Sectorial Allocation of Banks' Assets and Profitability of Commercial Banking Sector in Nigeria

EFUNTADE, Alani Olusegun, FCIB, FCA
Federal University Oye-Ekiti, Ekiti State, Nigeria.
Email: alaniefuntadee@yahoo.com

EFUNTADE, Olubunmi Omotayo, PhD
Federal University Oye-Ekiti, Ekiti State, Nigeria.
Email: bunmiefuntade@yahoo.com

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Abstract

This study examines sectorial allocation of banks' assets and profitability of commercial banking sector in Nigeria. The study made use of return on assets (ROA) as proxy for dependent variable measuring profitability of commercial banks in Nigeria while banks assets allocations to Petroleum Sector, Breweries Sector, Conglomerates Sector, Agricultural Sector, Construction Sector and Fast Moving Consumer Goods Sector, was used in the study as independent variables. All data were obtained from Central Bank of Nigeria statistical bulletin and which span across 2008 to 2022. Data stationarity was ensured using the Augmented Dickey Fuller statistics, while the error correction model was applied to as the statistical tool for acceptance of hypothesis. The study also upholds the bank-based systems and that of the commercial bank theory. Sectorial allocation to the Petroleum Sector (PETR), Breweries Sector (BREW), Conglomerates Sector (CONG), Agricultural Sector (AGRIC), Construction Sector (CONS), Fast Moving Consumer Goods Sector (FMCG) is significant and positive and contributed positively to return on assets (ROA), government should ensure the proper financing and monitoring of these sectors. No causality between FCMG and PETR. PETR, BREW, CONG, AGRIC, CONS, FCMG granger cause ROA. There is a bi-directional relationship between PETR and ROA; BREW and ROA; CONG and ROA; AGRIC and ROA; CONS and ROA; and FMCG and ROA. The current risky business environment is affecting banks' ability to lend to the Petroleum Sector (PETR), Breweries Sector (BREW), Conglomerates Sector (CONG), Agricultural Sector (AGRIC), Construction Sector (CONS), Fast Moving Consumer Goods Sector (FMCG). Commercial bank assets allocated to Fast Moving Consumer Goods (FMCG) and allocation of banks' assets to conglomerate sector (CONG) exhibited a negative coefficients, thus suggesting reject the alternate hypothesis, and accept the null hypothesis which states that there is no significant relationship between bank credit allocated to FMCG and ROA. However, there is a significant relationship between Allocation of banks' assets to conglomerate sector (CONG) and ROA, the result did not adhere to our apriori expectation earlier stated. It was concluded that bank lending has a tremendous positive effect on profitability of commercial banks in Nigeria. It is recommended that Allocation of Banks' Assets to Petroleum Sector (PETR), allocation of Banks' Assets to Breweries Sector (BREW), allocation of Banks' Assets to Conglomerates Sector (CONG), allocation of Banks' Assets to

Agricultural Sector (AGRIC), allocation of Banks' Assets to Construction Sector (CONS), allocation of Banks' Assets to Fast Moving Consumer Goods Sector (FMCG) be increased and the disbursement of the loan be monitored so that it can reach the intended beneficiaries. Also, the disbursed loan should be monitored so that it is utilized or the purpose for which it was meant for.

Keywords: *Sectorial allocation, banks' assets, profitability of commercial banking sector in Nigeria, Allocation of Banks' Assets to Petroleum Sector, Allocation of Banks' Assets to Breweries Sector, Allocation of Banks' Assets to Conglomerates Sector, Allocation of Banks' Assets to Agricultural Sector, Allocation of Banks' Assets to Construction Sector, Allocation of Banks' Assets to Fast Moving Consumer Goods Sector*

JEL Codes: G14, G21, E44, Q14, E51

1.0 Introduction

A function of a financial system is to intermediate between lenders and borrowers so that transaction and information costs for both parties can be reduced. Financial institutions known as financial intermediaries perform brokerage and asset transformation functions (Le & Ngo, 2020). Considered as the important financial intermediary, banks permit credit and liquidity provisions through credit channels and protect companies and households against unexpected needs for cash, they permit rapid economic development through the financing of different sectors of the economy such as agriculture, industry, and trade, and help the promotion of entrepreneurship that leads the private sector to participate effectively to economic growth (Barra & Zotti, 2019).

