THE NEXUS BETWEEN FINANCIAL INCLUSION AND ECONOMIC DEVELOPMENT IN NIGERIA

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Abstract
Enhancing financial inclusion has become more prominent across the globe as a result of its strategic role in sustaining socio-economic growth and development. Thus, this study was undertaken to assess the link between financial inclusion and economic development in Nigeria. The study specifically examined the extent to which financial inclusion (proxied by number of bank branches per 100,000 adult) and financial deepening, among other factors, affect the Gross National Income (GNI) per capita. Times series data obtained from the World Bank and the Central Bank of Nigeria (CBN) from 1990 to 2021, which were analyzed using the least square multiple regression technique. The result indicated that financial inclusion and financial deepening has significant positive and negative effect on economic development, respectively. Thus, increasing financial access has the potential to stimulate a higher level of economic development. This study therefore advocates for more concerted effort in driving financial inclusion, especially through commercial branch expansion – which should target the rural areas – through agency banking as well as through increased digital financial services offerings.
Keywords*: Financial Inclusion, Economic Development, Financial Intermediation.*

Introduction

Financial inclusion has emerged as a critical driver of economic development worldwide, with a particular significance in developing countries like Nigeria. The concept of financial inclusion encompasses the accessibility and usage of financial services by individuals and businesses, regardless of their income level or location (Harley et al., 2017). In Nigeria, where a significant proportion of the population remains unbanked, achieving widespread financial inclusion has the potential to catalyze economic growth and uplift millions out of poverty. This article explores the symbiotic relationship between financial inclusion and economic development in Nigeria, highlighting the key benefits, challenges, and strategies for fostering a more inclusive financial system. Financial inclusion plays a pivotal role in enhancing economic development in several ways. Firstly, it promotes savings and investment, enabling individuals and businesses to accumulate capital, access credit, and make long-term investments. This, in turn, spurs entrepreneurship, job creation, and overall economic productivity. Secondly, financial inclusion fosters efficient resource allocation by facilitating the movement of funds, reducing transaction costs, and improving liquidity in the economy. Additionally, access to formal financial services empowers individuals to manage risks, smooth consumption, and make informed financial decisions. Lastly, financial inclusion contributes to poverty reduction by providing marginalized populations with opportunities for economic participation and social mobility.

In order to encourage economic growth, governments often adopt financial access policies that speed up the effective allocation of productive resources and thereby lower the cost of capital. This method, also known as an inclusive financing system, is effective in lowering the prevalence of predatory and manipulative non-formal sources of credit like payday lenders and improving day-to-day financial management activities. Due to its obvious relevance as a driver of economic growth, financial inclusion has gained a larger degree of importance in recent years. In a financially inclusive society, those who may benefit from financial services have access to them from a variety of sources, most of which are in the private sector. To be more precise, it refers to a monetary system designed to meet the needs of as many as five individuals in a nation. Delivery of financial services to underserved and low-income groups at reasonable prices is another definition of financial inclusion (Harley et al., 2017). Recently, financial inclusion has emerged as a top priority for governments throughout the world, especially in emerging markets (Sharma, 2015). It is well acknowledged that millions of people throughout the globe lack access to formal financial services, which poses risks to their ability to save money, make investments, and create wealth.

Economists generally believe that there is a direct correlation between financial development and economic growth, making the financial sector an essential part of Nigeria's economic growth. Over the years, much emphasis has been placed on this hypothesis. Rajan and Zingales (2003) state that there is empirical and theoretical support for The prerequisites for economic growth are provided by broadening access to financial services. Kodan & Chikara (2013) are only two of numerous researchers that have shown a correlation between a high Human Development Index (HDI) and economic growth.

Although Nigeria's economy is among the most developed in Africa, only a small fraction of the adult population has access to formal financial services. An estimated 39.7 percent of Nigeria's adult population does not have access to the financial system, according data collected by Enhancing Financial Innovation & Access (EFInA) in 2013. Formal payments penetration in Nigeria is 21.6%, according to Mbutor & Ibrahim (2013); this is lower than the levels of 46% in both South Africa and Kenya.

To ensure that Nigeria becomes an important economic participant by 2020, the Central Bank of Nigeria (CBN) has undertaken a number of changes. Lack of access to financial services is often the result of socioeconomic factors such as low levels of education and low levels of income. Therefore, the purpose of this study is to investigate the link between Financial Inclusion and GDP growth in Nigeria.

