



OPEN ACCESS

Finance & Accounting Research Journal
P-ISSN: 2708-633X, E-ISSN: 2708-6348
Volume 4, Issue 5, P.No. 257-270, December 2022
DOI: 10.51594/farj.v4i5.406
Fair East Publishers
Journal Homepage: www.fepbl.com/index.php/farj



DETERMINANTS OF FINANCIAL INCLUSION (FI) IN NIGERIAN ECONOMY

Victor Chukwunweike EHIEDU¹, Anastasia Chi-Chi ONUORAH² &
Chinyere Nkeiruka CHIGBO³

^{1,2,3} Banking and Finance Department,
Faculty of Management Sciences,
Delta State University,
Abraka, Nigeria.

*Corresponding Author: Victor Chukwunweike EHIEDU

Corresponding Author Email: ehieduvc@gmail.com

Article Received: 25-10-22

Accepted: 10-11-22

Published: 04-12-22

Licensing Details: Author retains the right of this article. The article is distributed under the terms of the Creative Commons Attribution-Non Commercial 4.0 License (<http://www.creativecommons.org/licenses/by-nc/4.0/>) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the Journal open access page.

ABSTRACT

In this study, which covered the 16-year period from 2006 to 2021, the factors of financial inclusion (FI) in the Nigerian economy were empirically explored. As suggested in the model, after controlling for deposit interest rate and inflation rate, GDP per capita income, domestic credit to the private sector (% of GDP), broad money supply (% of GDP), number of commercial banks network, and age dependency ratio were all suggested as the determinants of FI. Data for the study were taken from the Central Bank of Nigeria Statistical Bulletin (2021), World Bank Data (2021), and International Monetary Fund report (2020), and were estimated using the ordinary least square approach with the aid of Econometric Views version 9.0. The study found that GDPPC, PSC/GDP NBRA, ADEPR and INFR all have a positive statistically insignificant effect on FI. This stance implies that FI in Nigeria is marginal. However, the number of commercial banks network and the age dependence ratio have a negative statistically negligible impact on FI whereas the M2/GDP and DEIR have a positive statistically significant impact. Therefore, the analysis draws the conclusion that the only significant factors of FI in Nigeria are M2/GDP and DEIR. In light of this, we advise all deposit

money banks to make sure their goods and services are alluring since doing so will encourage the Nigerian people to save more.

Keywords: FI, Deposit, Interest Rate, Inflation Rate and Credit to Private Sector.

INTRODUCTION

Over the years, the topics of development finance and economics have drawn interest on a global scale. The reason for this is that a nation's capacity to produce economic growth, development, and sustainability is determined by the extent of its financial inclusion (FI). Worldwide, there is a risk of a loss of deposits or savings, a loss of investable funds, and a loss of the capacity of the global economy to create wealth because millions of economic agents lack the financial means to access formal financial institutions. Indeed, it is well recognized that having access to financial services can encourage the development of credit and capital accumulation, which will increase investment and economic activity (Agbogun, and Ehiedu, 2022; Wokabi and Fatoki, 2019; Meteke, Ehiedu, Ndah and Onuorah, 2022)

FI has been defined as the process of enhancing household and business access to financial services as well as the process of providing a variety of essential financial services to all members of society at an equitable cost, in the appropriate form, at the appropriate time, and without discrimination. Specifically, this process involves creating and facilitating consumers' and enterprises' access to the formal credit market in a particular country (Kazeem, (2017); Ehiedu and Imoagwu (2022).

To mobilize and allocate capital, financial intermediaries need financial goods and services that are available, reachable, and affordable. Numerous studies have shown that the success of the micro and macro economics is enhanced by the conduit between surplus and deficit units provided by financial intermediaries. The amount of money raised from surplus sectors and the effectiveness of the intermediation process both influence how quickly this influence takes effect. This suggests that the intermediation process and its advantages could be hampered by the scarcity of financial products and services, their inaccessibility, and their high costs. Financial exclusion prevents investment, loanable money availability, and capital accumulation. It is the face of low-income people's lack of access to affordable financial products and services (Gbalam and Dumani, (2020); Ehiedu and Imoagwu (2022).

Integrating and creating financial services and products that meet the needs of every member of society is made possible by inclusive finance initiatives. This means that FI strives to tailor a variety of financial products and services to meet the ongoing requirements of households, companies, and the economy. As a result, financial services become more affordable and competition and innovation are encouraged. Therefore, FI increases the general propensity to save as well as the accessibility of loanable funds, investable funds, pensions, general insurance, and different kinds of financial instruments (Evesi, Ehiedu, Obaro and Onuorah, (2022); Central Bank of Nigeria, 2018). This always builds a solid foundation for the economic prosperity and standard of living of the entire population (Makina & Walle, 2019; Zins & Weill, 2018; Omojefe and Ehiedu (2017).

Records show that only 39.6% of adult Nigerians have bank accounts, and 36.8%—or 36.6 million people—are not financially included in society (Enhancing FI & Access, EFINA, 2018). Nearly half of the world's population, on a global scale, is thought to lack a bank account with a conventional financial institution (Demirguc-Kunt & Klapper, 2017; Agbogun, Ehiedu,

Bayem, and Onuorah, 2022). This is a fantastic chance to transfer idling monies into the realm of formal banking and turn them into investable funds, so fostering capital formation, investment, and economic expansion (Kama & Adigun, 2018).

