# The Impact of Financial Inclusion on Algerian Banks' Performance -Case Study of BNA Bank-

## أثر الشمول المالي على أداء البنوك الجزائرية "دراسة حالة للبنك الوطني الجزائري"

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**Abstract:**

*This study aimed to identify the nature of the relationship between financial inclusion and the performance of banks in the Algerian economy. The study was limited to a case study of the BNA Bank, using the multiple linear regression models and the Eviews program for analyzing the annual financial data of the BNA Bank from 2014 to 2020. The performance of the BNA Bank is measured by return on equity. To ensure the forcefulness of our results, we used three different financial inclusion indicators. These include the number of bank agencies, the number of bank automatic counters, and the number of opened bank accounts. The study concluded that there is a positive impact of financial inclusion on the financial performance of banks. Therefore, all banks should devote more resources to increase financial inclusion as it benefits their profitability.*

**Keywords:** *Financial inclusion; banks' performance; financial services; Algeria; Algerian National Bank.*

***Jel Classification Codes :****O33;G21; G2; O55*

**الملخص:**

هدفت هذه الدراسة إلى التعرف على طبيعة العلاقة بين الشمول المالي (FI) وأداء البنوك في الاقتصاد الجزائري. واقتصرت الدراسة على دراسة حالة للبنك الوطني الجزائري، باستخدام نموذج الانحدار الخطي المتعدد وبرنامج Eviewsلتحليل البيانات المالية السنوية لبنك BNAمن 2014 إلى 2020. يقاس الأداء لبنك BNAبالعائد على حقوق الملكية (ROE). ولضمان قوة نتائجنا، استخدمنا ثلاثة مؤشرات مختلفة للشمول المالي تشمل عدد الوكالات المصرفية، عدد شبابيك البنك الآلية وعدد الحسابات المصرفية المفتوحة. وقد خلصت الدراسة إلى وجود أثر إيجابي للشمول المالي على الأداء المالي للبنوك. لذلك، يجب على جميع البنوك تكريس المزيد من الموارد لزيادة الشمول المالي بما أنه يعزز ربحيتها.

**الكلمات المفتاحية:** الشمول المالي؛ أداء البنوك؛ الخدمات المالية؛ الجزائر؛ البنك الوطني الجزائري.

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## Introduction:

Technology is a major axis in development due to the job positions and services it provides that enhance growth and competitiveness for the various actors in the economic structure.

In the recent times of the twentieth century, a set of factors resulting from technological progress have emerged, aiming at achieving speed in the implementation of banks' financial operations and improving their services, which have become so important in the economic life, such as e-transfer, e-payment methods, and others. This is a fundamental factor in advancing economic development due to scientific and technological development, given its use in facilitating exchanges, improving performance and increasing profitability.

Fintech is one of the major factors that have changed the way the traditional banking industry works. Innovative banking services, which have increased efficiency and reduced costs, have helped promote the use of financial technology in the banking industry around the world, and have raised billions of dollars in investments in a short period of time. The spread of smart phones, consumer dependence on technology, and low levels of financial inclusion paved the way for the growth and spread of financial technology products and services across the world and even in the Arab region.

Therefore, banks and financial institutions seek to introduce some necessary changes in their business models and products by expanding their investments in technology and entering into partnerships with emerging financial technology companies in order to enhance the digitization of financial services, improve their competitiveness, enhance their performance and increase their profitability. All of this and that would reflect on financial inclusion as a whole. On this basis, the following problem can be posed:

**Does financial inclusion influence the performance of the Algerian National Bank?**

Financial inclusion is an innovative term in the financial literature. There are several different indicators of financial inclusion. We chose three of them: the number of banking agencies, the number of ATMs, and the number of open bank accounts,while the return on equity (ROE) was used only to measure the BNA performance. Accordingly, the following hypotheses can be put forward:

**$H_1$:** There is a statistically significant effect at the level of significance 0.05 for financial inclusion indicators on the BNA's performance;

**$H_0$:** There is no statistically significant effect at the level of significance 0.05 for financial inclusion indicators on the BNA's performance.