Literature Review

Theoretical Underpinning

Investment Theory: The investment theory of financial inclusion provides a framework for understanding the relationship between financial inclusion and economic development from an investment perspective. This theory suggests that financial inclusion is not only a means of providing financial services to underserved populations but also an investment in human capital and productive capacity, which leads to positive economic outcomes (Schmeid, 2013). Financial inclusion enables individuals to access and utilize financial services, such as savings accounts, credit facilities, insurance, and payment systems. By having access to these services, individuals can invest in their own education, skills development, and healthcare, which enhances their human capital. Improved human capital, in turn, contributes to increased productivity, higher incomes, and overall economic development. Financial inclusion provides opportunities for individuals and businesses to invest in income-generating activities and productive assets. With access to credit, savings, and insurance, entrepreneurs can start or expand their businesses, invest in technology, purchase machinery, and hire more employees. This stimulates economic growth, creates employment opportunities, and boosts productivity. Financial inclusion helps individuals and businesses manage financial risks more effectively. Access to insurance products can protect against unexpected events such as illness, accidents, or crop failure. By mitigating risks, financial inclusion encourages entrepreneurship and investment, as individuals are more willing to take calculated risks knowing that they have mechanisms to cope with potential setbacks. This fosters economic development by promoting innovation and entrepreneurship. Financial inclusion facilitates the efficient allocation of financial resources within the economy. It enables individuals with excess funds to save and invest, while providing access to credit for those in need of capital. This intermediation process channels savings into productive investments, spurring economic activity and creating multiplier effects throughout the economy (Schmeid, 2013). The investment theory of financial inclusion emphasizes that by providing financial services to the underserved and marginalized populations, financial inclusion can help alleviate poverty and promote inclusive growth. Access to financial services allows individuals to build assets, accumulate savings, and engage in income-generating activities. This leads to increased incomes, reduced income inequality, and improved living standards.

Financial inclusion is not merely a short-term solution but a long-term investment in the development of individuals and the overall economy. By ensuring that everyone has access to financial services and can participate in the formal financial system, countries can create a more inclusive and resilient economy that is better equipped to face challenges and capitalize on opportunities. In summary, the investment theory of financial inclusion posits that providing financial services to the unbanked and underserved populations is an investment in human capital, productive capacity, risk management, and financial intermediation. This investment has the potential to foster economic development, reduce poverty, and promote inclusive growth. By recognizing financial inclusion as an essential component of long-term economic strategy, policymakers and stakeholders can leverage its benefits to drive sustainable economic development (Schmeid, 2013).

Conceptual Review

Conceptualizing Financial Inclusion and Financial Exclusion. The concepts of financial inclusion and exclusion are not universally agreed upon or standardised. There is no universal standard for defining them since each nation has its own unique mix of institutions. Adults in Nigeria, however, would have achieved financial inclusion (FI) when they have affordable access to a variety of financial services that match their various requirements. That is why financial inclusion is so important; it gives the unbanked access to banking and all the perks that come with it (Kama & Adigun, 2013). Financial inclusion (FI) was described by Okaro (2016) as "the provision of high quality affordable financial product to a broad range of low-income segment in an economy." According to Ajakaiye and Olowookere (2013), the inclusion of unbanked groups comprised of the poor and disadvantaged may increase overall bank deposits. A country's economic progress and financial stability may benefit greatly from the participation of these traditionally unbanked populations. To the contrary, financial exclusion (FE) is defined as the lack of access to affordable formal financial products and services inside a country's financial system by particular social groups (Kama & Adigun, 2013; Onaolapo, 2015) (Bayero, 2015). Therefore, financial exclusion and slowed economic growth may result when the financial system and financial development do not take into account the whole inclusiveness of the population (financial inclusion), particularly when the inclusion is focused towards the rich. In conclusion, FI is multifaceted, including the provision of low-cost, economical, readily available, and user-friendly financial products. Strategy and government action for FI It has been shown that a country's economic growth is a driver of its financial development, and that financial development in turn drives economic growth. Financial progress and economic expansion are two sides of the same coin. Improvements in the quality, quantity, and efficiency of financial intermediary services are key to achieving financial inclusion, a development indicator. Financial intermediation has a crucial role in fostering economic development by increasing savings and boosting productive investment. Governments throughout the world use FI to boost manufacturing output. The Central Bank of Nigeria (CBN) established the rural banking project in 1977 as one of numerous government schemes meant to promote formal access to financial services in Nigeria. The initiative's primary