In conclusion, inclusive finance promotes prompt transfers of money between financial institutions and payments. Banks, for instance, will be able to accumulate deposit liabilities, which will aid them in maintaining and expanding their capacity to create credit. This is due to the possibility of integrating idle monies from rural areas, which make up a significant chunk of Nigeria's unbanked population (i.e., 66.3 percent of the 99.6 million adult populations) (EFInA, 2018). Financial exclusion and underdevelopment are attributed to a number of factors, including poverty, illiteracy, a lack of financial technology (Fintech), sluggish innovation and competition, problems with corporate governance, and excessive banking charges (Odita and Ehiedu (2015); Triki & Faye, 2017).

Following this, many initiatives have been put into place to improve FI in Nigeria by enabling people to save money outside of the banking system and fostering a culture of using the financial superstructure to conduct transactions. To encourage the culture of saving and banking, the Central Bank of Nigeria established People's Bank in 1989 and Community Banks in the 1990s. It also introduced rural banking in 1977, issued regulations on the distribution of funding to small businesses and rural areas in 1978, and established People's Bank in 1989. (Ehiedu and Olanye 2014; Kama et al, 2018).

The National Microfinance Policy of 2005 to meet the financial needs of the poor and low-income earners, the non-interest banking framework of 2011, the cashless policy of 2012, and various electronic banking media such as automated teller machines and point-of-sale are all targets of the Financial System Strategy (FSS, 2020), which aims to broaden the range of financial instruments, savings, effective remittance, and credit systems (Central Bank of Nigeria, 2018; Aro-Gordon, 2018; Obi and Ehiedu (2020). On the basis of this perspective, it is imperative to look into the variables that affect FI in the Nigerian economy.

Statement of the Problem

Resources abound in Nigeria, but they are distributed unevenly, widening the gap between the rich and the poor. The governments of Nigeria and other developing nations have prioritized FI because less than 10% of the population owns more than half of the nation's wealth.

In Nigeria, legislation promoting FI was also passed in 2000. Nevertheless, a sizeable portion of the country's population continues to be excluded from the formal financial system. This is apparent because a significant quantity of money is kept outside of bank registers and vaults and because most financial transactions are made with cash. Given the critical role financial services play in capital accumulation, the provision of investible funds, capital formation, and inclusive growth, it is likely that policymakers will continue to be concerned about access to and utilization of financial services.

Additionally, numerous empirical studies have demonstrated the function of inclusive finance as an accelerator (see Nwafor & Yomi, 2018; Ehiedu and Odita, 2014; Ageme, Anisiuba, Alio, Ezeaku, & Onwumere, 2018; Olaniyi, 2017; Fadun, 2017). Knowing the components of inclusive finance is essential given the crucial importance of FI in promoting informed policymaking in Nigeria. In addition, the body of literature is replete with cross-country studies that might not have adequately accounted for the demographic traits and macroeconomic dynamics of each sample member; secondly, there are few studies on the factors influencing

access to and utilization of financial services and products in Nigeria. Consequently, this country-specific study would be a beneficial addition to the body of information regarding the variables influencing FI (like Allen, Demirguc-Kunt, Klapper & Peria, 2017; Evans and Adeoye, 2018; David, Oluseyi & Emmanuel, 2018; Poonam & Chaudhry, 2019; Ehiedu, Onuorah, and Okoh, 2021). etc.

Finally, to the best of the researcher's knowledge, there has only been one study that has examined the factors that influence FI in Nigeria (Ehiedu, Odita, and Kifordu, 2020; Gbalam and Dumani, 2020); this knowledge gap in the body of literature has to be filled as soon as possible. In order to determine the factors that influence FI, this study examined the Nigerian economy's Gross Domestic Product per Capital (GDPPPC), Domestic Credit to the Private Sector (percent of GDP) (PSC/GDP), Broad Money Supply (percent of GDP) (M2/GDP), Numbers of Bank Branches (NBRA), Age Dependency Ratio (ADEPR), Deposit Interest Rate (DEIR), and Inflation Rate (IFR).

LITERATURE REVIEW

Concept of FI

Over 7 million people were discovered to not have a bank account, leading to the first use of the term "FI" in British slang. There isn't a single definition of the construct that is accepted across the board, despite later attempts by researchers to offer an exhaustive explanation of it. The construct's complex nature may be the cause of this. That is, among other things, the setting in which it was used, the region in issue, and, most likely, the stage of economic growth there. The three components of FI—financial assessment, utilization, and quality—have been the subject of numerous definitions given by academics (Nwidobie, 2019; Ehiedu and Ogbeta, 2014).

FI was defined as having access to essential financial services by Demirgüç-Kunt & Klapper (2017). In his new definition of FI, he described it as the process of ensuring that everyone in the economy has simple access to, availability with, and use of the formal financial system. According to Gupte, Venkataramani, and Gupta, these criteria undervalue consumption and quality, among other dimensions of FI (2018).