This study mainly aims to identify financial inclusion and its indicators, while determining the extent to which banks' financial performance is affected by these indicators. To achieve the objectives of the research, a model was built to test the validity of hypotheses based on two methods used in economic studies in general. The first is deductive: through the descriptive approach in some parts of the research through the formation of the theoretical base derived from various references. The other is inductive: through the analytical approach in the context of a case study mainly related to analyzing the extent of the impact of financial inclusion indicators on the financial performance of the National Bank of Algeria and drawing conclusions that serve the purposes of this research.

On this basis, the research was divided into three main sections. The first section included a general overview of financial inclusion; while the second section included the characteristics of financial inclusion in Algeria; the third section was devoted to a case study of the impact of financial inclusion on the performance of the National Bank of Algeria.

**Literature Review:**

Sahnoun Kh.'s (2016)[1]in their PhD thesis entitled "The Impact of Information Technology on Banks' Profitability: A Comparative Case Study between Algerian Banks and French Banks" concluded that information technology is not a goal, but rather an element of the banks' activity in order to maximize their profitability.This requires interaction and development of the environment in which it moves, such as: the legal, administrative environment, cultural and technological. While providing an integrated, diversified and advanced package of financial, banking and investment services with low costs and high quality to achieve customer satisfaction and maintain its position in the local and even foreign market;

Miguel, Angel Soriano, (2017)[2]study entitled "Factors Driving Financial Inclusion and Financial Performance in Fintech New Venture: An Empirical Study». The PhD thesis for the year 2017, where he studied the role of digital technology on financial inclusion From the perspective of the new financial technology that serves the banking and non-banking sectors alike, relying on the questionnaire technique to collect and analyze information on 63 emerging institutions from different countries (South Asia, India and Africa) and prepare a model. The study concluded by highlighting the vital role played by financial technology start-ups in driving financial inclusion in emerging markets;

Oranga OJ. &Ondabu IJ. (2018)[3] in their article in title "Effects of Financial Inclusion on the Financial performance of banks listed at the Nairobi Securities Exchange in Kenya" focused on financial literacy programs, the use of agents and representatives, banks branches, proliferation of ATM's and mobile banking services as financial inclusion indicators that may affect the financial performance of 11 banks in Kenya. After analyzing the collected data via SPSS, they found that all the financial inclusion indicators listed above have a positive impact on banks performance but in different levels of strength. The study concluded with the necessity to use financial inclusion in banks to enhance their performance.

Shihadeh, Fh, et al. (2018)[4] in their article entitled "Does Financial Inclusion Improve the Bank's Performance? Evidence from Jordan" investigated the relationship between financial inclusion (FI) and the performance of 13 Jordanian banks from 2009 to 2014 using six different indicators of FI. These include credits granted to small and medium enterprises (SMEs), deposits of small and medium-sized enterprises, Number of ATMs, number of ATM services, number of credit cards and new services. The study recommended that banks should allocate more resources to increase financial inclusion as they benefit their profitability.

Nguyen, N. & Vo, D. (2021)[5] in their article entitled"Does Financial Inclusion Improve Bank Performance in the Asian Region?"that included 1507 banks in the regionof Asia during the period 2008-2017, where the indicative inclusion index was built based on two dimensions using the PCA method. The results showed that it predominantly affects the banking performance, similar to the return on equity.

The current study converges with previous studies in that it deals with the issue of adopting the features of financial inclusion in the banking sector, as it is one of the most important contemporary topics within the financial management literature. While this study came to shed light on the case of Algeria, which is witnessing a noticeable delay in adopting these features, focusing on the study of the case of the National Bank of Algeria, as it is one of the most important public banks active within the Algerian banking system. Our research is also distinguished from the aforementioned research in the statistical tool used (Eviews10) in order to explain the nature of the relationship between enhancing financial inclusion indicators and improving the banking financial performance of the National Bank of Algeria during the period 2014-2020.