The role of commercial bank sectorial credit allocation in output generation financing cannot be over emphasized as credits are often used by various economic entities to bridge their financing gaps. For instance, businesses obtain credit to bridge gap in equity for financing fixed assets (land, plant, machinery and equipment) acquisition as well as working capital (inventories, salaries and wages). Governments obtain commercial bank credits to meet shortfalls in recurrent (salaries) and capital expenditures (provision of social infrastructures).

The contribution of the banking system towards the growth of an economy is primarily credited to the role it plays in savings mobilisation and allocation of resources to deficit sectors of the economy. Commercial banks' performance has been investigated in a wide range of studies (Barra & Zotti, 2019), but despite that, it still remains one of the core scientific questions. Many researchers analyse performance through profitability and raise the research problem on how to enhance the profitability of commercial banks. There is a viewpoint that bank profitability increases the level of economic stability (Abate & Mesfin, 2019). Hence, it is vital for commercial banks and for the countries they are located in to raise the profitability of those banks, as a stable banking sector could have an impact on the well-being of society and is an essential indicator of the development of the national economy. To maximise the profitability of commercial banks, it is necessary to investigate the factors affecting it. Knowing those factors

influences the development of the banking sector (Levine, 1997). Scholars analyse different factors of bank profitability, including internal and external factors (Batten & Vo, 2019; Dang & Vong, 2019; Adelopo et al., 2018). However, it is believed that different groups of factors should be analysed separately. Hence, the current study aims at investigating the impact of internal factors on performance of Latvian banks.

1.1 Statement of the problem

One of the reasons for the fall in profitability of various segments and sectors of the economy is lack of access to commercial banks credit to enable them to take advantage of economic opportunities to increase their level of output (Adelopo et al., 2018). Credit constraint has plagued profitability of commercial banking sector of the economy. Majority of stakeholders in various sectors lack access to formal credit and this has continued to be a constraint limiting ability to adopt technologies and increase productivity. In spite of the importance of banks assets in agricultural production, construction, manufacturing, mining, food production and breweries, the acquisition and repayment of banks' assets are fraught with a number of problems (Bikker & Vervliet, 2018).

The banking industry globally plays a vital role in social and economic activities development of any economy through loan extension to investors. The banking industry in Nigeria has been plagued with problems of high level of non-performing loan, untraceable insider loans and challenges of poor assets quality management, thus reduced aggregate financial performance in terms of return on equity, profit after tax, return on assets and market value. A sound and profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system (Hamdi et al., 2017).

Inconsistent government policies and time lag especially implementation lags, in its policies, Lack of adequate project studies which leads to poor conception and implementation of agricultural project. There is also problem of Infrastructure and marketing, taking a narrow conception of infrastructure; those aspects of capital investment and infrastructure which include; Transportation, Road, Railways, Bridges. Marketing is closely connected with roads since agricultural produce have to be transported to markets so as to affect their sales.

There is the delay in the processing of agricultural loan application and in implementing approval loan agreement. The period when loan application is submitted to the period it is finally approved on many occasions is too long to extent that rising prices during the period of delay would have changed the situation of things drastically. Another problem faced by financial institution is the granting of inadequate loans to producers and manufacturers. Inadequate loan, to financing of whatever reason can endanger the successful implementation of otherwise viable projects. This would not be the case if financial institution were flexible enough or even endowed with technical expertise and skilled project analysts who would comments on project fund adequacy.

1.2 Research Questions

The following research questions will be answered in this study:

i. What is the causal effect of Allocation of banks' assets to Petroleum Sector (PETR) on profitability of commercial banking sector in Nigeria?

ii. How does Allocation of banks' assets to Breweries Sector (BREW) affect profitability of commercial banking sector in Nigeria?
iii. What is the effect of Allocation of banks' assets to Conglomerate Sector (CONG) on profitability of commercial banking sector in Nigeria?
iv. What is the influence of Allocation of banks' assets to Agricultural Sector (AGRI) on profitability of commercial banking sector in Nigeria?
v. What is the influence of Allocation of banks' assets to Construction Sector (CONS) on profitability of commercial banking sector in Nigeria?
vi. What is the influence of Allocation of banks' assets to Fast Moving Consumer Goods (FMCG) Sector on profitability of commercial banking sector in Nigeria?