objective was to introduce more individuals in rural areas to the benefits of banking. The initiative's stated purpose is to open at least one bank branch in every LGA throughout the nation. Soon after, the government established the People's Bank and the Community Bank, both of which evolved into Micro-Finance Banks in 2005 to facilitate and promote rural banking habits and serve as agents of financial inclusion in their communities. The majority of the financing they provide goes to small businesses and startups whose owners have little to no banking expertise and urgently want capital.

Empirical Review

Soyemi et al. (2020) investigated the role of financial inclusion in achieving sustainable development in Nigeria. Human development index, bank branch density, rural demand deposits, and rural loans were analysed using time series data from 2001 to 2016. Since the number of bank branches was shown to have a positive and significant connection with the HDI in the long run completely modified least squares analysis, this indicates that the number of bank branches in the research period grew, which in turn increased the number of people having access to banking services. Short-term error correction model findings, however, show a negative and statistically negligible correlation between bank branches and HDI at both lags 1 and 2. This indicates that resources that might have been utilised for savings, which could have boosted the rate of financial inclusion in the nation, have instead been spent on individual health care and the closure of bank branches. The redistribution of wealth and the reduction of poverty have benefited from it as well. The report concludes that the country's financial authorities should make an effort to include rural residents in the official financial system.

Using a panel data analysis covering the years 2006–2015 using a log linear model specification framework, Harley, Adegoke, and Adegbola (2017) conducted an empirical research on the impact of financial inclusion on economic development and poverty reduction in a developing country. The researchers based their study technique on a synthesis of existing literature. The most significant determinants of financial inclusion on poverty reduction in a developing country were found to be data on active ATMs, bank branches, and government spending taken from three African nations. An increase in the percentage of ATMs that are really being used, they claim, would result in a 0.08% rise in GDP and a corresponding decrease in poverty levels in emerging economies. They cite an indication showing that most ATMs in a developing economy are old and in need of a technology update before they can have much of an effect in the countryside. Their R2 was rather high, showing that 92% of the observed variance in real GDP growth rate could be attributed to the known effects of the model's independent variables. As a result, the study authors suggested improving access to financial services by investing in infrastructure development aimed at reducing poverty. Gretta (2017), in his work on Financial Inclusion and Growth, investigated the connection between financial literacy, financial intermediaries, and economic growth in developing countries like those in the Middle East and North Africa (MENA) and the BRICS region. Financial inclusion was measured in terms of financial activity, financial literacy, and growth, and its influence on economic growth in the MENA area was investigated using a VAR model. His research highlighted the need for monetary access in the MENA and BRICS countries. offered factual data on

the impact of economic and financial growth on the rate of financial inclusion in Africa by using panel FMOLS for the years 2005-2014. His research confirms the positive correlation between economic growth and financial inclusion, suggesting that more prosperous African nations also have more open financial markets.The rate of financial inclusion rises sharply in tandem with GDP per capita. That is to say, the extent to which people in Africa have access to financial services may be somewhat explained by their income. In his research, he found that although economic growth has a more significant impact on financial inclusion, both types of growth contribute to its spread. Inflation, which is correlated adversely with financial inclusion, is also statistically negligible. There is a small but beneficial relationship between deposit interest rate and financial inclusion. Africa's low deposit interest rates are a barrier to developing a financially equitable society. The population growth, although positive, is negligible. Access to the internet is crucial in the modern, digital African economy because of the good effect it has on financial inclusion. The importance of adult literacy in understanding the state of financial inclusion in Africa is also supported by the data. Higher rates of financial inclusion are also linked to the existence and operation of Islamic banks.