## I.Financial Inclusion Overviews:

### I.1. Definition of financial inclusion

There are several definitions of financial inclusion, from which we choose the definitions of international bodies, as:

The 20G and the AFI (Alliance for Financial Inclusion) defined financial inclusion as "enhancing the access and use of all segments of society, including marginalized and affordable groups, for financial services and products that are commensurate with their needs so that they are provided in a fair, transparent and affordable manner."[6]

While the WB (World Bank) recognized that "financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs - transactions, payments, savings, credit and insurance- delivered in a responsible and sustainable way"[7].

The FMI (International Monetary Fund), in conjunction with the Consultative Group to Assist the Poor, defined it as "the situation that reflects the ability of individuals and companies, including those with low incomes and young people, to access an integrated array of high-quality financial services (payments, transfers, savings, credit and insurance). It also provided by a variety of providers of those services in an easy and sustainable way, under an appropriate legal and regulatory environment[8].

The FIC (Financial Inclusion Center) in Washington also defined it as "a situation in which all individuals are able to access a full range of financial services of good quality, reasonable prices, and in a comfortable manner that preserves the dignity of customers."[9]

Whereas, the ACB (Algerian Central Bank) defines it as "making available and using all financial services for the various groups of society in its institutions and individuals, especially the marginalized ones, through official channels, including current and savings accounts, payment and transfer services, insurance services, financing and credit services, and creating more appropriate financial services at competitive and fair prices. In addition to working to protect the rights of consumers of these financial services, and encouraging these groups to properly manage their money and savings. All these are to avoid some resorting to informal channels and means that are not subject to any control and supervision authorities that impose relatively high prices, which lead to the exploitation of the needs of these channels for financial and banking services"[10].

Through the above definitions we can say that financial inclusion refers to access to financial services. This relates to the ability of society segments to use financial products and services as bank branches, bank automatic counters and point-of-sale networks, mobile banking, etc.

### I. 2. The Importance of Financial Inclusion

Financial inclusion has a great role in realizing social and financial development[11]:

- A growing set of research reveals that there are many development benefits, which can be gained from financial inclusion, especially from the use of digital financial services, including financial services via mobile phones, payment cards, and other financial technology applications.

- Realizing broad-based benefits from financial inclusion, as studies have shown that financial services via mobile phone allow users to save and transfer money and thus help improve income, earning potentials, and thus reduce poverty.
- Financial services help people accumulate savings and spend on necessities
- Digital financial services can also help people manage financial risks by making it easier to collect money from distant friends and relatives in difficult times.
- For governments, switching from cash to digital payments can reduce corruption and improve the scale.

## II.Financial Inclusion Features in Algeria

According to the International Monetary Fund, the Arab region still records one of the lowest levels in the world in terms of financial inclusion. As for Algeria, the financial inclusion data issued by the World Bank indicates that Algeria ranks 141 in the world in the Financial Inclusion Index, after Lebanon, Oman, Kuwait and Qatar, which rank well in this index, where there is disparity in most of them. The percentage of adults over the age of 15 years was 50.5% and over the age of 25 years was 57.5%. The percentage of adults who borrowed from informal private entities was 1.5% and the percentage of borrowing from family and friends was 13.2%. The latter indicates that a large percentage of Algerians (like other Arab countries) still prefer to borrow from family and friends. The data also indicates that a large percentage of Algerians prefer to borrow from informal entities (1.5%). This may be due to the logic of focusing a large percentage of banks on lending to certain layers of society and not others[12].

Algeria has been suffering for a long time from an increasingly high rate of financial exclusion, which the Bank of Algeria estimated at the end of 2017 at 4,675 billion dinars, equivalent to 33% of the monetary mass. This forced the Bank of Algeria to harness all available resources in order to absorb these funds in order to invest them instead of resorting to foreign borrowing or unconventional financing[13].

