagnation for example, between 2008 and 2013, as well as between 2018 and 2023, where a notable increase financing was recorded, continuing into recent years.

As for the distribution of financing provided by the Islamic bank, the Islamic banking in Algeria began using products such as murabaha, salam, and equity participation in the early 1990s and the first years of the 2000s. Over time, some other products disappeared. Islamic banks in Algeria do not apply all types of Islamic finance. For example, modes like muzara'ah and musaqah have not been used so far (Hariri Abdelghani and Kessoul Lamine, 2017, p. 74). This may be due to the simplicity and practicality of some products over others, the relatively recent emergence of Islamic banks, their smaller size compared to conventional banks, or the lack of public awareness and limited promotion of alternative products. There is also a lack of strong expertise in managing Islamic banking operations, although governance and internal and external factors have started to improve performance (Dami Hayette & Abdelfatteh Bouri). Murabaha is the most used financing product, followed by musawamah, especially in 2014, then salam, leasing, and finally equity participation. This ranking suggests that Islamic banks focus more on short-term or consumer-related financing, such as purchases by clients or financing in the trade and services sectors. These types of financing are easier to repay, allow for quicker decisions when projects are at risk, and often involve repeated transactions within the same year (Ahmed Yassin and Aziz Ismail).

Short-term Islamic financing also carries less risk. For example, the risk level for mudarabah was 2,46 and for murabaha 2,67. Other contracts had higher risk levels (Tariq Allah Khan and Habib Ahmed, 2003, p. 5). While murabaha was the most used method for many years, its role has decreased slightly since the introduction of musawamah.

Islamic banks have contributed positively to the Algerian market. They have played a role in GDP growth and have attracted deposits that reached more than 154,585.69 million dinars in 2023, based on data from Al Salam and Al Baraka Banks (Annual Financial Report, 2023). They have also provided banking services that were not available before, helping absorb liquidity from individuals who previously avoided banks due to interest-based financing.

Short-term financing is important to the economy because it supports consumer demand such as household purchases. This helps boost production in related sectors. On the other hand, long-term financing, which supports production and development, has a more direct effect on economic growth and real output.

5- The Impact of Certain Economic Variables, Including Islamic Financing, on Economic Growth

Through the following model, we aim to study the impact of Islamic financing on economic growth, alongside other economic variables. This analysis is based on findings from previous studies conducted in countries other than Algeria.

5.2 Model Variables

In this model, we aim to examine the impact of Islamic bank financing on economic growth in Algeria by incorporating it into an equation that includes key variables known from economic theory to have a direct effect on real GDP growth rates. The analysis covers the period from 1998 to 2023, based on available data from World bank databases, annual reports, and previous studies, in this field. GDP: The dependent variable, representing the real GDP growth rate. G: Government expenditure. XM: The ratio of total exports and imports to GDP. FBFF: Gross fixed capital formation as a percentage of GDP. FBI: Total Islamic bank financing from AI salam bank and AI Baraka bank IDE-GDP : Foreign direct investment as a percentage of GDP.

5.2 .Econometric Study

This study is based on the Pesaran et al 2001 approach. We begin by identifying the lag length for each of the variables included in the model, as shown in the second column of the table below. All variables are found to have a lag of one period.

Next, we apply the Dickey Fuller test to determine whether the time series are stationary. If a series is not stationary at level, we identify the number of differences required to achieve stationary.

5.2.1. The Model

The model is written as follows, taking into account the different lag lengths for each variable

$$\Delta gdp = \alpha + \beta_1 gdp_{t-1} + \beta_2 G_{t-1} + \beta_3 IDE - gdp_t + \beta_4 XM_{t-1} + \beta_5 FBFF_{t-1} + \beta_6 FBI_{t-1} + \sum_{i=1}^q \gamma_1 \Delta G_{t-1} + \sum_{i=1}^q \gamma_2 \Delta IDE_t + \sum_{i=1}^q \gamma_3 \Delta XM_{t-1} + \sum_{i=1}^q \gamma_4 \Delta FBFF_{t-1} + \sum_{i=1}^q \gamma_5 \Delta FBI_{t-1} + \epsilon_t$$

