

Financial Inclusion and its Role in Supporting the Growth of the Algerian Economy and Enhancing its Financial Stability in Light of Economic and Institutional Reforms: An Empirical Study

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Abstract:

This article addresses the topic of financial inclusion and its key indicators as applied in Algeria, highlighting its social and economic significance. The study investigates the main strategies and mechanisms implemented to improve financial inclusion, particularly within the framework of the economic and institutional reforms undertaken by the Algerian state between 2000 and 2022.

The primary objective of this study is to assess the impact of financial inclusion on economic growth. To achieve this, the study employs the ARDL model. The empirical findings reveal a positive long-run effect of economic reforms, increased use of banking services, and improved geographical access to financial infrastructure, as well as institutional reforms (notably foreign direct investment), on GDP per capita. Conversely, the demographic distribution of financial services and governance indicators show a negative effect on GDP per capita.

Keywords: Financial inclusion indicators; financial stability; economic and institutional reforms in Algeria; ARDL model.

Jel Classification Codes : C32, G21, O16, E44, O55.

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1. INTRODUCTION

Financial inclusion has emerged as a critical component in the pursuit of sustainable economic and social development, particularly in developing countries. It plays a central role in expanding access to financial services such as bank accounts, savings, and credit to all segments of the population, thereby contributing to economic growth, reducing poverty, and enhancing financial stability. According to the 2020 Global Findex database, large segments of the population in developing economies remain unbanked, with limited access to formal financial systems.

In Algeria, the government has implemented a series of economic and institutional reforms since the early 2000s aimed at fostering a more inclusive and investment-friendly environment. These reforms have included the modernization of the banking sector, expansion of financial infrastructure, and adoption of digital technologies to increase the accessibility and quality of financial services.

However, despite these initiatives, financial inclusion indicators reveal persistent gaps. The usage of digital financial services remains limited, with only 16% of adults engaging in such platforms. Moreover, issues related to service quality, access, and usage continue to constrain the effectiveness of financial inclusion as a driver of economic development. These challenges have contributed to Algeria's relatively low performance in global competitiveness and investment attractiveness rankings, as evidenced by its 157th position in the 2020 Ease of Doing Business Index (Arab Investment Climate Report, 2022, p. 23).

1.1. Research Problem:

Against this backdrop, the central research question of this study is as follows:

Does financial inclusion influence economic growth by developing mechanisms that support financial stability in the context of Algeria's economic and institutional reforms?

To explore this research problem, the following sub-questions are proposed:

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- What is the economic significance of financial inclusion in supporting economic growth?
- What are the main measures adopted by Algeria to develop financial inclusion mechanisms?
- To what extent do the economic and institutional reforms adopted by Algeria within the framework of financial inclusion contribute to financial stability and support economic growth?

1.2. Research Hypothesis:

Financial inclusion positively affects the growth of the Algerian economy by reinforcing financial stability and supporting the development of an enabling investment environment, in light of the ongoing economic and institutional reforms.

1.3. Importance of the Study:

The growing global consensus on the need to adopt financial inclusion has made it a strategic priority for many countries. Algeria, like other developing nations, has embraced the concept due to its significant socio-economic relevance. However, the country continues to face challenges in providing the necessary infrastructure, mechanisms, and regulatory frameworks to support inclusive finance effectively. To ensure its effectiveness, it is essential to reform and strengthen the mechanisms, requirements, and indicators of financial inclusion to make them more accurate, efficient, and responsive (Caporale, 2015, p. 15). This study aims to contribute to this discourse by examining the current state of financial inclusion in Algeria, evaluating its key indicators, and analyzing the extent to which financial stability is being achieved in light of ongoing reforms. Moreover, it assesses how financial inclusion contributes to economic development and growth through the implementation of public policies and institutional strategies.

1.3. Objectives of the Study:

The primary objectives of this study are as follows:

1. To examine the impact and socio-economic importance of financial inclusion.

2. To evaluate the current state of financial inclusion in Algeria, focusing on its key indicators and the level of access, use, and quality of financial services.
3. To identify the main economic and institutional reforms undertaken by the Algerian government and the accompanying measures aimed at promoting financial inclusion in the context of enhancing financial stability and improving the investment climate.
4. To highlight the role of the financial system in advancing inclusive finance, preserving state resources from inefficiency and mismanagement, and facilitating access to financial services and funding particularly for micro-enterprises and low-income populations in order to raise living standards and support Algeria's economic growth trajectory.