“Algerian banks are still relatively unsophisticated in their use of digital tools. Even where such services, like bankcards and online payments, have been introduced, people have been slow to adopt them into their habits. Nonetheless, the government has been trying to spur development. Recent legal changes required that all businesses install a remote e-payment terminal by December 31, 2018, with non-compliance incurring a 50,000DA (€363) fine. Internet payment has been possible for a narrow range of public and private sector goods and services since late 2016, but after 18 months of rapid growth, the number of transactions appeared to have plateau by the middle of 2018”[14].

**Table n°1: Algeria Financial Inclusion indicators**

| Indicators | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|
| ATMs per 100000 adults | 8,35 | 8,57 | 9,13 | 9,54 | 9,64 |
| Bank branches per 100000 people | 5,23 | 5,23 | 5,23 | - | - |
| Bank assets percent of GDP | 51,42 | 56,82 | 58,27 | - | - |

**Source:** Data from https://www.theglobaleconomy.com/

We note from the above table that the number of ATMs per 100,000 adults is constantly increasing, as the ratio reached 9, 64 in 2019after it was only 8.35 in 2015. As for the number of bank branches per 100,000 people, it has remained constant at the ratio of 5.23 over the course of the study years (2015 to 2019). As for the ratio of the bank's assets to the gross domestic product, it also showed a significant increase from year to year. In 2015, it recorded a value of 51.42 to reach 58, 27 in 2017.

Although the increase in the number of ATMs per 100000 adults and Bank assets percent of GDP from year to year, with the constant number of bank branches during three consecutive years, which would support financial inclusion in the country, this remains insufficient compared to other Arab or even foreign countries

## III.Case Study of the Impact of Financial Inclusion on the Performance of the Algerian National Bank

The National Bank of Algeria was established on June 13, 1966. It is considered as the first commercial bank to be established in Algeria. […] and according to the principle of specialization in the Algerian banking system, the Algerian National Bank firstly undertook to grant loans to the agricultural sector, import professional associations, public institutions and the private sector[15].

For an ever more efficient service, the Bank continued its innovation in the field of electronic payment and digital, by[16]:

- Proceeding in November 2018, with the opening of the first digital agency, located at rue DidoucheMourad, Algiers. Equipped with a Bank ATM, a Bank ATM and a digital space, this agency offers a range of services accessible to all aimed at strengthening proximity to customers.
- By initiating work aimed at expanding its range of bankcards with new offers: CIB Corporate cards, savings, private 'Elite', VISA, and BNA Master Cards.
- Boosting the development dynamic of the "card payment" service, by placing an order for 6,269 EPTs, intended for merchants and major billers of the Bank.

On another level, the year 2018 enabled the Bank, which launched the remote banking service BNA.net in 2017, to expand the number of members of this service, by 22.69%, to reach 41,158 accounts subscribed at 12.31.2018, compared to 33,545 accounts in 2017.

In addition, during this same year, the Bank acquired a new tool for the supervision and management of the BNA.net platform "P2B Portal" with a view to setting up new services in 2019, expanding its banking services to BNA.Net distance, namely:

- "Push to Bank" e-banking: which provides better accessibility to major BNA billers with multiple accounts.
- "SMS-Banking": allowing the Bank's customers to receive periodic notification of the account balance by SMS on a mobile phone, the SMS alert on the threshold balance, the amount of transactions, and on the debit balance.
- The "BNA @ TIC" service: a downloadable mobile application allowing remote access to banking services.

### III.1. Methods and Materials:

Based on the previous studies that focused on the impact of financial inclusion indicators on banks' performance, we chose the most important variables that could explain this effect. The independent variable of the study was revealed in the indicators of financial inclusion, where we relied on the number of banking agencies per thousand inhabitants (BA), the number of bank accounts per thousand individual (BC), and the number of bank automatic counters per million inhabitants (GAB). While the dependent variable was the performance of the National Bank of Algeria, that was measured by return on equity (ROE).