Table 02 : the Dickey Fuller test

Variables	Level I(0)				
	ADF test				
	T+c	C	Decision		
GDP (dep)	-2.06	-1.84	Non-stationary		
G (indep)	-1.26	1.21	Non-stationary		
IDE/GDP (indep)	-2.82	*-2.83	stationary		
XM (indep)	-2.09	1.87-	Non-stationary		
FBFF (indep)	-2.71	-0.53	Non-stationary		
FBI (indep)	-2.03	0.24	Non-stationary		
ADF test I(1)	T+c	C	rien	Decision	Lag
	-4.17	-4.12*	-	stationary	1
	-5.95	-5.28*		stationary	1
	-4.58	-4.57	-4.54*	stationary	1
	-4.54	-2.64	-4.53*	stationary	1
	-2.51	-2.45	-2.25**	stationary	1

* at 1% level Significant

Significant ** at 5% level

*** Significant at 10% level.

Source :Prepared by the researchers using Eviews 12 .

According to the table, the Dickey Fuller test shows that all variables have a unit root, meaning the null hypothesis is accepted and the alternative hypothesis is rejected . In other words, the variables are non stationary at level (i.e., they are integrated of order 1), except for the foreign direct investment variable ,which was found to be stationary at level in this case, the the alternative hypothesis is accepted ,Based on these results, it is appropriate to apply the ARDL model.

5.2.2. ARDL Model (Autoregressive Distributed Lag Model)

This model is applied when the variables have different orders of integration, provided that none of them are integrated at an order higher than one (i.e., not I(2) or beyond). In addition, the dependent variable must be stationary at first difference .

Since in this case, some variables are stationary at level I(0) and others at first difference I(1) ,we can proceed to the next stage, which is to apply the ARDL methodology (or bound testing approach) to test for co integration as proposed by Pesaran, Shin, and Smith 2001.

Estimated equation :

Selected Model: ARDL(1, 0, 0, 0, 2, 2)

$$\begin{aligned}
 \text{GDP} = & \mathbf{0.83 * GDP(-1)} - \mathbf{0.003 * G} + \mathbf{0.0003 * FBI} + \mathbf{0.14 * FBFF} - \mathbf{4.88} \\
 & \mathbf{* IDE_GDP} \\
 \text{(t-stat) :} & \quad 9.535809* \quad -2.065740*** \quad 2.268853** \quad 0.409004 \quad -2.098876** \\
 & \mathbf{+8.14 * IDE_GDP(-1)} - \mathbf{4.2 * IDE_GDP(-2)} - \mathbf{0.038 * XM} + \mathbf{0.38 * XM(-1)} - \\
 & \mathbf{0.96 * XM(-2)} + \mathbf{40.35} \quad 3.202943* \quad -2.125452** \quad -0.227269 \\
 & 1.501477 \quad -3.453109** \quad 2.603871**
 \end{aligned}$$

<i>F</i> -statistic	<i>44.51</i>	<i>R</i> ²	<i>0.972</i>	<i>DW</i>	<i>2.47</i>
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The estimated equation shows that several variables have either a positive or negative effect on output or economic growth in Algeria over the long run. The results are as follows:

- There is a positive and statistically significant relationship between GDP and its lagged value, GDP(-1). When GDP(-1) increases by 1%, current GDP increases by 83%.
- There is a negative and statistically significant relationship between GDP and government spending (G). A 1% increase in G leads to a decrease in GDP by 0.33%.
- There is a positive and statistically significant relationship between GDP and Islamic bank financing (FBI). A 1% increase in FBI leads to a 0.03% increase in GDP.
- There is a positive but statistically insignificant relationship between GDP and gross fixed capital formation (FBFF). A 1% increase in FBFF leads to an increase in GDP by 13.62%.
- There is a negative and statistically significant relationship between GDP and foreign direct investment as a percentage of GDP (IDE_GDP). A 1% increase in IDE_GDP leads to a 487% decrease in GDP.
- There is a positive and statistically significant relationship between GDP and IDE_GDP lagged one period. A 1% increase in IDE_GDP(-1) leads to an increase in GDP by 814%.
- There is a negative and statistically significant relationship between GDP and IDE_GDP lagged two periods. A 1% increase in IDE_GDP(-2) results in a decrease in GDP by 419%.
- There is a negative but statistically insignificant relationship between GDP and the ratio of exports and imports to GDP (XM). A 1% increase in XM results in a 3.83% decrease in GDP.
- There is a positive but statistically insignificant relationship between GDP and XM lagged one period. A 1% increase in XM(-1) leads to a 37.67% increase in GDP.
- There is a negative and statistically significant relationship between GDP and XM lagged two periods. A 1% increase in XM(-2) results in a decrease in GDP by 95.95%.
- The constant term is positive and statistically significant.