The impact of financial inclusion on economic growth and development in Nigeria was studied by Okoye, Adetiloye, Erin, and Modebe (2017), who used the Ordinary Least Squares method to analyse data from 1986 to 2015. The researchers used metrics of financial depth, the ratio of loans to deposits, loans to rural regions, and branch locations to gauge financial inclusion. Private sector credit to GDP and broad money supply to GDP were used as measures of financial deepening. Researchers used GDP growth over time as a proxy for economic growth and per capita income as a proxy for poverty to create an indicator of development. The research demonstrated that financial inclusionhas aided poverty reduction in Nigeria via credit distribution to rural areas, whereas credit delivery to the private sector has not substantially boosted economic development. The research concluded that in order to guarantee efficient and effective resource allocation and utilisation, monetary authorities should intensify financial inclusion effort by improving loan distribution to the private sector.

The effect of Financial Inclusion on GDP expansion in Nigeria was studied by Babajide, Adegboye, and Omankhanlem (2015). The researchers set out to show how Financial Inclusion influences GDP expansion by identifying its driving factors. They used secondary data collected from global development indices and analysed it using an ordinaryleast squares regression model. Financial inclusion was shown to have a considerable effect on both total factor of production and capital per worker, both of which in turn affect the economy's ultimate output level. The report suggested that Nigeria's oil-dependent monocultural economy may benefit by reviving and diversifying its natural and economic resources.The impacts of financial inclusion on economic development in Nigeria (1982-2012) were studied by Onaolapo (2015).The researcher claims that she gathered the study's statistics from secondary sources such the Central Bank of Nigeria's (C.B.N.) Statistical Bulletins, the Federal Office of Statistics' (F.O.S.) Statistical Abstracts of the United States, and the World Bank. Branches, loans to rural areas, demand deposits, liquidity ratios, capital adequacy,

and GDP were all primary data utilised in the analysis. The data was analysed using ordinary least square. Given a relative closeness of about 50% between the variables on either side of the equations, the overall results of the regression analysis show that inclusive Bank financial activities greatly influenced poverty reduction (R2=0.74) but marginally determined national economic growth and Financial Intermediation through improved Bank Branch Networks, Loan To Rural Areas, and Loan To Small Scale Enterprise.

Methodology

This study relies on the quasi-experimental research design to ascertain the effect of financial inclusion on economic development in Nigeria. Secondary time series data, generated from the World Bank and the Central Bank of Nigeria databases, were utilized; while the least square multiple regression estimation technique was employed in analyzing the data. The model adopted is stated in its mathematical and functional forms in Equations 1 and 2.

$$GNIPC = f(NBB, FDN, ALR, GEESS) \quad (1)$$

$$GNIPC = \beta_0 + \beta_1 NBB + \beta_2 FDN + \beta_3 ALR + \beta_4 GEESS + e \quad (2)$$

Where, GNIPC = Gross National Income per Capita, NBB = number of bank branches per 100,000 adults, FDN, financial deepening, ALR, average lending rate, GEESS = government expenditure on economic and social services, β_0 = constant, β_1-β_4 = Coefficients of the independent variables, e = error term.

Table 1: Measurement of Variables/Expected A priori

S/No.	Variable	Description	Type	Measurement	*A priori* Expectation
1	GNIPC	Gross National Income per Capita	Dependent	$\frac{\text{GNIPC}_{cy} - \text{GNIPC}_{py}}{\text{GNIPC}_{py}} \times 100$	
2	NBB	Bank branches per 100,000 adults	Independent	$\frac{\text{Number of bank branches} \times 100{,}000}{\text{Adult Population}} \times 100$	Positive
3	FDN	Financial Deepening	Independent	$\frac{\text{Credit to private sector}}{\text{GDP}} \times 100$	Positive
4	ALR	Average Lending Rate	Independent	$\frac{\text{Prime lending rate} + \text{Maximum lendi}}{2}$	Negative
5	GEESS	Government Expenditure on economic & social services	Independent	$\frac{\text{Capital expenditure on economic \& s}}{\text{Total expenditure}}$	Positive

Source: Researcher's Compilation (2023)

Table 2: Data Presentation of Gross National Income per Capita (GNIPC), Bank branches per 100,000 adults (NBB), Financial Deepening (FDN), and Average Lending Rate (ALR), and Government Expenditure on economic & social services (GEESS)

