

**BANK LOANS AND DOMESTIC CAPITAL FORMATION IN NIGERIA:
AN EMPIRICAL ANALYSIS****Okoye, Chukwudi Emmanuel Nnamdi**

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Abstract

The paper explored the implication of banks' lending on domestic investment in Nigeria for the period 1990 to 2023. Ex-post facto design was used for the study. The study employs secondary data as obtained from the Central Bank of Nigeria (CBN) Bulletin, 2023. Five variables are examined in the study; these are gross fixed capital formation proxied for domestic investment as the dependent variable, whereas bank loans to the real sector, bank loans to government, bank loans to general commerce, and commercial bank loans to total assets were used as explanatory variables. Hypotheses were tested using least squares econometric techniques. The result reveals that commercial bank loans to general commerce, bank loans to the real sector, and bank loans to total assets have a positive and substantial outcome on gross fixed capital formation. According to the r^2 , changes in the credit variables offered by commercial banks stood at 75% of the variations in domestic investment in the Nigerian economy. The research comes to the conclusion that domestic investment in Nigeria is significantly positively impacted by commercial bank lending. Accordingly, the research suggested that the government provide the favourable conditions necessary for small, medium, and big businesses to function. Monetary and fiscal policies that are business-friendly might accomplish this. Commercial banks should lower their lending interest rates to promote business operations across a range of industries and spur economic growth. In order to encourage banks to finance the real sector economy, the CBN and policymakers should implement dynamic economic policies like interest rate stability, flexible exchange rates, indigenisation, and diversification of economy. To create specialised banks that will be in charge of funding the industry, monetary authorities need to come to an agreement.

Keyword: Commercial, Banks' Lending, Domestic, Investment Nigeria**Introduction**

Commercial bank lending is one of the major activities of a bank and is anticipated to add meaningfully to the development of any modern economy (Okonkwo & Ogunlusi, 2021). However, the business of bank credit started

with the initial kind of banks that belong to the ancient merchants, which specialized in extending grain as credit to the farmers and traders who carried goods from one city to another (Chiwnedu & Eberechi, 2021). This was originated between 2000 BC in Assyria and Babylonia, and down to Greece as well as Roman. In this period, banking business was based on special arrangement for loans and other activities. The growth of bank credit has equally drew attention from several regions of the world in recent years (Brown & Adewale, 2022). For example, the financial crises which rocked Asian in the late 1990's greatly affected Korea, Malaysia, Thailand, Indonesia and even several large Latin American countries are equally affected with these crises such as: Uruguay, Argentina, Brazil, Mexico, Ecuador, and including the Dominican Republic which had increased the awareness of risks that involved in extending credit to the growth of the private sector dominated. Banking institutions constitute the major source of funding; which complement the efforts of the sector in achieving economic growth in Nigeria (Abdullahi, (2022). Imoughele and Ismaila (2022) examines the function of deposit money banks investments and economic performance of OIC member countries 1999-2018. The study concludes that business environment remains favourable in many respect and capable of generating the high rate of investment that can foster economic growth of member countries. The study also suggests that more and deeper actions is needed to improve business environment of member countries.

Statement of the Problem

Studies have been carried out in Nigeria on the impact of commercial banks' credit on private domestic investment by (Aniekan & Babalola, 2018; Fapetu & Obalade, 2022; Eze, 2020 and Olabisi & Udeh, 2020). These studies reveal a substantial effect of bank lending on private domestic investment. While some other studies which were carried out by Thilanka and Ranjith (2018) in Sri Lanka and Kimani and Olweny (2018) in Kenya reveals insignificant effect of bank lending on private domestic investment with similar time series characteristic of data. Despite the growth in commercial banks in Nigeria, the country's economy has experienced a downturn in recent years. This can be attributed to the conflicting information regarding the relationship between bank lending and private domestic investment (Balogun & Adegbe, 2021). The research conducted by Ojo and Akpan (2020) further demonstrated the various factors that have hindered commercial banking institutions from effectively stimulating private domestic investment. These factors include the failure of corporate governance, corruption, inconsistent monetary policies, low incomes, non-payment of salaries, lack of financial deepening, poor savings culture, financial illiteracy, poor banking habits, and political and economic instability in the nation. In light of this background, the study aims to empirically explore the implication of loans from commercial banks on private domestic investment in Nigeria. As a result, the conflicting findings and unresolved problems create a void in our understanding of the subject.