1.4. Previous Studies:

A substantial body of literature has explored the relationship between financial inclusion, economic growth, and financial stability across various regions and contexts:

- 1- Studies across Asia (Pham & Doan, 2020; Na'im et al., 2021) and South Asia (Thathsarani, 2021) indicate that increased access to financial services supports both financial system resilience and human capital development, with varying short- and long-term effects.
- 2- In North Africa, research (Boulenfad & Hacini, 2021; Ben Mansour Najim, 2022) confirms a long-run positive link between financial inclusion and economic growth, although causality is not always evident.
- 3- Findings from Egypt (El-Bakl & El-Haddad, 2022) and India (Dahiya & Kumar, 2020) show statistically significant short-run impacts of financial inclusion on GDP growth.
- 4- Broader cross-country studies, including those in MENA and emerging markets (Noha & El Said, 2021), emphasize the role of good governance in enhancing the impact of financial inclusion on economic performance.

- 5- In China, digital financial inclusion (Liu et al., 2021) has shown delayed but positive effects on provincial economic growth.

1.5. Study Plan:

This study is structured around three key axes:

1. **Financial inclusion and its role in supporting economic growth and financial stability:** This section provides the conceptual and theoretical framework for financial inclusion. It discusses its dimensions, indicators, and relevance as a strategic tool for promoting inclusive economic development and enhancing financial system stability.
2. **The reality of financial inclusion in Algeria and the role of its indicators in supporting economic growth through economic and institutional reforms:** This part presents an empirical overview of the current state of financial inclusion in Algeria.
3. **Empirical study:** The final section conducts a quantitative analysis using econometric modeling to measure the impact of financial inclusion on economic growth in Algeria during the period 2000–2022. Employing the (ARDL) model.

2. Financial Inclusion and Its Role in Supporting Economic Growth and Financial Stability

Financial inclusion is a multifaceted and evolving concept that remains challenging to define and quantify precisely. It generally refers to the process of ensuring that individuals and businesses, particularly those traditionally excluded from the formal financial system, have access to useful and affordable financial products and services such as savings, credit, insurance, and payment systems delivered in a responsible and sustainable manner (Awad, 2019, p. 83).

Moreover, with the advancement of digital technologies, non-traditional forms of financial access such as mobile banking, electronic wallets, and digital money transfers have emerged as viable alternatives to conventional banking, particularly in regions where physical banking infrastructure is limited (Samir, 2022, p. 8).

2.1. Financial Inclusion: Indicators and Dimensions

Reliable and comprehensive data that capture the various dimensions of financial inclusion are essential for effective policy design and implementation. This necessity raises the critical question of how to measure financial inclusion accurately (Ben Rajab Jalaluddin, 2018, p. 4).

According to Hannig and Jansen (2010), financial inclusion can be assessed through three key dimensions, each supported by specific measurable indicators:

- **Access to Financial Services:** This dimension focuses on the availability and proximity of financial service points.
- **Usage of Financial Services:** Usage is measured by the extent and frequency of individuals' interactions with financial products.
- **Quality of Financial Services:** Quality encompasses a wide range of factors that determine how well financial services meet user needs.

To complement these dimensions, several composite indices are used to evaluate financial inclusion at the macroeconomic level:

- The Financial Access Index, which measures the physical reach and usability of financial services, such as the number of bank branches and ATMs per population or area.
- The Financial Depth Index, which captures the size and liquidity of the financial sector by assessing the ratio of cash transactions or credit to GDP.
- The Financial Usage Index, which assesses the extent to which individuals utilize available financial products and services.

Together, these indicators provide a comprehensive view of how inclusive a financial system is and serve as essential tools for guiding reforms, monitoring progress, and identifying gaps in service delivery (Samir, 2022, p. 9).