The data were collected mainly by relying on the annual reports of the Algerian National Bank during the study period, which extended from 2014 to 2020. We took from these annual reports the necessaryinformation thathelpedus in calculating the returnon equityasnetprofit and the total equity.

In addition, we rely upon some statistics included on the World Economy website and the World Bank such as Algerian population, the number of banking agencies per thousand inhabitants, the number of bank accounts per thousand individual, the number of bank automatic counters per million inhabitants, etc.

### III.2. Set the Model

In our study, we relied on analyzing data within the Eviews 10 program, using a multiple linear regression model that is based on the assumption of a linear relationship between the dependent variables ($Y_i$) and the independent variables ($X_i$). Thus, the formula is given as follows:

$$Y_i = B_0 + B_1 X_{1i} + B_2 X_{2i} + \cdots + B_k X_{ik} + \varepsilon_i$$

($B_i$) regression coefficients;

($B_0$) is a constant;

($\varepsilon_i$ ) a random bound

As for the results of the multiple linear regressions, which included all the study variables, they were translated into the following model:

**Table n° 02: Results of Multiple Linear Regressions**

View | Proc | Object | Print | Name | Freeze | Estimate | Forecast | Stats | Resids

Dependent Variable: ROE
Method: Least Squares
Date: 01/29/22 Time: 20:38
Sample: 2014 2020
Included observations: 7

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| BC | -140.4941 | 120.6057 | -1.164905 | 0.3283 |
| BA | 2.041942 | 5.596785 | 0.364842 | 0.7394 |
| GAB | 19.22462 | 8.926076 | 2.153759 | 0.1203 |
| C | -43.75625 | 52.50458 | -0.833380 | 0.4658 |

| | | | |
|---|---|---|---|
| R-squared | 0.826004 | Mean dependent var | 1.297143 |
| Adjusted R-squared | 0.652008 | S.D. dependent var | 1.076533 |
| S.E. of regression | 0.635056 | Akaike info criterion | 2.225353 |
| Sum squared resid | 1.209890 | Schwarz criterion | 2.194445 |
| Log likelihood | -3.788736 | Hannan-Quinn criter. | 1.843330 |
| F-statistic | 4.747254 | Durbin-Watson stat | 1.890859 |
| Prob(F-statistic) | 0.116567 | | |

**Source:** Prepared by the researchers based on the outputs of the Eviews 10 program

### III.2. Results and discussion :

### III.2.1.The Descriptive analysis of the study variables

The values obtained by these measures and indicators during the period 2014-2020 can be summarized in the following table:

**Table n°03: Financial Inclusion Indicators and Performance of BNA Bank**

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| **BA** | 5. 37 | 5.29 | 5.20 | 5.17 | 5.07 | 5.02 | 4.97 |
| **BC** | 0.06 | 0.06 | 0.06 | 0.06 | 0.07 | 0.07 | 0.07 |
| **GAB** | 2.16 | 2.27 | 2.27 | 2.30 | 2.30 | 2.28 | 2.28 |
| **ROE** | 0.05 | 2.8 | 2.49 | 1.88 | 0.64 | 0.63 | 0.59 |

**Source**: Done by the researchers based on the WB statistics and the annual reports of the BNA Bank

Referring to the data obtained and shown in the table above, we note slight changes that reflect relative fluctuation in all indicators of financial inclusion at the National Bank of Algeria (as it clearly reflects Algeria's occupation of the last ranks in the global financial inclusion index). The first indicator (number of bank branches) witnessed a slight decline of 0.40% compared to 2014 and 2020 (to range in value from 37.5% and 4.97%, respectively). As for the second indicator of financial inclusion, it was relatively stable, reaching 0.06% during the first four years, to witness a slight increase during the last three years (0.07%),while the index of the number of ATMs witnessed a slight increase during the five years (between 2.16% and 2.30%). To decline slightly over the last two years by 0.02%. As for the bank's financial performance index (return on equity), we notice a somewhat tangible increase during the year 2015 (from 0.05% to 2.80% in 2014 and 2015, respectively), after which it gradually declined until it reached 0.59% in 2020.