Research Hypotheses

The following hypotheses have been formulated:

1. Commercial bank loans to general commerce have no significant impact on gross fixed capital formation in Nigeria.
2. Commercial bank loans to government have no significant impact on gross fixed capital formation in Nigeria.
3. Commercial bank loans to the real sector have no significant impact on gross fixed capital formation in Nigeria.
4. Commercial banks' total assets have no significant impact on gross fixed capital formation in Nigeria.

Literature Review**Bank Credit**

The concept of "bank credit," also known as banks credit, involves the trust that a lender places in a debtor by providing a loan (Olabisi & Udeh, 2020). Therefore, credit can be an economic exchange of value between creditors who provide money or services for promised future payments by the borrower. Credit is the provision of funds from one party to another. In the study conducted by Odedokun (2022), it was suggested that bank credit involves a commitment made by one party to compensate another for funds borrowed or goods and services obtained.

Sources of Commercial Bank Lending

Nonetheless, paid up capital, reserve cash, cumulative earnings, and deposits are commercial banks' primary funding sources. The term "deposit" refers to the monies held in the bank's several deposit programs. They consist of demand, fixed, and savings accounts. The deposit funds of commercial banks are collectively described as deposit liabilities. This name quickly reminds one that money in commercial bank's deposit fund is one that the banks are bound to pay to their depositors, their agent or their creditors. The obligations of commercial banks' deposit accounts are neither set nor permanent. Based on the influx and outflow of funds from the different deposit accounts, they change over time. Banks use the cash from their deposit obligations to provide loans throughout the year (Bello & Ahmed, 2022). For an appreciation of this crucial source of bank lending, one must comprehend the behaviour of the different deposit accounts (Balogun & Adegbe, 2021).

Domestic investment

Investing domestically means spending money to raise the economy's overall capital stock. The process for achieving this involves obtaining more assets that may provide capital and revenue inside the local economy.

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Specifically, physical assets increase the overall capital stock. Economic growth rates must be greater than what savings can supply in order to promote economic development. The business sector contributes a portion of the funding for investments, with bank loans and family savings making up the remaining portion. As a result, the demand for investments is no longer constrained by savings (Udah, 2017).

Theoretical Review

Gurley and Shaw's (1967) financial intermediary theory serves as the foundation for this investigation. The idea clarifies how bank credit functions inside an economy. As per the notion, the role of financial intermediation in a contemporary economy is to facilitate the transfer of funds from agents who are affluent to others who need financial assistance. A review of the literature on credit assessment theories reveals that portfolio theory, credit market theory, and information theory are the three main categories into which theories are often divided based on the kind of subject relations that exist between the borrower and lender. Businesses have effectively used current portfolio theory to address market risk since the 1980s.

Empirical Review

Using an Ordinary Least Square (OLS) regression model, Oluwafemi et al. (2018) examined the effects of bank loans on the real sector of the Nigerian economy from 1990 to 2017. Estimated findings indicate that bank loans to the manufacturing subsector have a major impact on the sector's development over the long and short terms. The study settles that more credit given to the real sector will result in stronger growth. Fawehinmi (2019) used OLS to investigate the connection between economic growth and private sector progress in Nigeria over the 1987–2015 timeframe. The research was influenced by oil and gas, manufacturing sector growth, agricultural sector growth, and gross domestic product. The results show a strong positive correlation between Nigeria's economic growth and the expansion of the private ventures. Bello order to determine the influence of bank loans to the private ventures on real sector development in Nigeria between 1996 and 2016, Bello and Ahmed (2022) used a multiple regression analysis. The variables for the research were lending rate, inflation, GDP at per capita, and bank credit to the government as a share of GDP. The research demonstrates that bank loans to the private sector have a significant positive influence on Nigeria's real sector development. Dike and Okafor (2021) studied public debt and private investment in Tanzania, using annual data (1970 - 2016) – Tanzania. The econometric techniques used was ARDL. The study found no significant evidence of long- and short-run interplay among domestic debt and private ventures. Kimani and Olweny (2018), in Kenya, used quarterly data (2001: Q1 - 2017: Q4) to explore the connection among public debt and private investment with the aid of ARDL and found negative relationship between domestic borrowing and private investment, confirming the crowding-out effect.