	NBB	FDPN	ALR	GEESS	GNIPC
1990	3.90	6.78	26.60	23.21	1.82
1991	3.96	7.01	20.41	16.36	-8.93
1992	4.33	6.42	30.50	11.24	0.00
1993	4.36	10.11	27.20	40.22	-29.41
1994	4.31	8.11	21.00	45.26	-13.89
1995	4.13	5.81	20.49	43.23	0.00
1996	4.08	5.84	20.30	59.41	22.58
1997	3.97	7.16	18.43	65.46	15.79
1998	3.50	7.32	19.82	72.56	0.00
1999	3.41	7.86	24.26	68.43	2.27
2000	3.33	7.51	19.77	58.25	2.22
2001	3.24	9.29	19.82	71.37	15.22
2002	4.34	8.09	27.52	77.10	18.87
2003	4.56	8.09	21.80	63.60	11.11
2004	4.79	7.84	20.00	56.31	22.86
2005	4.18	7.95	18.72	64.76	18.60
2006	3.78	7.54	17.98	61.71	30.39
2007	5.21	10.58	17.65	67.07	20.30
2008	6.27	19.77	16.92	68.32	21.88
2009	6.48	22.75	20.81	56.46	4.10
2010	6.56	18.96	20.05	63.81	4.93
2011	6.41	15.07	19.22	52.18	2.35
2012	5.82	18.31	20.29	47.83	12.39
2013	5.90	17.85	20.71	59.59	10.20
2014	5.61	18.59	21.15	64.45	10.00
2015	4.98	19.64	21.78	52.76	-4.04
2016	4.74	20.50	22.08	53.21	-14.39
2017	4.44	19.55	24.08	57.14	-15.16
2018	4.30	17.54	23.74	56.88	-4.35
2019	4.78	17.63	23.05	54.99	3.54
2020	4.45	18.82	20.48	54.99	-1.46
2021	4.28	18.67	19.84	55.75	2.97

Source: Central Bank of Nigeria Statistical Bulletin (various Issues), Nigerian Bureau of Statistics (2021).

Results and Discussion

Table 3: Descriptive Statistics

	NBB	**FDPN**	**ALR**	**GEESS**	**GNIPC**
Mean	4.637344	12.59250	21.45032	55.12219	5.086250
Median	4.348234	9.700000	20.48276	57.01000	3.255000
Maximum	6.560000	22.75000	30.50000	77.10000	30.39000

Minimum	3.241949	5.810000	16.91643	11.24000	-29.41000
Std. Dev.	0.941061	5.779445	3.068895	15.09105	13.16918
Skewness	0.690945	0.288146	1.212420	-1.434975	-0.359803
Kurtosis	2.542835	1.329203	4.126682	4.881446	3.044961
Jarque-Bera	2.824827	4.164898	9.532350	15.70193	0.693139
Probability	0.243555	0.124625	0.008513	0.000389	0.707110
Sum	148.3950	402.9600	686.4101	1763.910	162.7600
Sum Sq. Dev.	27.45349	1035.462	291.9616	7059.933	5376.250
Observations	32	32	32	32	32

Source: Researcher's Computation with Eview

The result of the descriptive statistics in Table 3 reveal NBB, FDPN, and ALR have means and standard deviations (in parenthesis) of 4.64 (0.94), 12.59% (5.78%), and 21.45% (3.07%), whereas GEESS and GNIPC have means and standard deviations of 55.12% (15.09%) and 5.90% (13.17%), respectively. This implies that only about 5 branches serve every 100,000 adults in Nigeria. The data also reveals that, apart from ALR and GEESS, all the other variables are normally distributed.

Table 4: Variance Inflation Factors Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
NBB	7.430525	52.43419	2.011566
FDPN	0.194226	11.70165	1.983165
ALR	0.468308	69.34153	1.348262
GEESS	0.019097	19.63979	1.329513
C	553.7413	174.7327	NA

Source: Researcher's Computation with E-view

In Table 4, the Variance Inflation Factors (VIF) do not exceed a little over 2.0for all the variables employed, which indicates that there are no multi co-linearity in the variables modelled.