### III. 2.2.Correlation Matrix Analysis:

In order to measure the degree of correlation between the independent variables and the dependent variable on the one hand, and between independent variables themselves on the other hand, we rely on the analysis of the correlation matrix. The obtained results are recorded in the table below.

**Table n°04: Results of Correlation Analysis**

View | Proc | Object | Print | Name | Freeze | Sample | Sheet | Stats

Correlation

| | ROE | GAB | BC |
|---|---|---|---|
| ROE | 1.000000 | 0.388893 | -0.588379 |
| GAB | 0.388893 | 1.000000 | 0.406156 |
| BC | -0.588379 | 0.406156 | 1.000000 |

**Source:** Prepared by the researchers based on the outputs of the Eviews 10 program

It is noted from table n°04 that the correlation coefficient between:

- GAB and BC indicates the existence of a positive relationship between the two variables, and that the amount of correlation between them was large as it was estimated at 40.62%;
- Bank accounts and the ROE indicate a negative relationship between the two variables and that the correlation between them was weak as it was estimated at (-58.84%);
- ROE and bank automatic counters indicate a positive relationship between the two variables, and that the correlation between them was very weak, estimated at 38.89%.

### III .2.3. The overall significance test of the model:

The Prob. (F-statistic) is 11.66%, which is greater than 5%, the model is not significant, that is, it is rejected, and the model must be remodeled. Since the coefficient of the independent variable BA (number of bank agencies available per million people) is negative with a larger value compared to the variable BC, we intentionally omit the variable from the model. On this basis, the new model becomes significant because the value of Prob. (F-statistic) now equals 3.30%, which is less than 5% as shown below:

**Table n°05: Results of Multiple Linear Regressions for the Modified Model**

View | Proc | Object | Print | Name | Freeze | Estimate | Forecast | Stats | Resids

Dependent Variable: ROE
Method: Least Squares
Date: 01/29/22 Time: 20:49
Sample: 2014 2020
Included observations: 7

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| GAB | 16.77429 | 5.203513 | 3.223646 | 0.0322 |
| BC | -180.0057 | 46.97594 | -3.831871 | 0.0186 |
| C | -25.13680 | 10.91971 | -2.301965 | 0.0828 |

| | | | |
|---|---|---|---|
| R-squared | 0.818284 | Mean dependent var | 1.297143 |
| Adjusted R-squared | 0.727426 | S.D. dependent var | 1.076533 |
| S.E. of regression | 0.562044 | Akaike info criterion | 1.983053 |
| Sum squared resid | 1.263572 | Schwarz criterion | 1.959871 |
| Log likelihood | -3.940684 | Hannan-Quinn criter. | 1.696535 |
| F-statistic | 9.006166 | Durbin-Watson stat | 2.038109 |
| Prob(F-statistic) | 0.033021 | | |

**Source:** Prepared by the researchers based on the outputs of the Eviews 10 program

Based on the above table, the final form of the model can be written as follows:

**Y (ROE) = -25.14– 180.01 BC +16.77 GAB**

### III.2.4.Test of Quality Model:

Using the data shown in the above model, we were able to determine the value of the coefficient of determination for the dependent variable (ROE) and the ratio of the interpretation of the independent variables (BC& GAB) to the changes that occur for (ROE), which reached 81.83%. Thus, we say that the model is of high quality because the independent variables (financial inclusion indicators) explain a large percentage of the changes that occur in the dependent variable at a very high rate (more than 80%).