FI, once more, is the term used to describe unlimited and simple access to financial services at fair costs (Cnaan, Handy & Moodithaya, 2017). The goal of this intervention strategy is to reduce market friction, which stops markets from favouring the poor and downtrodden (Aduda & Kalunda, 2017). On the other hand, because of the deficiencies of financial service providers, financial exclusion includes not only physical access but also the consumers of financial services. Katoroogo reiterates this definition (2018).

According to Enhancing Financial Innovation and Access, FI is the availability of a wide range of high-quality financial products that are relevant, appropriate, and affordable for the full adult population, particularly the low-income sector of the economy (EFIA, 2018). On the basis of the aforementioned, it is striking to note that, despite the divergent opinions presented by the various scholars cited above, all scholars concur that FI is the inclusion of people with the desired outcome of the marginalised in society being able to access financial services at an affordable rate, thereby reducing the effects of poverty. Again, because Agyekum (2017)'s definition is comprehensive and encompasses all three facets of FI, it was chosen as a reference for this research and is used throughout the study.

Benefits/Challenges Facing of FI in Nigeria

It is impossible to exaggerate the value of FI in assisting low-income individuals in emerging nations like Nigeria to make positive changes in their life. In order for a person to gain from financial services, according to Ansaful (2019), the products must be readily available, of excellent quality, and suitable for the person's needs. They continued by stating that having access to formal financial services like credit, savings, insurance, and payment options is essential for raising family and individual consumption as well as for protecting against the dangers and adversities that the low-income group must deal with.

According to Onalapo (2018), a typical Nigerian merchant can benefit from advancing "hierarchical FI" in the ways listed below:

- i. The shopkeeper is urged to open an account with a bank in his area and get an ATM Point of Sale prepaid card (POS).
- ii. The shopkeeper consistently pays all store bills with his prepaid card and accepts payments via the POS terminal.
- iii. Due to the prepaid card's convenience, the retailer starts utilizing it for other private purchases.
- iv. Through an organization, such as the Small and Medium Scale Association (SMEDAN), which the retailer is a member of, the Central Bank of Nigeria announces a loan facility.
- v. The retailer submits an application for the facility through his bank, and his creditworthiness and transaction history determine whether he is eligible for a loan.
- vi. The shopkeeper now has the chance to grow his business and boost income, which leads him to start investing more, save more money, and potentially create an investment account.

The retailer now has the means to safeguard his family's financial security by purchasing life insurance. The difficulties to FI in Nigeria were specifically listed in the Central Bank of Nigeria's (CBN) periodic paper from 2013 as follows:

- i. Due to the widespread lack of financial knowledge in Nigerian society, one of the most challenging components of the FI process is ensuring that the poor rural residents are not left behind. The vast majority of Nigeria's 40 million projected economically excluded inhabitants are uninformed of the services and advantages offered by financial services, and staff members of service providers typically lack the necessary knowledge of the services to successfully educate customers.
- ii. The population's inability to save as a result of the economy's double-digit inflation, with its attendant effects on real interest rates and ongoing loss of money value, is another significant obstacle, particularly from the perspective of boosting saving.
- iii. The problem of rising poverty is another issue. Although it has been stated that the economy grew by an average of 7.0% between 2009 and 2011, the unemployment rate has continued to rise, and few of the Millennium Development Goals for reducing poverty have been successfully achieved.

Policy Responses towards FI in Nigeria

One of the first attempts to give access to loans for working farmers and agro-allied companies was the Agricultural Credit Support Scheme (ACSS), which the CBN created in 1988. Small-scale farmers are urged to approach their banks for loans, but large-scale farmers are permitted to submit applications directly to banks if they follow the rules of the programme (CBN, 2018). The programme offers financial assistance to farmers and agro-allied business owners at an

interest rate in the low single digits of 8.0 percent. For instance, banks offer loans to qualifying borrowers at 14.0 percent interest with a 6.0 percent rebate for prompt repayment in subsequent applications, bringing the effective rate of interest that farmers must pay down to 8.0 percent and fostering FI (CBN, 2018).

Recent reform initiatives in Nigeria have led to the restructuring of commercial banks into universal and regional categories and the rebranding of community banks as microfinance institutions. A significant turning point in Nigeria's FI policies was also marked by the creation of a framework for mobile services in 2009. The National FI Act was passed as a result of rules like the revised Microfinance Bank policies and non-interest-window directives in 2011.