2.2. The Importance of Financial Inclusion and Its Role in Supporting Economic Growth and Promoting Financial Stability

A growing body of literature emphasizes the vital role that financial inclusion plays in enhancing both economic growth and financial system stability. Financial inclusion not only improves access to essential financial

services for underserved populations but also contributes significantly to macroeconomic performance. Studies such as Blancher (2019) have demonstrated that greater financial inclusion can lead to increased household income and higher levels of savings, thereby reinforcing individual financial security and overall economic resilience.

From a macroeconomic perspective, financial inclusion enhances economic growth by expanding the reach of financial services to (SMMEs). These enterprises often face difficulties in accessing formal credit and financial infrastructure. By integrating them into the formal financial system, financial inclusion helps stimulate entrepreneurship, improve productivity, and foster job creation (Yilmaz Bayar, 2018; Sethi, 2018, pp. 371–372). Financial inclusion also serves as an effective tool for public sector delivery mechanisms. It enables governments to distribute social welfare payments, subsidies, and emergency support directly to beneficiaries through secure and traceable channels. Countries with stronger financial inclusion frameworks tend to have more effective fiscal policies, higher tax collection capacity, and improved monetary transmission mechanisms, thereby contributing to greater financial stability (Blanchette, 2019, pp. 8-9).

In terms of financial system resilience, financial stability refers to a state in which financial institutions, markets, and infrastructures function effectively and can absorb economic shocks without widespread disruption (Matar, 2020, pp. 17–18). Furthermore, financial inclusion improves the efficiency of financial intermediation by strengthening the links between savings and investment. It facilitates structural transformation within the financial system by promoting the adoption of innovative financial products, modern technological platforms, and alternative delivery mechanisms (European Central Bank, 2012).

3. The reality of financial inclusion in Algeria and the role of its indicators in supporting economic growth through economic and institutional reforms

Between 2000 and 2022, Algeria recorded an average (GDP) of

approximately 10,704 million USD. Despite the country's adoption of various economic reform programmes during this period, GDP growth rates have remained volatile, reflecting persistent structural weaknesses in the economy. The substantial increase in oil export revenues Algeria's primary source of income has not translated into sustainable economic development. Instead, the country's heavy reliance on hydrocarbon revenues, coupled with rapid and sometimes unbalanced growth in public spending, has posed significant challenges in terms of revenue management and economic diversification.

3.1. Per Capita GDP in the Context of Economic Reforms

Per capita GDP experienced notable growth during the first phase of reform. Between 2000 and 2013, the average per capita GDP stood at approximately 4,081.75 USD, driven primarily by strong performance in the oil and gas sector. In the subsequent period, from 2014 to 2022, this figure rose to an average of USD 4,812.38, reflecting the government's efforts to enhance living standards and stimulate economic activity. It is important to note that these improvements occurred in a context marked by increasing inflationary pressures, particularly during the last two years of the period under review. Inflation rates reached 7.2% in 2021 and 9.2% in 2022, eroding some of the real gains in income and highlighting persistent vulnerabilities in price stability and purchasing power.