Methodology

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In this study, an ex-post-facto design is utilized, involving the examination of historical data. The research design involves structuring the investigation to validate hypotheses and understand their interrelationships. The chosen ex-post facto design aims to ascertain cause-and-effect relationships, with variables of interest beyond the researcher's control and hence not subject to manipulation. Hypothesis are postulated with the view of examining the outcome of banks credit on private domestic investment in Nigeria. In capturing the study, the variables captured in the sample size were used as proxy. The study outlines the estimation procedures we adopt for our analysis. The functional form of econometric model is given thus: $GFCF = f(CBLGC, CBLGO, CBLRS, \text{ and } CBTA)$

(1), the mathematical presentation of equation 1 is given

$$GFCF = a_0 + a_1CBLGC + a_2CBLGO + a_3CBLRS + a_4CBTA \quad (2)$$

The OLS linear regression equation based on the above functional relation is:

Where; $GFCF$ = Gross Fixed Capital Formation

$CBLGC$ = Commercial Banks Loans to General Commerce

$CBLGO$ = Commercial Banks Loans to Government

$CBLRS$ = Commercial Banks Loans to the Real Sector

$CBTA$ = Commercial Banks Total Assets ϵ = error term used.

β_0 = intercept and β_1 - β_4 are the coefficients.

Data Presentation and Discussion

The study centred on the outcome of commercial banks' lending on private domestic investment between 1990 to 2023

Descriptive Statistics

Table 4.1: Summary descriptive statistics

	GFCF	CBLGC	CBLGO	CBLRS	CBTA
Mean	13801.32	547.4027	572.4466	3356.380	7644.720
Median	7266.445	59.61870	4.262225	937.2650	3668.893
Maximum	78898.46	2124.618	2434.495	14801.65	31432.12
Minimum	262.7656	4.840000	0.997400	15.68000	26.00010
Std. Dev.	19595.00	644.9408	776.2151	4189.688	8899.584
Skewness	2.061725	0.820610	1.164692	1.233315	1.098176
Kurtosis	6.359482	2.495240	3.105709	3.513347	3.269124
Jarque-Bera	40.07602	4.176877	7.702707	8.992694	6.936558

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Probability	0.000000	0.123880	0.021251	0.011150	0.031171
Sum	469245.0	18611.69	19463.18	114116.9	259920.5
Sum Sq. Dev.	1.273270	13726306	19882828	5.796408	2.616309
Observations	35	35	35	35	35

The descriptive statistics presented on table 4.1 provides valuable insights into the central tendencies, variability, and distribution characteristics of the key variables under consideration. The mean Gross Fixed Capital Formation (GFCF) stands at 13,801.32 billion Naira, indicating the average capital investment over the examined period. Notably, GFCF exhibits substantial variability, with a standard deviation of 19,595.00 billion Naira, emphasizing the considerable fluctuations in capital formation. The skewness value of 2.06 indicates a rightward skew, signifying a longer right tail and suggesting the presence of extreme values pulling the distribution in that direction. The kurtosis value of 6.36 indicates a leptokurtic distribution, implying that the distribution has heavier tails and sharper peaks than a normal distribution. For Commercial Banks Total assets (CBTA), the mean is 7,644.72 billion, underscoring the average extent of credit provided by commercial banks. However, the skewness and kurtosis values indicate deviations from normality, suggesting potential outliers and non-normal distribution. The Jarque-Bera test further endorses non-normality, with statistically significant p-values for GFCF and CBTA. As a result of non-normality, the variables for further analysis will be logged. These findings illuminate the distributional characteristics and trends in the data, guiding a nuanced interpretation of the subsequent econometric analyses.