Recent initiatives aimed at enhancing the supply side of financial services delivery have included the implementation of a new framework for Tiered Know Your Customer, Bank Charges, and Agent Banking Relationship Regulation. Literature has also given us a wealth of suggestions for bridging the financial gap between the financially excluded and the financially included. Some of these suggestions, which were given in the form of models, were made with the intention of defining the root causes of financial exclusion and outlining strategies for bringing the underprivileged and unbanked into full FI. One of these models is the sustainable financial model developed by Porteous & Zollman in 2016. It outlined three key propositions for creating a long-term sustainable inclusion within an economy: the proposition for customer requirements, the proposition for the business case, and a compliant ecosystem. Below is a list of further choices:

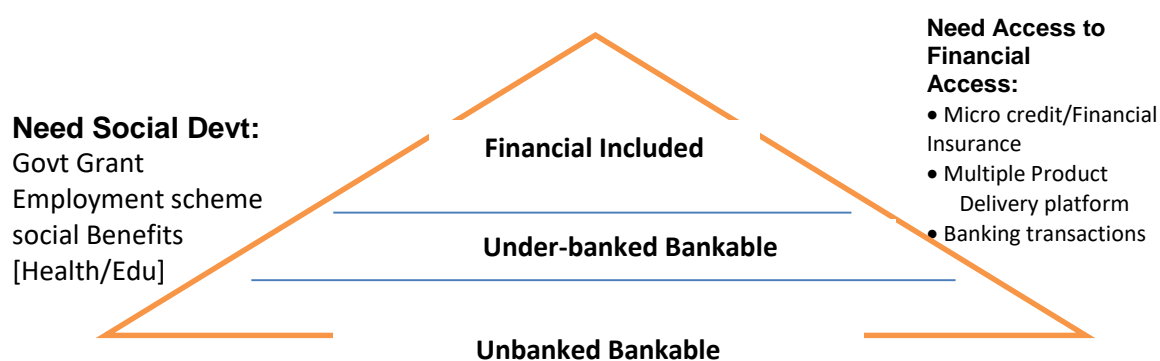


Figure 1: Social Development FI Model
 Source: Adapted from the works of Onalapo (2018)

FI Index Computation

The below unified model is presented below:

Table 1

Summary of Studies Associated with FI index

Author	Name of Index	Formula
Sarma (2018)	Index of FI	<p>Formula 1:</p> $IFI = 1 - \sqrt{\frac{(1 - pi)^2 + (1 - ai)^2 + (1 - ui)^2}{3}}$
Sarma (2018)	Index of FI	<p>Formula 2:</p>

		$IFI = 1 - \sqrt{\frac{(1 - pi)^2 + (0.5 - ai)^2 + (0.5 - ui)^2}{3}}$
	FI index (FII) for banking	$FII^B = \frac{(\sum q^l q)}{3}$
	FI index (FII) for formal sector	
Kumar & Mishra (2019)		$FII^H_F = \frac{\sum q^{x^t_{qs}}}{3}$
	FI index (FII) for Informal sector	$FII^H_I = \frac{\sum q^{x^t_{qs}}}{3}$
Gupte, et al (2018)	FI index (FII)	$FII = D1^{\frac{1}{5}}.D2^{\frac{1}{5}}.D3A^{\frac{1}{5}}.D3B^{\frac{1}{5}}.D4^{\frac{1}{5}}$
Prahap (2019)	FI index (FI Index)	$\sum_{1-n}^n X = \sum (a1 * 5)(b * 5)(c * 5)(d * 30) (e * 10)(f * 10)(g * 10)(h * 10)(i * 10)j * 10)$

Source: Researcher’s Compilation Based on Extant Studies (2022)

Theoretical Underpinning

The research employed an interdisciplinary strategy. Given the interdisciplinary nature of FI, there are numerous approaches that can be used in order to understand this important topic. The main goal of institutional theory is to examine the most intricate and resilient elements of how institutions are created, maintained, changed, and destroyed (Scott, 2017). Regarding the current study, it deals with the financial system's continued influence on institutions. This includes the components of FI, such as how social behaviour is influenced by structures (including laws, customs, and conventions). It's important to note that the study of FI based on institutional theory (Ehiedu and Okorie, (2022); Scott, 2017) involved a wide theory encompassing economics, political science, and sociology rather than a theory exclusive to finance. As a result, this study would suggest that one of the components of FI is the financial system, within the context of institutional theory. FI is shaped by a certain financial system, which is influenced by institutional pillars (such as regulatory/coercive, normative, and mimetic features) as well as economic determinants.

METHODOLOGY

The study's research design was ex-post facto. In this study, the sample studied from 2005 to 2019 is the duration of the sample for the variables The information for this article was compiled from secondary sources, or previously published works from sources like World Bank data 2019; IMF report 2019; and CBN statistics Bulletin 2019; Ehiedu and Obi 2022; Ehiedu (2022). A number of diagnostic tests were run to make sure the regression result was accurate and supported by science. The study's model can be stated in terms of econometrics as follows:

FINDX= f(GDPPC, PSC/GDP, M2/GDP, NBRA, ADEPR, DEIR, INFR)-----eqn 1

Where:

- FINDX = FI Index
- F = Function
- GDPPC = Gross domestic product per capital
- PSC/GDP = Domestic credit to the private sector (% of GDP)

- M2/GDP = Broad money supply (% of GDP)
- NBRA = Numbers of bank branches
- ADEPR = Age dependency ratio
- DEIR = Deposit interest rate
- INFR = Inflation rate

Econometrically, the model is re-specified as:

$$FINDX = \beta_0 + \beta_1 GDPPC + \beta_2 \frac{PSC}{GDP} + \beta_3 \frac{M2}{GDP} + \beta_4 NBRA + \beta_5 ADEPR + \beta_6 DEIR + \beta_7 INFR + e_{it} \quad \text{---eqn 2}$$

Where:

$\beta_0 = \text{Constant Value}$

$\beta_1 - \beta_7 = \text{Parameter Estimate}$

$e_{it} = \text{Stochastic Error Term}$

RESULTS AND DISCUSSION

This section began with the model diagnostic test and then the regression result proper.