Fig.1. Evolution of inflation rates in Algeria

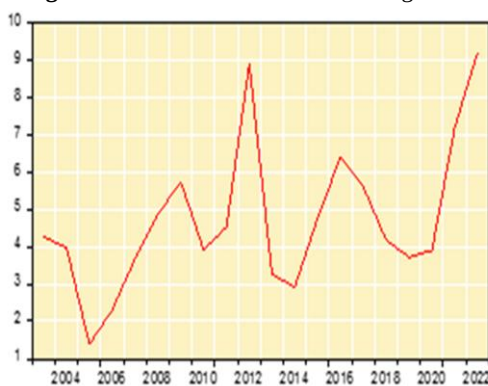


Fig.2. Evolution of per capita GDP in Algeria

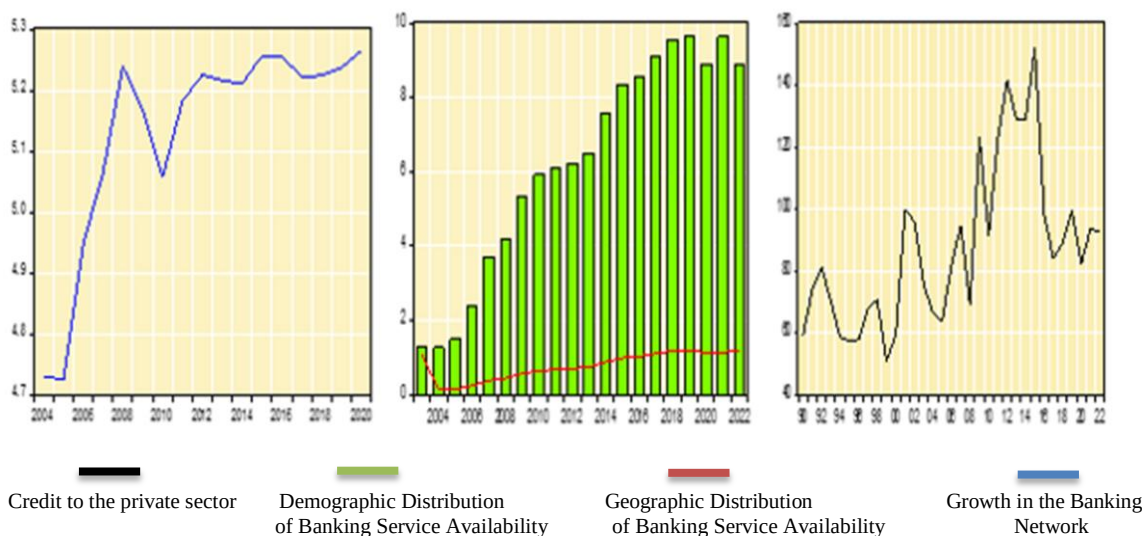


Source: National Statistics Office (Office National des Statistiques - ONS)

3.2. The Development of the Financial Sector in Algeria: Focus on Banking Services

The development indicators of the financial sector in Algeria showed a notable increase between 2000 and 2022, with an average growth rate of 13.43% during the period 2000–2013 and 24.80% during the period 2014–2022. This upward trend reflects the ongoing expansion of monetary activity across most of the years under consideration. One key indicator of financial sector development is credit extended to the private sector, which represents financial resources made available by financial institutions.

Fig.3. Progress in the Availability and Usage of Financial Services in Algeria



Source : <https://data.imf.org/regular.aspx?key=61063966>

The figure illustrates the limited extent of banking coverage in Algeria, which remains significantly below international standards. Specifically, Algeria reports only five commercial bank branches per 100,000 adults, compared to an international average of approximately 25 branches per 100,000 adults five times higher. This disparity highlights several systemic issues, including overcrowding at branch level, inadequate banking infrastructure relative to population growth, and a lack of strategic

geographical expansion. As Bouhlbal (2021, p. 341) notes, this situation reveals insufficient consideration of the demographic dimension in financial sector planning, as well as limited responsiveness to the evolving needs of the population and the institutional environment in which Algerian banks operate.

4. Empirical study:

This study quantitatively examines the impact of financial inclusion on economic growth in Algeria between 2000 and 2022, within the framework of ongoing economic and institutional reforms. Utilizing econometric modeling, financial inclusion (independent variables) is assessed through indicators of access and usage of financial services. Key variables include the number of ATMs per 1,000 km² and per 100,000 inhabitants—reflecting geographic and demographic accessibility—as well as private sector credit to measure financial depth. Data were drawn from the GFDD, IMF’s Financial Access Survey, and Algeria’s National Statistics Office.

4.1. Autoregressive Distributed Lag (ARDL) Model Specification

The formulation of the standard ARDL model requires identifying the relevant variables to be included in the regression, ensuring model parsimony while capturing the key dimensions of financial inclusion. In this study, (GDP) is the dependent variable, while the explanatory (independent) variables are selected based on their relevance to financial inclusion and institutional development. These include:

$$GDP_t = f(CSP_t, FDI_t, FINCD_t, FINCG_t, GOV_t) \dots\dots\dots 1$$

Assuming the relationship between the variables is linear, the model is written as follows:

$$GDP_t = \alpha + \beta_1 CSP_t + \beta_2 FDI_t + \beta_3 FINCD_t + \beta_4 FINCG_t + \beta_5 GOV_t \dots\dots\dots 2$$

Where:

- GDP_t : GDP per capita.
- CSP_t : Credit to private sector.
- $FINCD_t$: Demographic spread of availability of banking services.
- $FINCG_t$: Geographic spread of availability of banking services.
- FDI_t : Foreign Direct Investment.