Unit Root Test

ADF unit root was carried to ascertain the stability of the variables. The findings in table 2 indicate that all the variables are integrated at first difference, specifically at the 5% or 1% level of significance.

Table 2: Unit Root Tests Analysis

Variables	ADF test Statistics	Mackinnon critical @ 5%	No of the time difference	Remark
GFCF	5.2464758	-4.723353	I(1)	Stationary
CBLGC	-3.1321446	-5.724233	I(1)	Stationary
CBLG	-4.6354234	-4.324264	I(1)	Stationary
CBLRS	5.312546	2.569763	I(1)	Stationary
CBTA	3.7362354	3.231423	I(1)	Stationary

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Test for Co-Integration

Consequently, after determining that every variable is stationary at first difference, the Johansen cointegration process is used to determine if gross fixed capital formation (GFCF), commercial banks loan to general commerce (CBLGC), commercial banks loan to Government (CBLG) commercial banks loan to real sector (CBLRS) and commercial banks total assets (CBTA) are co-integrated in the same order.

Table 3: Multivariate Johansen's Co-Integration Test Result.

Null hypotheses	Alternative hypotheses	Eigen value	Likelihood ratio	Critical vales 5%	Critical value 1%	Hypothesized No. of CE(s)
r=0	r=1	0.643526	53.346456	58.36	42.33	None **
rd _≤ 1	r=2	0.537234	42.759783	44.29	38.53	At most 1
rd _≤ 2	r=3	0.425342	32.321253	36.42	23.13	At most 2
rd _≤ 3	r=4	0.472321	24.423403	24.25	27.23	At most 3
rd _≤ 4	r=5	0.436287	25.432156	26.45	32.23	At most 4

Data Analysis

The data used in this research was gathered the CBN statistical bulletin and covers a 35-year annual observation period from 1990 to 2023. The data spans a duration of thirty-four years, starting from 1990 and ending in 2023. Therefore, the multivariate linear regression was utilised to examine the null hypotheses put forth.

Table 4 Vector Error Correction Model

Dependent Variable: D(GFCT)

Method: Least Squares

Sample (adjusted): 1990 2023

Included observations: 35

Variable	Coefficient	Std.	Error	Statistic	Prob.
			t-		
C	439.2301	0.002436	1.013243	0.0001	
D (CBLGC)	2726.559	0.002313	2.312537	0.0017	
D (CBLG)	1489.577	0.036478	1.523187	0.0053	
D (CBLRS)	123.4541	0.052121	1.213145	0.0041	

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D	(CBTA)	376.4521	0.024235	1.142562	0.0003
	ECM(-1)	-0.782456	0.003241	1.243647	0.0133

R-squared	0.752314	Mean dependent var	
Adjusted	1242.400		
R-squared	0.714253	S.D. dependent var	243.2207
S.E. of regression	1431.239	Akaike info criterion	20.91324
Sum squared resid	1.745362	Schwarz criterion	21.27219
Log likelihood	-323.9578	Hannan-Quinn criter.	21.08846
F-statistic	7.947584	Durbin-Watson stat	1.986745
Prob	(F-statistic)	0.000000	