Table 5: Least Square Multiple Regression Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NBB	5.964418	2.725899	2.188056	0.0375
FDPN	-1.382548	0.440711	-3.137088	0.0041
ALR	-1.096257	0.684330	-1.601943	0.1208
GEESS	0.376561	0.138193	2.724881	0.0111

C	-2.404845	23.53171	-0.102196	0.9194

R-squared	0.490708	Mean dependent var	5.086250
Adjusted R-squared	0.415257	S.D. dependent var	13.16918
S.E. of regression	10.07028	Akaike info criterion	7.599654
Sum squared resid	2738.082	Schwarz criterion	7.828675
Log likelihood	-116.5945	Hannan-Quinn criter.	7.675568
F-statistic	6.503690	Durbin-Watson stat	1.690424
Prob(F-statistic)	0.000844		

Source: Researcher's Computation with Eview

The result in Table 5 reveal that the independent variables determine 41.5% of the variations in GNIPC. The F-statistic of 6.4 and p-value of 0.000 also indicates a very high goodness of fit of the model while the Durbin Watson of 1.69 suggests unlikelihood of serial correlation in the model estimate (the Breusch-Godfrey Serial Correlation LM Test in Table 5 also confirms absence of serial correlation in the model). On the other hand, the t-statistics show that all the variables have significant effect on GNIPC, except ALR.

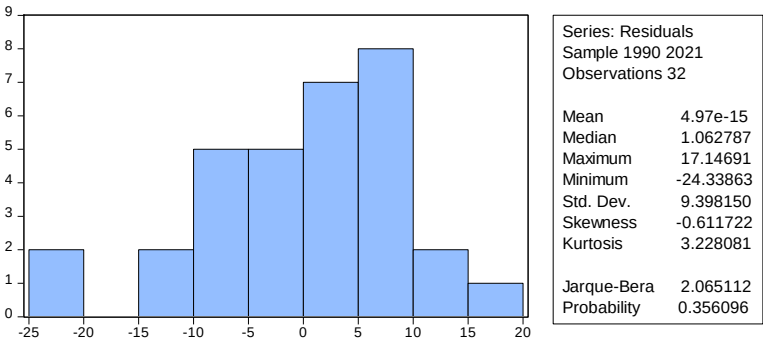

Figure 1: Histogram Normality Test

Table 5: Breusch-Godfrey Serial Correlation LM Test

F-statistic	0.213445	Prob. F(2,25)	0.8093
Obs*R-squared	0.537244	Prob. Chi-Square(2)	0.7644

Source: Researcher's Computation with Eview

Table 6: Breusch-Pagan-Godfrey Heteroskedasticity Test:

F-statistic	1.651585	Prob. F(4,27)	0.1903
Obs*R-squared	6.290567	Prob. Chi-Square(4)	0.1785
Scaled explained SS	4.989055	Prob. Chi-Square(4)	0.2884

Source: Researcher's Computation with Eview

Discussion of Findings

From the multiple regression result in Table 4, NBB and GEESS have significant positive effects on GNIPC, which conforms to the a priori expectation. The direct relationship between NBB and GNIPC implies that the more the number of branches, the higher the per capita income growth. This stems from the fact that with more branches, more people can easily access banking services. With increased access to banking services, such as credit, investment can be increased, resulting in higher income and improved welfare. Similarly, an increase in government capital expenditure on economic and social services, implies higher per capita income. This is also because government investments in infrastructure, such as roads and power enhances the ease of doing business while those on social services, such as education and health, enables human capacity building, which is also a critical contributor to enhanced and sustained economic growth and development.

In contrast, both FDPN and ALR have negative effect on GNIPC, although that of ALR is not significant. The significant negative effect of FDPN on GNIPC contravenes the a priori expectation and implies that increase credit by the banks results in a reduction in per capita income. This may be due to inefficient utilization of the credit provided by banks or could be as a result of unfavourable macroeconomic conditions, such as the economic recession experienced in the last couple of years in Nigeria. On the other hand, the negative effect of ALR aligns with the a priori expectation and implies that increase in interest rate will also result in a reduction in per capita income. This is because higher cost of credit is a disincentive to investment and productivity, which can also lead to a fall in the demand for credit, stunting output development.

Conclusion and Recommendation

Conclusion

Conclusively, various statistical tools were used for the analysis, these include descriptive statistics, variance inflation factor test, least square multiple regression test etc. The result revealed that independent variables determine 41.5% of the variations in gross national income per capita (GNIPC).

Recommendation

The study recommends that to increase the total funds available for intermediation purpose, Nigerian banks should focus on strategies to increase number of bank branches per 100,000 adults, financial deepening, Average Lending Rate and government expenditure on economic and social sciences.

Furthermore, they should increase efforts in creating financial awareness that can increase more public confidence in the financial system to enable financially excluded public to be part of the system.

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