- GOV_t : Governance indicator.

The methodological steps of the ARDL model, as outlined by Pesaran and Pesaran (1997), can be summarized as follows:

4.1.1. Stationarity of Time Series and Unit Root Testing

To verify the primary condition for applying the ARDL model namely that the time series of the variables must be integrated of order $I(0)$ or $I(1)$, we conducted a stationarity test for all study variables. To this end, we applied the Augmented Dickey-Fuller (ADF) test, which is widely used to assess the presence of unit roots in time series data. The null hypothesis assumes non-stationarity (i.e., the presence of a unit root). The results of the ADF test for each variable are summarized in the following table:

Table 1. ADF Unit Root Test Results for Model Variables

Variable	Level (ADF[^]C)	p-value	First Difference (ADF[^]C)	p-value
GDP_t	-2.16	0.22	-3.69	0.0139
CSP_t	0.22	0.96	-5.94	0.0002
FDI_t	-2.38	0.07	-6.13	0.0001
$FINCD_t$	-1.80	0.36	-3.19	0.0375
$FINCG_t$	-1.41	0.55	-18.80	0.0000
GOV_t	-1.24	0.63	-7.60	0.0000

Source: EViews 10 Output

Based on the results of the stationarity tests, we conclude that the majority of the variables are integrated of order one [$I(1)$], while their first differences are stationary, i.e., integrated of order zero [$I(0)$]. The only exception is the inflation variable, which was found to be stationary at level. These findings confirm the suitability of the data for the application of the ARDL methodology, which accommodates variables of mixed integration orders ($I(0)$ and $I(1)$). The estimation also requires determining the optimal lag length, which ensures the robustness and reliability of the model.

4.1.2. Selection of the Optimal Lag Length for ARDL Model Estimation

Before proceeding with the bounds testing for cointegration, it is essential to determine the optimal lag length for the variables included in the ARDL model. The reliability of the model's estimates is highly sensitive to the number of lags selected, as this influences the ability to eliminate autocorrelation in the residuals. The optimal lag structure is identified using standard information criteria, such as the Akaike Information Criterion (AIC), Schwarz Criterion (SC), and Hannan-Quinn Criterion (HQ) applied to a vector autoregressive (VAR) model. The lag order was evaluated over the range $p = 0$ to 4, and the most appropriate lag length was selected based on the criterion that yielded the lowest value.

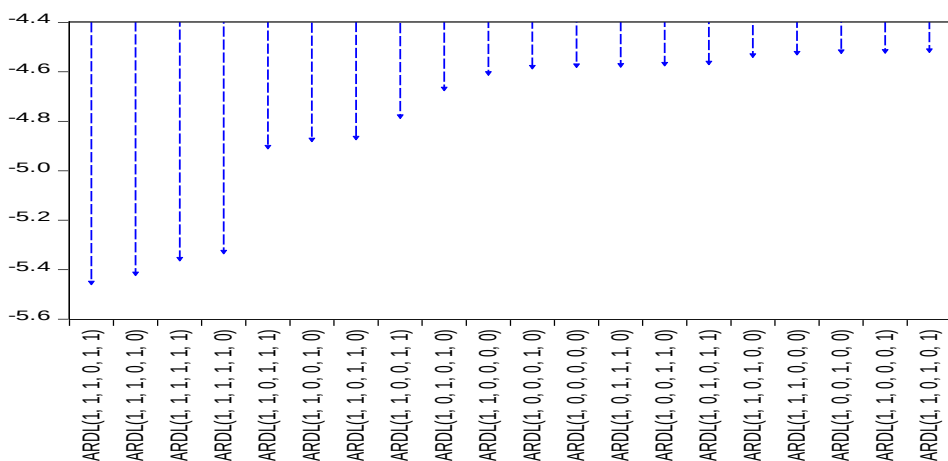
Table 2. VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-94.94213	NA	0.001660	10.62549	10.92373	10.67596
1	2.523425	123.1144*	3.20e-06*	4.155429*	6.243136*	4.508752*

Source: EViews 10 Output

It is evident from Table 2 that the optimal lag length is (1), as indicated by the AIC, which yields the lowest value. This selection is particularly appropriate given the limited sample size, ensuring model efficiency and the validity of subsequent ARDL estimations.