1.3 Objectives of the Study

The broad objective of the study is to investigate the effect of sectorial allocation of banks' assets on profitability of commercial banking sector in Nigeria, while the specific objectives are to:

(i) investigate the effect of Allocation of banks' assets to Petroleum Sector (PETR) on profitability of commercial banking sector in Nigeria;
(ii) examine the relationship between Allocation of banks' assets to Breweries Sector (BREW) and profitability of commercial banking sector in Nigeria;
(iii) evaluate the effect of Allocation of banks' assets to Conglomerate Sector (CONG) on profitability of commercial banking sector in Nigeria;
(iv) assess the influence of Allocation of banks' assets to Agricultural Sector (AGRI) on profitability of commercial banking sector in Nigeria;
(v) explore the effect of Allocation of banks' assets to Construction Sector (CONS) on profitability of commercial banking sector in Nigeria;
(vi) establish the relationship between Allocation of banks' assets to Fast Moving Consumer Goods (FMCG) Sector on profitability of commercial banking sector in Nigeria.

1.4 Research Hypotheses

This study is designed to test the following null hypotheses:

H_{01}- Allocation of banks' assets to Petroleum Sector (PETR) has no significant effect on profitability of commercial banking sector in Nigeria;
H_{02}- Allocation of banks' assets to Breweries Sector (BREW) has no significant relationship with profitability of commercial banking sector in Nigeria;
H_{03}- Allocation of banks' assets to Conglomerate Sector (CONG)has no significant effect on profitability of commercial banking sector in Nigeria;
H_{04}- Allocation of banks' assets to Agricultural Sector (AGRI) have no significant influence on profitability of commercial banking sector in Nigeria;
H_{05}- Allocation of banks' assets to Construction Sector (CONS)have no significant influence on profitability of commercial banking sector in Nigeria;

H_{06}- Allocation of banks' assets to Fast Moving Consumer Goods (FMCG) Sector have no significant influence on profitability of commercial banking sector in Nigeria.

2.0 Literature Review

2.1 Conceptual Review

2.11 Profitability of Commercial Banking sector

The first stage of the research is an in-depth literature analysis to select the appropriate factors and associated indicators. First of all, it is necessary to determine the factors by which profitability is measured. The most widely used profitability indicators are return on assets (ROA) and return on equity (ROE) (Dinc, 2018). Another frequently used bank profitability measure is net interest margin (NIM) (Adelopo et al., 2018). There are scholars measuring profitability via bank value. Dinc (2018) claim that the value of bank could be maximised via different factors, such as optimal choices of loan rate and supply, provisions for deposit withdrawals and bank profitability. Adelopo et al. (2018) argue that higher bank profitability translates into higher market valuations, which, in turn, has a positive influence on bank value. Consequently, it could be stated that profitability and bank value move into one direction, and because of that, in the current paper, the value is selected as the indicator of profitability.

Accounting profitability determinants Several studies like that of Kosmidou et al. (2007) and Van- Horen (2007) suggested that return on assets (ROA) is the best measure of profitability over time since assets have a direct impact on both income and expenses. Nevertheless, the ROE can be a critical measure of profit in many cases. Our sample is an unbalanced panel and the models illustrating ROA and ROE are estimated using a generalized least square panel estimator because the number of years of the data varies by bank.

2.12 Sectoral Allocation of Banks' Assets

Sectoral allocation of credit is a vital function of the banking sector as it enhances economic growth and development. However, contributions of credits by Banks to various sectors in Nigeria are not sufficient to the growth of the Nigerian economy in spite of the various reforms and development in the banking sector.

Andabai and Eze (2018) defined credit allocation as the channel through which resources are transferred for viable investment activities in terms of capital formation which lead to growth in the output of different priority sectors of the economy. It is the total amount of credit available to a group of businesses in the same or different sectors of a national economy from a banking institution. Credit allocation describes how banks divide their financial resources to different processes, people, projects and industrial sectors (Bolarinwa et al., 2019).