### III .2.5.Fisher Statistical Test:

This test is based on two assumptions:

- There is no linear relationship between the independent variables and the dependent variable, i.e., $H_0: \hat{B}_1 = \hat{B}_2 = \cdots = \hat{B}_K = 0$
- There is a linear relationship between the independent variables and the dependent variable, i.e., $H_1: \hat{B}_1 \neq \hat{B}_2 \neq \cdots \neq \hat{B}_K \neq 0$

Referring to the data of the above model, we find that the value of Fisher's statistic is 9.01%, which is greater than its tabular value (n-k=5). We accept the alternative hypothesis ($H_1$). That is, there is a statistically significant relationship between the independent variables and the dependent variable. The performance of BNA bank represented by the ROE was affected by changes in the indicators of financial inclusion.

### III. 2.6.The Significance Test:

This test is based on two assumptions:

-No significant differences between the variables (The null hypothesis $H_0$)

-The presence of significant differences between the variables (The alternative hypothesis $H_1$).

**Table n°06: Significance among the variables**

| | **T stat.** | **T tablx** | **Comment** |
|---|---|---|---|
| **Y (GAB)** | 3.22 | 1.943 | We accept the alternative hypothesis $H_1$ and reject the null hypothesis $H_0$ |
| **Y (BC)** | -3.83 | | |

**Source**: Done by the researchers based on the results of Eviews.

Through the prior results, we note that the calculated T value for both GAB and BC is equal in absolute values (3.22), (3.83), respectively, greater than the tabular T value (1.943), i.e., there is a significant statistical significance for the model, since there is statistical significance for the independent variables and the return on equity (ROE).

## IV-Interpretation of the results

The application of the financial inclusion system enhances the efficiency and ease of access to banking services at reasonable prices, which directly support the ease of obtaining the necessary credit for the target groups, through a low financing cost, as financial inclusion aims to provide banking services to all segments of society in a safe and effective manner.

The progress of banks in the field of banking services technology via (the Internet, mobile phones, ATMs...) helps them attract the largest number of new customers, and facilitates their ability to provide banking services in the easiest, fastest and most secure way, through In order to achieve financial inclusion, the increase in the number of dealers in the banking sector leads to an increase in bank liquidity, which may revive the economy, as the liquidity that the individual saves in his home enables him alone to benefit from it, while the liquidity deposited in the bank enables other parties to benefit from it and invest it instead of keeping it. Without investment also, attracting low- and middle-income groups, not only here, but also the residents of remote areas, to have their financial dealings with the banking sector, and would improve the profitability of that sector and increase stock prices in the market.This also contributes to a decrease in the inflation rate, and preserving the value of purchasing power. money, and lower interest rates on lending in banks, and thus increase the financing of real investments that lead to an increase in job opportunities, reduce unemployment and poverty rates, and support economic growth, which is ultimately reflected in enhancing financial performance.

The spread of ATMs as electronic channels to provide financial services encourages customers to increase their use of these services in areas where it may be difficult to open bank branches, or that a bank may be crowded, increasing the ability of the banking sector to expand investments and expand the provision of banking services that It suits all the needs of society to attract the largest number of new customers. This may be reflected in increasing banks' liquidity, increasing their ability to provide credit, achieving more profits, and enhancing financial performance in the long run.

And the results of the statistical analysis at the level of the banks representing the study sample showed that there is a statistically significant positive relationship between the application of financial inclusion and the financial performance of banks, where providing financial protection to customers and developing the level of financial education for them leads to strengthening the system of financial inclusion by increasing customers' confidence in The banking sector, and making sound and well-thought-out investment decisions regarding their various financial dealings with the lowest levels of risk, which is reflected in the provision of effective communication channels between banks and customers, the increase in liquidity ratio, and then the enhancement of their financial performance.

The financial performance of the National Bank of Algeria during the study period was very low, ranging between 0.05% and 2.8%, which are very low percentages indicating that BNA is technically incompetent due to mismanagement and its inability to deal with its financial resources and convert them into outputs while achieving better returns.

As for financial inclusion and its impact on the performance of BNA Bank, the results obtained from the model are summarized in the following points:

- Financial inclusion indicators are able to explain about 81.83% of the changes that occur in the values of ROE;
- There is a statistically significant relationship between the independent variables (BC& GAB) and the dependent variable (ROE);
- There is significant statistical significance for the model;
- The ROE is directly correlated with a small percentage with the GAB (38.89%). As for the BC, there is an inverse relationship with ROE of (-58.84%).