Fig.4.Optimal Lag Length Test for the Model
Akaike Information Criteria (top 20 models)



Source: EViews 10 Output

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Based on the figure 4, it is evident that the optimal lag structure is (1,1,1,1,0,1). Accordingly, the ARDL model will be estimated using this lag configuration for the respective variables.

4.1.3. ARDL Bounds Test:

The ARDL model corresponding to the study variables is specified as follows:

$$GDP_t = \beta_0 + \sum_{i=1}^P \delta_i \Delta GDP_{T-i} + \sum_{i=1}^P \alpha_i \Delta CSP_{t-i} + \sum_{i=1}^P \omega_i \Delta FDI_{T-I} + \sum_{i=1}^P \vartheta_i \Delta fincd_{t-i} + \sum_{i=1}^P \tau_i \Delta fincg_{T-I} + \sum_{i=1}^P \rho_i \Delta gov_{t-i} + \varphi_1 GDP_T + \varphi_2 CSP_t + \varphi_3 FDI_T + \varphi_4 fincd_t + \varphi_5 fincg_T + \varphi_6 gov_t + U_t$$

Where δ , α , ω , ϑ , τ , and ρ represent the coefficients of the short-run dynamics, while φ_1 , φ_2 , φ_3 , φ_4 , φ_5 , and φ_6 denote the long-run parameters of the independent variables. U_t is the error term assumed to be white noise.

Cointegration in the ARDL framework, as outlined by Pesaran et al. (2001), is assessed by testing the null hypothesis (H_0) of no long-run relationship among the model variables, against the alternative hypothesis (H_1) which posits the existence of cointegration. These hypotheses are formulated as follows:

- $H_0: \varphi_1 = \varphi_2 = \varphi_3 = \varphi_4 = \varphi_5 = \varphi_6 = 0$ (No cointegration)
- H_1 : At least one $\varphi_i \neq 0$ (Cointegration exists)

Table 3. ARDL Bounds Test Results

Test Statistic	Value	Number of Variables
F-statistic	7.32	5
Critical Value Bounds		
Significance Level	Lower Bound I(0)	Upper Bound I(1)
10%	2.08	3.00
5%	2.39	3.38
2.5%	2.70	3.73
1%	3.06	4.15

Source: EViews 10 Output

Based on Table 3, the calculated F-statistic value (7.32) exceeds the upper critical bound (3.38) at the 5% significance level. Therefore, we

reject the null hypothesis (H_0) of no cointegration and accept the alternative hypothesis (H_1), confirming the existence of a long-run equilibrium relationship among the model variables.

4.1.4. Estimation of the ARDL Model:

Following the confirmation of a long-run cointegration relationship between the explanatory variables and unemployment, and based on the Akaike Information Criterion (AIC) for lag selection, the ARDL(1,1,1,0,1) specification was identified as the optimal model. Accordingly, the parameters of both the long-run and short-run dynamics were estimated, and the results are presented in Table 4.

Table 4. Long-Run Coefficient Estimates of the ARDL Model

Variable	Coefficient	t-Statistic	p-Value
CSP_t	0.000991	3.348556	0.0101
FDI_t	0.072369	3.529767	0.0077
$FINCD_t$ (Demo)	-0.074850	-2.243009	0.0552
$FINCG_t$ (Geo)	0.216940	4.931515	0.0011
GOV_t	-0.003957	-2.414078	0.0422
C (Constant)	8.302328	287.3414	0.0000
P(F-Statistique)=0.0 F-Statistique = 35.71 R2 = 0.97 DW= 2.96			

Source: EViews 10 Output

The model demonstrates strong explanatory power, as evidenced by a coefficient of determination (R^2) of 0.97. This indicates that 97% of the variation in GDP per capita is explained by the included explanatory variables, while only 3% is attributable to other factors not accounted for in the model. This high R^2 suggests a robust relationship between the dependent variable and the regressors.