The results show that there are positive relationships between many variables and GDP, while some others show negative relationships that are inconsistent with economic theory. What matters most in this study is the observation that Islamic financial financing has a positive effect on GDP , even if the

impact is relatively small, at around 0,03% .This still indicates that Islamic finance, although modest, has started to contribute to growth potential in Algeria.

The small size of this effect can be explained by the fact that the Islamic banking sector represents only 13% of the private banking sector ,which itself accounts for only 10 to15% of the overall banking system.

Table No. 03: Bounds Test for the Existence of a Long-Term Relationship

Decision	F-statistic	Model
Existence of a co-integration relationship	*4.745506	
I(1)	I(0)	Critical values
<i>*4.68</i>	<i>3.41</i>	<i>1%</i>
<i>4.18</i>	<i>2.96</i>	<i>%2.5</i>
<i>3.79</i>	<i>2.62</i>	<i>%5</i>
<i>3.35</i>	<i>2.26</i>	<i>%10</i>

Source : Prepared by the researchers using ,Eviews 12 .

Based on this table, it is clear that there is a long run co integration relationship in the model, as the calculated F-statistic exceeds all of the upper bound critical values, especially at the 1% significance level.

Error Correction Model (ECM) for the ARDL Model:

Table No. 04: Model Coefficients

<i>VARIABLES</i>	<i>COEFFICIENTS</i>
<i>D(G)</i>	<i>-0.0033***</i>
<i>D(FBI)</i>	<i>0.0003**</i>
<i>D(FBFF)</i>	<i>0.14</i>
<i>D(IDE-GDP)</i>	<i>-4.88***</i>
<i>DD(IDE-GDP)</i>	<i>4.2**</i>
<i>DXM</i>	<i>-0.04</i>
<i>DD(XM)</i>	<i>0.96*</i>
<i>ECM(-1)</i>	<i>-0.17***</i>

** Significant at 1% level ** Significant at 5% level *** Significant at 10% level.*

Source :Prepared by the researchers using Eviews 12 .

From the table, it can be seen that the error correction coefficient is negative and statistically significant. This indicates that there is long-run adjustment, meaning that any short-term deviations in GDP are corrected at a rate of 16.53% per period. This shows how fast or slow GDP returns to its long-run equilibrium. The adjustment rate is relatively acceptable but still slow, as only 16.53% of the imbalance is corrected each period. At this rate, it would take around six years for the economy to return to equilibrium.

The table also shows that the government-spending variable has a negative effect on economic growth. An increase of 1% in spending leads to a decrease in growth by 0.3%. Islamic bank financing has a positive effect on growth, estimated at 0.02%. On the other hand, foreign direct investment has a negative effect on growth in the short term.

5.2.3. Diagnostic tests

a. Serial correlation:

The Breusch-Godfrey serial correlation LM test was used. The test showed a Fisher value of 0.46 with a

significance level above 5 %, and an $n \cdot R^2$ value of 1.85 with a significance level above 10 percent. This means we accept the null hypothesis, which states that there is no serial correlation in the residuals of the regression equation.

b. Homoscedasticity test:

Using the Breusch-Pagan test, the values of the Fisher statistic and $n \cdot R^2$ suggest that the variance of the error term is constant.