Model Diagnostic Test

To ensure that the model is not spurious, Homoskedastic, well-specified, normally distributed and stable, we conducted series of diagnostic test. It is therefore presented in the foregoing sub-section:

Table 2
Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.426163	Prob. F(6,8)	0.1226
Obs*R-squared	9.680138	Prob. Chi-Square(6)	0.1388
Scaled explained SS	3.273586	Prob. Chi-Square(6)	0.7738

Source: Econometric Views Version 9.0. (2022)

The white Heteroskedasticity clearly revealed that the model is Homoskedastic. This is because its p-value is greater than 5% significant level. Hence, we can conveniently conclude that the results are credible.

Table 3
Ramsey RESET Test

Equation: UNTITLED
Specification: FINDX C GDPPC PSC_GDP M2_GDP NBRA ADEPR DEIR INFR

Omitted Variables: Squares of fitted values

	Value	Df	Probability
t-statistic	1.601947	6	0.1603
F-statistic	2.566235	(1, 6)	0.1603
Likelihood ratio	5.341033	1	0.0208
F-test summary:			
	Sum of Sq.	Df	Mean Squares
Test SSR	119.3873	1	119.3873
Restricted SSR	398.5216	7	56.93166
Unrestricted SSR	279.1343	6	46.52238
LR test summary:			
	Value	Df	
Restricted LogL	-45.88191	7	
Unrestricted LogL	-43.21140	6	

Source: Econometric Views Version 9.0. (2022)

The Ramsey RESET Test clearly revealed that the model is well specified. This is because its p-value is greater than 5% significant level. Hence, we can conveniently conclude that the model is fit for prediction.

Regression Result

Having satisfied the OLS assumption, the regression result is presented below:

Table 4

Summary of Ordinary Least Square Result

Dependent Variable: FIDX

Method: Least Squares

Date: 10/06/21 Time: 04:34

Sample (adjusted): 2005 2019

Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	630.4629	326.5934	1.930422	0.1114
GDPPC	43.73420	46.45852	0.941360	0.3897
PSC_GDP	42.26525	73.08185	0.578328	0.5881
M2_GDP	17.88371	6.249677	2.861541	0.0187
NBRA	-222.6635	123.4662	-1.803437	0.1312
ADEPR	-39.40780	987.4952	-0.039907	0.9697
DEIR	35.16247	10.87655	3.232871	0.0103
INFR	4.568855	12.84909	0.355578	0.7326
R-squared	0.799369	Mean dependent var		33.56974
Adjusted R-squared	0.518487	S.D. dependent var		8.402670
S.E. of regression	5.830710	Akaike info criterion		6.639412
Sum squared resid	169.9859	Schwarz criterion		6.987073
Log likelihood	-35.15618	Hannan-Quinn criter.		6.567952
F-statistic	3.461287	Durbin-Watson stat		2.165732
Prob.(F-statistic)	0.043605			

Source: Econometric Views Version9.0. (2022)

The coefficient of determination (R-squared) of the model is 0.799369, according to the regression result in table 4 above. Which means that for the time period under consideration, based on the statistics that are currently available, GDPPC, PSC/GDP, M2/GDP, NBRA, ADEPR, DEIR, and INFR together accounted for 79.94% of the total variation in FIDX in Nigeria. This is supported by the DW statistics, which show that there is no first order serial autocorrelation and is about 2 (i.e., 2.165732). The model is statistically significant, as indicated by the Fisher's ratio, which is a measure of the statistical significance of the overall model. As a result, the following explanatory variables are discussed:

GDPPC and FIDX

GDPPC, a measure of a nation's citizens' economic security, showed that FIDX in Nigeria was positively but marginally impacted by GDPPC in Nigeria. This is supported by the fact that the coefficient of GDPPC is positive and the p-value is greater than the 5% level of significance. This means that if a nation's production capability is effectively promoted, GDPPC has the power to enhance its FIDX programme. According to this, Nigerians' ability to obtain and use financial products and services will increase as their economic well-being grows. Assuming et al. 2019; Gebregziabher and Daniel 2019; Ehiedu and Brume-Ezewu, 2022; Makina and Walle 2019, Evans and Alenoghena 2017) among others, discovered that GDPPC significantly affected the FIDX measure. But the results of this investigation indicated that it was not significant.

PSC/GDP and FI

PSC/GDP, which measures how much credit is supplied to real sector activity, suggested that the variable had a positive and significant influence on the Nigerian FIDX measure. This shows that the p-value is below the acceptable level of significance of 5% and that the coefficient of PSC/GDP is positive. From this, it can be concluded that lending to the private sector in Nigeria stimulates both output growth and FIDX. This supports the notion that businesses and the true private sector face funding constraints, and that the buildup of idle funds from the unbanked population—which makes up a sizable portion of Nigeria's population—would then enable banks to make available loanable funds and PSC/GDP activity that stimulates and moves the production possibility frontiers of a nation outward. This closely follows the significant findings of Gebregziabher and Daniel, 2019; Ansaful 2019; Ehiedu 2022). The variable, however, was found to be a negligible predictor of FIDX in Evans and Adeoye's (2018) investigation.