Moreover, the overall statistical significance of the model is confirmed by the F-statistic (35.71) and its associated probability value ($p = 0.0000$), which is well below the 5% threshold. This confirms the joint significance of the explanatory variables. Additionally, the ($DW = 2.96$) indicates the absence of autocorrelation in the residuals, thus supporting the model's validity.

The t-statistics reveal that all estimated long-run coefficients are statistically significant at the 5% level, except for the $FINCD$ variable,

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which shows marginal significance. The signs of the estimated coefficients are largely consistent with economic theory and findings from previous empirical studies.

The interpretation of the economic growth equation may be interpreted as follows:

- **Use of banking services:** A one-unit increase in CSP leads to a direct increase in GDP per capita by 0.000991 units, reflecting the positive role of financial service usage in economic growth.
- **Demographic spread of banking availability:** A one-unit increase in FINCD results in a decrease in GDP per capita by 0.074850 units, suggesting inefficiencies or imbalances in demographic access to banking services.
- **Geographic spread of banking availability:** A one-unit increase in FINCG causes a rise in GDP per capita by 0.216940 units, highlighting the importance of spatial distribution of financial infrastructure.
- **Foreign direct investment:** A one-unit increase in FDI is associated with a positive change in GDP per capita by 0.072369 units, underscoring the significance of institutional reforms in fostering growth.
- **Governance:** The coefficient is negative (-0.003957), indicating that weaker governance may have a dampening effect on economic performance.

The economic analysis shows that Algeria has increased public spending to support economic reforms while expanding the use of banking services, which recorded an average growth rate of 24.80% during the period 2014 to 2022, indicating continued monetary expansion in most years. However, banking coverage remains limited, with only five bank branches per 100,000 adults. With regard to institutional reforms, Algeria has sought to attract foreign direct investment through amendments to laws and regulations nevertheless; procedural efficiency has not improved significantly, as reflected in governance indicators.

4.1.5. Estimation of the (ECM) for the (ARDL) Model:

As observed in Table 5, not all coefficients of the short-run equation are statistically significant; however, several key variables, including lagged CSP, FDI, FINCD(-1), FINCG(-1), GOV(-1), and the error correction term, exhibit statistical significance at the 5% level.

Table 5. ECM Estimates for the Short-Run Dynamics of the ARDL Model

Variable	Coefficient	t-Statistic	p-Value
C	7.296463	4.525219	0.0019
GDP(-1)*	-0.878845	-4.513798	0.0020
CSP(-1)	0.000871	3.279260	0.0112
FDI**	0.063601	3.948327	0.0042
FINCD(-1)	-0.065782	-2.436957	0.0408
FINCG(-1)	0.190656	3.795431	0.0053
GOV(-1)	-0.003477	-2.376023	0.0448
D(CSP)	-1.83E-05	-0.093082	0.9281
D(FINCD)	0.067627	1.729311	0.1220
D(FINCG)	-0.184559	-1.676966	0.1321
D(GOV)	-0.004829	-3.237719	0.0119
CointEq(-1)*	-0.878845	-9.469651	0.0000
Cointeq = GDP - (0.0003*CSP + 0.07*FDI - 0.07*FINCD + 0.21*FINCG - 0.003*GOV + 8.30)			