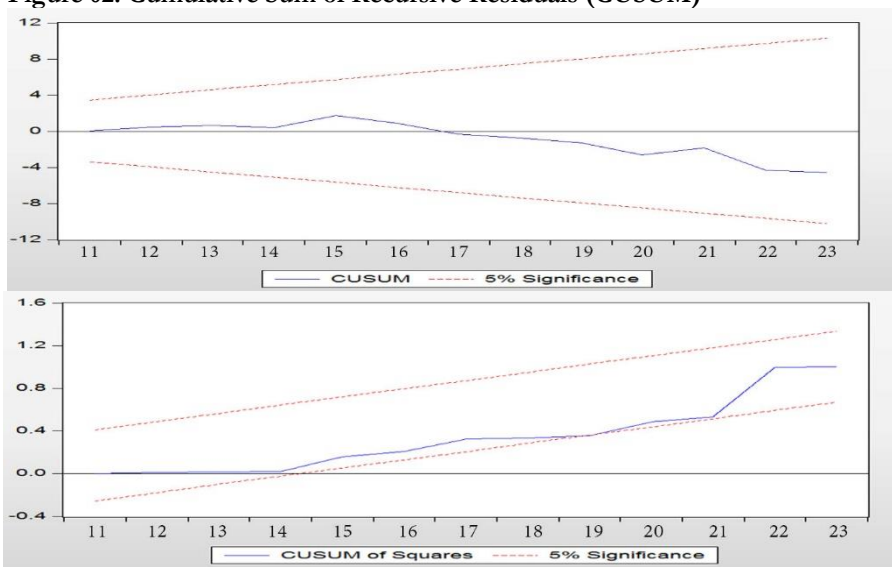
c. Normality of residuals:

The Jarque-Bera normality test was used. Based on the chi-square value and its significance level, the residuals of the regression equation appear to follow a normal distribution.

5.2.4. Structural stability test of the model:

To check for structural changes in the model and to assess the stability of the long-run and short-run coefficients, two commonly used tests were applied: the cumulative sum of recursive residuals (CUSUM), and the cumulative sum of squared recursive residuals (CUSUMSQ).

Figure 02: Cumulative Sum of Recursive Residuals (CUSUM)



Based on the two figures, the model appears to be stable and consistent within the 5 % confidence boundaries. This indicates that there is stability between the short-run and long-run results, confirming coherence among the study variables.

Conclusion

This study examined the role of Islamic banking in investment, focusing on the two main banks operating in this sector in Algeria, especially Al Baraka Bank, which is considered the first to apply Islamic finance in the country. The focus on this bank is due to its leading role in the Islamic banking sector in Algeria, as well as the presence of the most demanded Islamic financial products. These products are used by Islamic banks in Algeria to attract idle funds and to support long-run economic growth.

Results

Findings show that short- and medium-term products are the most commonly used in Algerian Islamic banks. These include murabaha, salam, and others, mainly because of their simplicity, short repayment periods, and compatibility with the needs of the local market.

Other financing tools, such as muzara'ah and musaqah, are not widely available in these banks. This is due to the lack of proper marketing for Islamic finance, limited trust in the system, and the absence of a dedicated legal framework to support Islamic banking. As a result, Islamic banking services in Algeria can be stopped at any moment due to legal uncertainty.

The results also show a positive relationship between economic growth and several variables. These include the one-period lag of GDP (with an effect of 83 %), Islamic bank financing (0.03 %), gross fixed capital formation (13.62 %), one-period lag of foreign direct investment (814 %), and one-period lag of the trade balance (37.67 %). These results are consistent with previous studies that found a positive relationship between Islamic finance and economic growth, even if the impact in Algeria remains limited.

On the other hand, negative effects were observed between GDP and government spending (where a 1 percent increase leads to a 0.33 % decrease in GDP), the trade balance (3.83 % , and 95.95 % at a two-period lag), and foreign direct investment (487 % , and 419 % at a two-period lag).

The error correction term indicates that any deviation from the long-run equilibrium is corrected at a rate of 16.53 % per period. At this rate, it would take approximately 6 years for the GDP to return to equilibrium.

In conclusion, the impact of Islamic banking on economic growth in Algeria is still limited. This is due to a lack of strong institutional support, insufficient promotion of Islamic finance, and the absence of Islamic windows in many conventional banks, both public and private. In addition, the current banking laws are not well aligned with the principles of Islamic finance. Developing a specific legal framework and encouraging conventional banks to open Islamic windows could strengthen the role of Islamic banking in supporting real economic activity.

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