M2/GDP and FIDX

FIDX is positively significantly impacted by the M2/GDP, a measure of financial development. The variable's positive coefficient and a p-value below the 5% level of significance served as indicators of this. This indicates that the country's intrinsic FIDX level increases in proportion to the level of M2/GDP. All that is necessary to say is that there is currently too much money in circulation. More so, despite the expansion of bank financial services, the mobilization and allocation of deposit liability through loans and advances encourages FIDX among Nigeria's unbanked population. This outcome is consistent with David, et al (2018) which found that M2/GDP is a significant predictor of FIDX in Sub-Saharan Africa.

NBRA and FIDX

The NBRA, which capture the spread of bank branches indicated that the spread exert a negative impact on FIDX. This was however found to be statistically insignificant. This is indicative of the fact that, the coefficient of NBRA is negative and the p-value is above the 5% bearable level of significance. This implies that the spread of bank branches and the financial services they render stimulate financial access at an insignificant rate. It is expedient to note that there are few bank branch networks in rural areas which constitute a large number of Nigeria's population and constitute a large number of the universe of the unbanked in Nigeria. This could be a possible reason why this variable exerts statistical insignificant impact on FIDX. This result supports the findings of Gbalam & Dumani (2020) but contradict the findings of Makina & Walle (2019) and Ong'eta (2019) found that this variable has a significant impact on FIDX.

ADEPR and FIDX

The analysis found that, throughout the study period, ADEPR had a negative but minor impact on FIDX in Nigeria. This demonstrates that the coefficient of dependent rate is negative and the p-value is more than the acceptable level of significance of 5%. This suggests that even if the dependent rate is high at the moment, it is unrelated to the FIDX level. The fact that this variable has a statistically insignificant effect on FIDX may be due to this. Asif (2018) discovered that countries with greater ADEPR appear to be less economically inclusive.

DEIR and FIDX

A favourable effect of the rate on FIDX in Nigeria was found by DEIR, which measures the cost of attracting deposits on savings accounts, certificates of deposits, and other deposits

besides current account deposits. Despite the fact that the influence was statistically small, the measure of significance showed that it was. This is a sign that the DEIR coefficient is positive and the p-value is greater than the acceptable level of significance of 5%. The research by Evans and Alenoghena supports this conclusion (2017). According to the report, FIDX in Africa is not significantly impacted by DEIR. However, this variable is a negligible factor in determining FIDX. The report claims that DEIR lacks the ability to draw new accounts and repeat deposits. Therefore, it is crucial to offer rates and products that are alluring to keep and open new accounts in order to draw in savings and deposits.

INFR and FI

Lastly, INFR bears a positive statistical insignificant consequence on FIDX. This stand to suggest that FIDX is peripheral in Nigeria. However, INFR bears a positive statistical significant consequence on FIDX.

Conclusion and Recommendations

This study empirically examined the determinants of FI in Nigeria. As proposed in the model, GDPPC, PSC/GDP, M2/GDP, NBRA and ADEPR were all suggested as the determinant of FI having controlled for DEIR and INFR. Thus, data spanning from 2005 to 2019 was collated for the estimation. The time series data were estimated using the ordinary least square method through the instrumentality of Econometric Views version 9.0. Arising from the findings of this study, the study concludes that M2/GDP and DEIR are the only outstanding determinants of FI in Nigeria. In line with the major findings of this study alongside the conclusion drawn from the study, the following policy recommendations were raised:

1. The study recommend that the current GDPPC should be improved upon as it a potential determinant of FI in Nigeria.
2. The study recommend that the current PSC/GDP should be improved upon as it a potential determinant of FI in Nigeria.
3. Effort should be made to enlighten the present day youth on how they can conveniently open account even at home at any time of the day irrespective of the amount involved. This will go a long way as it would help to reduce the amount of funds outside the banking system.
4. Effort should be made to inculcate the spirit of entrepreneurship in the mind of present day youth. This will go a long way in decreasing the current DEIR in the country.
5. The study recommends that banks should spread their operations to rural areas in order to propagate banking habits, and thus integrate the rural populace into the formal financial sector.