It showed that there is a positive impact of financial inclusion on the rates of return achieved by the National Bank of Algeria through its contribution to reducing costs and increasing the bank's assets, which means that financial inclusion is one of the pillars supporting the bank's financial performance. However, this effect was very weak due to the poor infrastructure in which a bank is active. There is a significant shortage in the number of ATMs available to individuals. This fluctuation is due to the breakdown of most of them and the bank's inability to pay the exorbitant maintenance costs, with the lack of qualified personnel in this field. Not to mention the great divergence between the bank's agencies spread across the national territory. Without forgetting the weak confidence of the Algerian individual in banking transactions, and this explains the stability of the number of bank accounts opened with the bank throughout the study period.

In comparison with the results of previous studies, the effect obtained through this study is very weak, and this is due to the poor features of financial inclusion in Algeria, which is confirmed by its low rank in the global financial inclusion index rankings (rank 141).

**Conclusion:**

Banks and the economic financial institutions in general seek to improve their performance and maximize their profitability through the optimum utilization of available capabilities, including the adoption of modern technology, as well as keeping pace with all developments in the economy.

In this article, we have sought to highlight the role of financial inclusion in enhancing the performance of commercial banks and its impact.

Through the results of the multiple linear regressions analysis obtained using the Eviews program, we reached the following conclusions:

- ➢ The model is of high quality because financial inclusion indicators are able to explain about 81.83% of the changes that occur in the values of ROE;
- ➢ There is a statistically significant relationship between the independent variables (BC& GAB) and the dependent variable (ROE). This was confirmed by the Fisher test with a value of 9.01%;
- ➢ There is significant statistical significance for the model because the calculated values for both variables (BC& GAB) are greater than their tabular value;
- ➢ There is a weak relationship between the bank's performance and financial inclusion. Since ROE is directly correlated with a small percentage with the GAB (38.89%). As for the BC, there is an inverse relationship with ROE of (-58.84%).

After presenting and analyzing the results obtained, it became easy to judge the validity of the proposed hypotheses or not. Where all the tests studied were unanimous in accepting the alternative hypothesis ($H_1$) and rejecting the null hypothesis ($H_0$). Therefore, the results obtained require proving the validity of the hypothesis, which states that there is a statistically significant effect of financial inclusion on the BNA's performance at the level of significance of 5%.

Accordingly, the following recommendations can be made:

- Encouraging banks to adopt financial inclusion in order to increase their profitability and improve their financial performance;
- Increasing the number of bank branches across the entire national territory and bringing services closer to the citizen;
- Digitizing cash payments is introducing more people to transaction accounts;
- Increasing the number of ATMs across the national territory;
- Improving services and the marketing process in order to attract the largest number of customers and thus increase the number of bank accounts opened with the bank itself;
- Increased availability of customer data allows service providers to design digital financial products that better suit the needs of unbanked individuals;
- Increasing citizens' culture and financial capabilities so that they can understand various financial services and products;
- Create useful and relevant financial products, tailored to consumer needs;
- Develop strong financial protection frameworks for consumers, and adapt relevant regulatory and supervisory authorities to ensure the use of financial technology products.
- Studying the banking market is a good and renewed study to find out the feasibility of the existing banking services, and the extent to which they are compatible with the segments of society.
- Studying the demands and needs of the market in terms of banking services to achieve them on the ground.
- - Working on launching new services that cover all banking needs for all segments of society.
- Follow-up of customers and their satisfaction with the available services, and provide all the information they need about their accounts.

- Providing advisory services to clients and assisting them in choosing the most appropriate services for them that help in managing their money in a sound manner.
- Expanding the use of new technology in financial transactions.
- Spreading awareness and financial education for clients.
- Working on activating the role of the various oversight bodies, which gains customer confidence in the services provided.

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