The four research assumptions were tested using the least squares outputs from Table 4. The rate at which our model returns to equilibrium after short-term variations that are missed by the Johansen test is shown by the error correction term. ECM (-1) is clearly described, and the diagnostic statistics are strong, according to the ECM coefficient of (-0.782456) 78%. A negative sign indicates that the independent variables have adjusted to the dependent variable in the short term. This suggests that in the present year, 78% of the disequilibrium that was produced by external shocks or short-term oscillations in the prior period has been addressed. Nonetheless, changes in the credit variables provided by Nigerian commercial banks (CBLGC, CBCG, CBLC, and CBTA) account for almost 75% of the fluctuations in private domestic investment in the country's economy, according to the coefficient of determination ($R^2 = 0.752314$). Moreover, the model as a whole is statistically significant according to the F-statistics overall test of model significance. Because the F-statistic of 7.947584 is higher than the F-probability of 0.000000, the research comes to this conclusion. The significance of the explanatory factors' influence on the dependent variable, as well as the statistical zero F-probability, indicate that the credit provided by commercial banks has a noteworthy outcome on domestic investment in Nigeria. Thus, this is in line with the research of Olabisi & Udeh (2020).

Test of Hypotheses

Hypothesis 1

Table 4.4 reveals that Commercial bank loan to general commerce has a t-statistic of 2.312537 with a p-value of $0.0017 < 0.05$ alpha. This means that Commercial bank loan to general commerce has a substantial outcome on gross fixed capital formation in Nigeria for the period under review. Thus the null hypothesis is rejected.

Hypothesis 2

The results on table 4.4 reveals that Commercial bank loan to government has a t-statistic of 1.523187 with a p-value of 0.0053, < 0.05 alpha. This implies a statistically significant impact. That is to say that commercial bank loan to government has a substantial outcome on gross fixed capital formation in Nigeria.

Hypothesis 3

The results on table 4.4 indicates that Commercial banks' to government has a t-statistic of 1.213145 with a p-value of 0.0041, < 0.05 alpha. This implies a statistically important effect. Thus, the null hypothesis is rejected. That is to say that commercial banks' to government is positive; but also has a substantial implication on fixed capital formation in Nigeria.

Hypothesis 4

Table 4.4 reveals that Commercial banks' total assets has a t-statistic of 1.142562 with a p-value of 0.0005, < 0.05 alpha. This suggests that commercial banks' total asset has a significant impact on gross fixed capital formation in Nigeria for the period under review. So, the null hypothesis is rejected. Table 4.4's findings demonstrate that the outcome of commercial banks' credit on domestic investment in Nigeria has a statistically significant influence, with an F-statistic of 7.947584 and a p-value of 0.00000, both of which are less than the 0.05 threshold. So, the effect of commercial bank loans on domestic investment in Nigeria is noteworthy. The F-probability, which is statistically zero, supports this as well. The analysis comes to the conclusion that the model as a whole is statistically significant since it is well-specified.

Conclusion

The study concludes that commercial banks' credit has significantly impact on domestic venture in Nigeria. This is evident from the results of in table 4. This supports the study of Okoro and Onwuka (2020) who reveals a favourable and substantial effect of commercial banks credit on the performance of Nigerian economy. The benefits identified and used in the study included general commerce, government and the real sector. The study concludes that bank credit to the different individual categories has mixed statistical significance on gross fixed capital formation. And on a general note, the study settles that bank lending has a substantial implication on private domestic investment in Nigeria.

Recommendations

As a result of the findings of the study, these suggestions were made:

Commercial banking institutions should consider revising their lending strategies. There is a need to explore ways to make credit more accessible and beneficial to businesses within the general commerce sector, possibly through tailored financial products or targeted support programs. Government Borrowing Policies: Given the negative but

significant impact of commercial banks' loans to the government on gross fixed capital formation, policymakers should critically evaluate the implications of government borrowing on private domestic investment. Implementing measures to manage the impact of government borrowing on the overall investment climate may be essential. Promotion of Real Sector Lending: Encourage and support commercial banks in expanding their lending activities to the real sector. The positive and significant impact observed indicates the potential for driving increased gross fixed capital formation through targeted financing to businesses in the real sector. Incentives and policy support can be explored to facilitate such lending. Financial institutions should conduct a comprehensive evaluation of their lending policies, considering the diverse impacts observed in the study. This involves reassessing the riskreturn trade-offs associated with lending to different sectors and adjusting lending criteria accordingly.

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