References

- Aduda, E. B., & Kalunda, K. A. (2017). Financial regulation and FI in Sub-Saharan Africa: Does financial stability play a moderating role? *Research in International Business and Finance*, 1(1), 1-11.
- Agbogun, O.E., & Ehiedu, V.C., (2022). Trade policy drivers and economic performance of OPEC Member States. *International Journal of Academic Accounting, Finance, and Management Research*, 6(8), 109-118.
- Agbogun, E.O., Ehiedu V.C., Bayem, S.A., & Onuorah, A.C. (2022). Mortgage financing and

- housing deliveries in Nigeria: Any linkages? *Finance & Accounting Research Journal*, 4(3), 29-38. Fair East Publishers
- Ageme, A. E., Anisiuba, C. A., Alio, F. C., Ezeaku, H. C., Ezeaku, H. C., & Onwumere, J. (2018). Empirical assessment of the effects of FI on poverty reduction in Nigeria. *European Journal of Economics, Finance and Administrative Sciences*, 1(99), 22-29.
- Ansaful, I. (2019). Determinants of FI in Ghana (Unpublished Master's Thesis) Submitted to the Department of Business Administration, University of Ghana.
- Aro-Gordon, S. (2018). Effectiveness of FI strategy in Nigeria. 2nd International Conference on Inclusive Economic Growth and Sustainable Development, (pp. 1-20). Mysuru, India.
- Asif, R. (2018). Determinants of FI in high income and low income countries (Unpublished Master's Thesis), Submitted to the Department of Management Sciences, Capital University of Science and Technology, Islamabad
- Asuming, P. O., Osei-Agyei, L. G., & Mohammed, J. I. (2019). FI in Sub-Saharan Africa: Recent trends and determinants. *Journal of African Business*, 20(1), 112–134.
- Central Bank of Nigeria. (2018). *National FI Strategy (Revised)*. Abuja: Central Bank of Nigeria.
- Cnaan, R. A., Handy, F., & Moodithaya, M. S. (2017). FI: lessons from rural South India. *Journal of Social Policy*, 41(1), 183-205.
- David, O. O., Oluseyi, A. S., & Emmanuel, A. (2018). Empirical analysis of the determinants of FI in Nigeria: 1990-2016. *Journal of Finance and Economics*, 6(1), 19-25.
- Demirguc-Kunt, A., Klapper, L., & Peria, M. S. (2017). The foundations of FI: Understanding ownership and use of formal accounts. *Journal of Financial Intermediation*, 27), 1–30.
- Ehiedu, V.C., & Priscilla, I. (2022). Firm specific determinants and its implication on listed oil and gas firms profitability in Nigeria. *International Journal of Advanced Economics*, 4(7), 142-158. DOI:10.51594/ijae.v4i7.389
- Ehiedu, V, C., & Imoagwu, C.K. (2022). Effect of corporate diversification strategies on the financial performance of industrial goods in Nigeria. *International Journal of Applied Research in Social Sciences*, 4(8), 293-305. DOI: 10.51594/ijarss.v4i8.390 Fair East Publishers.
- Ehiedu, V. C. (2022). Deficit financing (DF) and sustainable growth (SG) in a small open economy. *International Journal of Academic Accounting, Finance & Management/ Research (IJA AFMR)*, 6(7), 1-9.
- Ehiedu, V.C., & Brume-Ezewu, C. (2022). Corporate attributes and environmental social and governance (esg) reporting among listed Nigerian firms: a sector-based evaluation *International Journal of Management (IJM)*, 11(1), 430-440.
- Ehiedu, V. C. (2022). External debt (ED) and growth nexus (GN) in Nigeria. *International Journal of Academic Management Science Research (IJAMSR)/. Academic Research World (IJARW)*, 6(7), 58-68.
- Ehiedu, V.C., & Obi, K.C. (2022). Efficient market hypothesis (EMH) and the Nigerian stock exchange in the midst of global financial crises. *International Journal of Academic Management Science Research (IJAMSR)*, 6(8), 263-273. IJEAIS Journals.

- Ehiedu, V.C., & Ogbeta, M. (2014). An Investigation into the Internal Control System in the Banking Industry. *European Journal of Business and Management*, 6(9), 149-155.
- Ehiedu, V.C., Odita, A.O., & Kifordu, A.A. (2020). Financial integration and growth volatility nexus: The Nigeria experience. *Webology*, 17(2), 404-415.
- Ehiedu, V.C., Onuorah, A.C., & Okoh, E. (2021). Automated teller machine (ATM) penetration and financial inclusiveness in Nigeria: A tripod banking system approach. *Indian Journal of Economics and Business*, 20(3), 1093-1104. Ashwin Anokha Publications and Distributions.
- Ehiedu, V.C., & Olanye P. (2014). Mergers and acquisition as instrument of corporate survival and growth. *European Journal of Business and Management*, 6(8), 151-156.
- Ehiedu V.C., & Odita A.O. (2014). Application of budgeting techniques in fiscal institutions in Nigeria. *Developing Country Studies*, 4(6), 20-27.
- Ehiedu, V. C., & Okorie, S. (2022). Exchange rate fluctuations and inflation rate in Nigeria: (1978 to 2019). *Journal of Finance, Governance and Strategic Studies*, 5(1), 27-34.
- Evans, O., & Adeoye, B. (2018). Determinants of FI in Africa: a dynamic panel data approach. *University of Mauritius Research Journal*, 22, 1-23.
- Evesi, H.O., Ehiedu, V. C., Obaro, V. C., Onuorah, & Anastasia, C.: (2022). Corporate remunerations for directors in Nigeria: Implication on reported financial performance. *IOSR Journal of Economics and Finance (IOSR-JEF)*, 13(5). 69-76. www.iosrjournals.org
- Fadun, S. O. (2017). FI, tool for poverty alleviation and income redistribution in developing countries: Evidences from Nigeria. *Academic Research International*, 5(3), 137-146.
- Gbalam, P. E., & Dumani, M. J. (2020). Determinants of FI in Nigeria. *IOSR Journal of Economics and Finance (IOSR-JEF)*, 11(1), 14-22.
- Gupte, R., Venkataramani, B., & Gupta, D. (2018). Computation of FI index for India. *Procedia - Social and Behavioral Sciences*, 37, 133-149.
- Kama, U., & Adigun, M. (2018). *FI in Nigeria: issues and challenges*. Abuja: Cental Bank of Nigeria.
- Katoroogo, R.M. (2018). Behavioural determinants of FI in Uganda (Unpublished PhD Thesis), Submitted to the Department of Business Management, Wits Business School, University of the Witwatersrand, Johannesburg, South Africa
- Kazeem, B. A. (2017). Determinants of FI in Sub-Saharan Africa countries: Does institutional infrastructure matter? *CBN Journal of Applied Statistics*, 8(2), 69-89.
- Kumar, A., & Mishra, S. (2016). Determinants of FI: Evidence from account ownership and use of banking services. *International Journal of Entrepreneurship and Development Studies*, 4(2), 141-155.
- Lotto, J. (2018). Examination of the Status of FI and its determinants in Tanzania. *Sustainability*, 10(1), 1-15.
- Makina, D., & Walle, Y. M. (2019). FI and economic growth: evidence from a panel of selected African countries.
- Meteke, S., Ehiedu, V.C., Ndah, F., & Onuorah, A.C.: (2022). Banks' gearing options and operating performance in Nigeria: A panel approach. *International Journal of Innovative Finance and Economics Research*, 10(4), 123-133.