Source: EViews 10 Output

4.2. Diagnostic Tests for Model Robustness:

Table 6. Diagnostic Tests for the ARDL Model

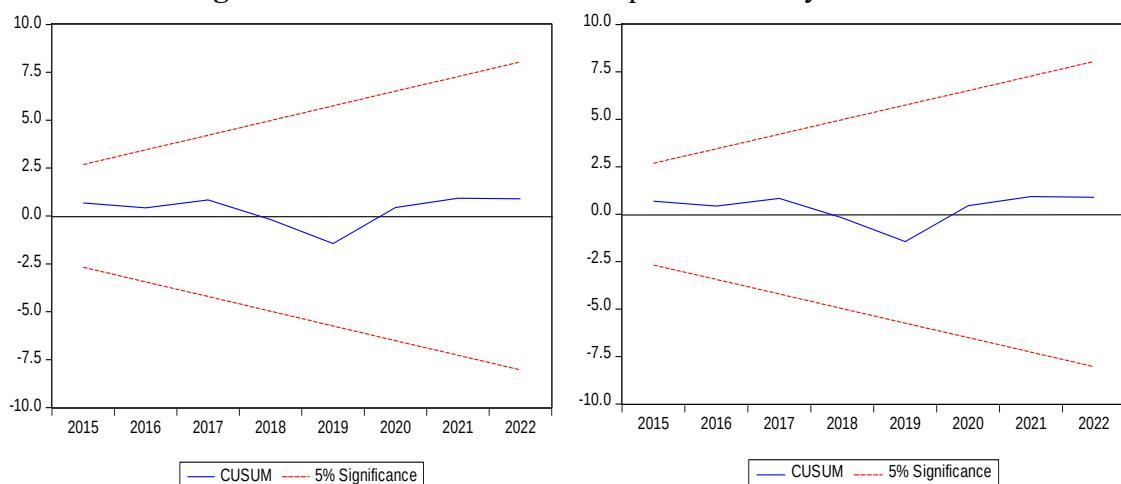
Breusch-Godfrey Serial Correlation LM Test			
F-statistique	5.35	Prob F (2,22)	0.053
Obs*R-au carré	8.23	Prob Chi-Square (2)	0.00
Heteroskedasticity Test ARCH			
F-statistique	0.008	Prob F (1,25)	0.92
Obs*R-au carré	0.009	Prob Chi-Square (1)	0.92
Jarque-Bera Nomality test			
Jarque-Bera	0.61	Prob	0.73
Ramsey Reset Test			
t-statistique	1.12	Prob	0.29
F-statistique	1.27	Prob	0.29

Source: EViews 10 output

Based on the diagnostic test results presented in Table 6, the following conclusions can be drawn regarding the reliability of the ARDL model:

- **Serial Correlation Test:** The Breusch-Godfrey LM test yields a p-value of 0.053, which is slightly above the 5% significance level. This indicates that we fail to reject the null hypothesis, suggesting no significant serial correlation in the residuals.
- **Heteroskedasticity Test:** The ARCH test shows a p-value of 0.92, which is well above the 5% threshold. This leads to the acceptance of the null hypothesis of homoskedasticity, confirming that the residuals have constant variance.
- **Normality Test:** The Jarque-Bera statistic results in a p-value of 0.73, exceeding the 5% significance level. This supports the assumption of normally distributed residuals.
- **Ramsey RESET Test:** With a p-value of 0.29, the RESET test does not indicate any specification errors in the model. This confirms that the functional form of the regression equation is correctly specified.
- **Structural Stability Test:** According to Pesaran and Pesaran (1997), the ARDL model also demonstrates structural stability, confirming the model's robustness over the study period.

Fig.5. CUSUM and CUSUM of Squares Stability Tests



Source: EViews 10 output

5. CONCLUSION:

This study underscores the strategic importance of financial inclusion as a catalyst for economic growth and financial stability in Algeria. By improving access to formal financial services, financial inclusion can reduce dependency on external capital, enhance domestic resource mobilization, and build resilience to economic shocks.

Despite adopting financial inclusion as a key component of its economic reform agenda, Algeria continues to face institutional and structural barriers such as limited competition in the banking sector, the dominance of public banks, weak financial governance, and insufficient digital innovation. These challenges have slowed reform efforts and constrained progress in improving economic performance and competitiveness.

Empirical analysis using the ARDL model confirms the existence of long-term relationships between financial inclusion indicators and economic growth. Notably, banking service usage, geographic accessibility, and institutional reforms positively affect per capita GDP. In contrast, poor demographic distribution of banking services and weak governance negatively impact growth. This confirms the validity of the hypothesis, as most of the variables indicating financial inclusion have a positive impact in the context of reforms.

Key findings reveal that excessive credit expansion, combined with poor oversight, has undermined financial stability, while corruption and inefficient public spending have impeded the development of essential financial infrastructure.

To address these issues, the study recommends:

1. **Reforming financial inclusion frameworks** by enhancing legal and regulatory environments to incentivize innovation and broader service delivery.
2. **Promoting digital financial solutions**, especially in underserved areas, through investment in infrastructure and financial technology, alongside stronger creditor protections and improved risk management systems.

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