- Nwafor, M. C., & Yomi, A. I. (2018). The nexus between FI and economic growth: Evidence from Nigeria. *International Journal of Research and Innovation in Social Science (IJRISS)*, 2(4), 143-149.
- Obi, K.C., & Ehiedu V.C. (2020). Testing the efficacy of wagner's law on public expenditure in Nigeria. *SciPap Scientific Papers of the University of Pardubice, Series D. University of Pardubice, Faculty of Economics and Administration*. 28(1), 103-114.
- Odita A.O., & Ehiedu V.C. (2015). Operationalization of NGOs activities: proposing an E-social network model for NGOs activities in Edo State. *Advances in Social Sciences Research Journal*, 2(4), 96-109.
- Odita A.O., Ehiedu V.C., & Kifordo A.A. (2020). Globalization: conflicts of opportunities, challenges and constraint factors in Nigerian business environment. *Journal of Advanced Research in Dynamical and Control Systems*, 12(7), 1983-1994.
- Okoroafor O. K., Adeniji, S.A., & Awe, E. (2018). Empirical analysis of the determinants of FI in Nigeria: 1990 - 2016. *Journal of Finance and Economics*, 16(1), 19-25.
- Olaniyi, E. (2017). Back to the land: the impact of FI on agriculture in Nigeria. *Iraniiian Economic Review*, 21(4), 885-903.
- Omojefe G.G., & Ehiedu V.C. (2017). Investment financing and dividend policy of banks in Nigeria. *Hezekiah University Journal of Management and Social sciences*, 6(1), 121-127.
- Onalapo, E. (2018). Back to the Land: The Impact of FI on Agriculture in Nigeria. *Iraniiian Economic Review*, 21(4), 885-903.
- Ong'eta, J.O. (2019). Determinants of FI: A literature review. *International Journal Social Sciences and Information Technology*, 5(6), 14-18.
- Onuorah, A.C., Ehiedu, V.C., & Okoh, E. (2022). Covid-19 crises and stock market volatility in Nigeria: A garch model approach. *International research Journal of Management, IT & Social sciences*, 9(3), 317-327.
- Otiwu, K., Okere, P.A., Uzowuru, L.N., & Ozuzu, P.N. (2018). FI and economic growth of Nigeria (the microfinance option). *International Journal for Innovation Education and Research*, 61-78
- Poonam, K., & Chaudhry, A. (2019). Analysis of key determinants affecting FI. *Indian Journal of Economics and Development*, 7(4), 1-3.
- Porteous, D., & Zollman, J. (2018). Making financial markets work healthy for the poor. *Enterprise Development and Microfinance*, 27(1), 1-16.
- Prahap, T. M. (2016). Analysis of the determinants of FI in Central and West Africa. *Transnational Corporations Review*, 8(4), 231-249.
- Sarma, M. (2018). Index of FI. Working paper. Indian Council for Research on International Economic Relations. No. 215.
- Scott, A. (2017). Factors influencing the adoption of mobile financial services in the unbanked population. Inkanyiso. *Journal Humanities & Social Sciences*, 9, 37-51.
- Triki, T., & Faye, I. (2017). FI in Africa. Tunis: African Development Bank.
- Wokabi, V.A., & Fatoki, I.O. (2019). Determinants of FI in east Africa. *International Journal of Business and Management*, 7(1), 128-133.
- Zins, A., & Weill, L. (2018). The determinants of FI in Africa. *Review of Development Finance*, 6, 46-57.