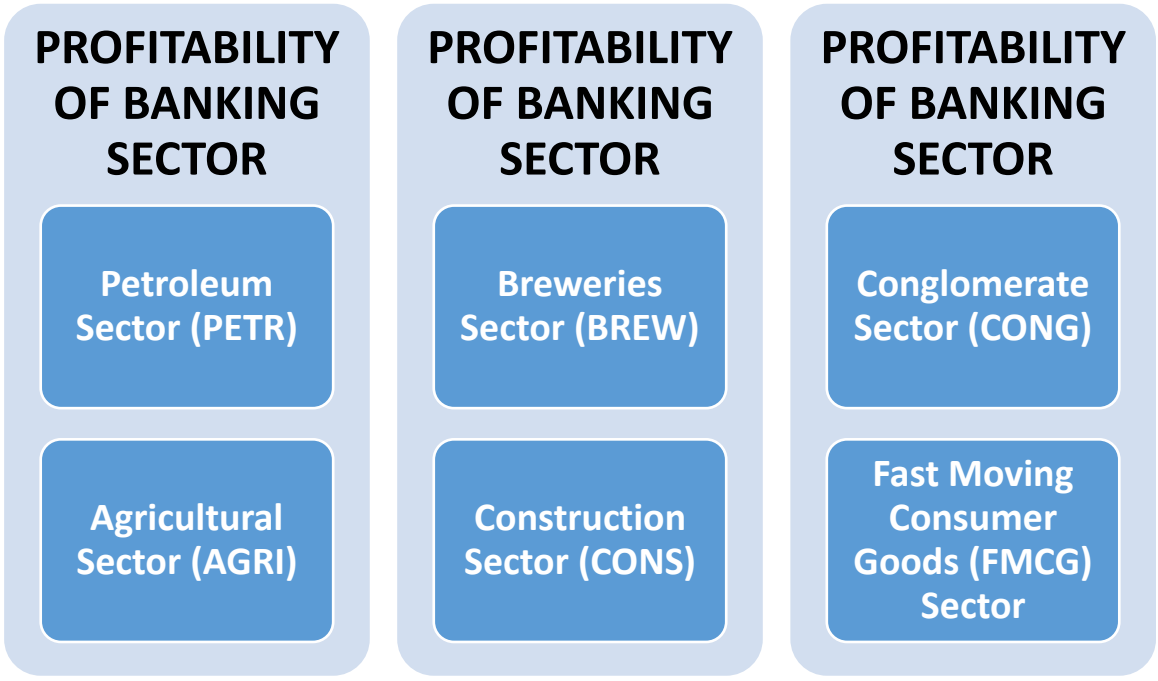
2.2 Theoretical Framework

There are various theories about the correct mode of operation of banks lending for industrial and economic development. The study is underpinned on commercial loan theory. The theory according to Solomon (2015), describe how the banking business portfolio management should be conducted to generate sufficient earnings, which still provides for adequate liquidity and safety.

2.21 Commercial Loan Theory

Proponent of this theory maintains that commercial liquidity will be assured as long as -its' assets are held on short -term. Funds that could be liquidating in the normal course of business, the theory holds that since bank liabilities are principally repayable on demand or at very short notice, bank lending should be confined to short -term working capital advances for financing production, storage and movements of goods, the final sale of which will provide fund for repayment such loans are said to be self –liquidating (Sebastian, 2018).

The theory posits that commercial banks, because of their funding base, should make only short -term self-liquidity productive loans (Shaw, 1973). However, some of the assumptions of the commercial loan theory are not as valid as they are thought to be, for instance, the assumption, that all working loans are self-liquidating is an illusion since they could be invested in paramount working capital. In practice, most of the short-term advances are not recalled but are rolled over. So, with periodic renewals, they are not economically different from long-term credit except to the extent that investment planning differs considerably when funds are obtained on assured long-term basis. This theory is also known as the real bill doctrine, this theory opined that banks need to lend short since the various deposit collected is short in nature (Shaw, 1973). This theory argue that self-liquidating and productive loan should be granted to customers. The main reason behind this postulation is that, for banks to meet various demand deposit liabilities whenever it's called upon to be paid, then they ought to lend short. This theory is also linked with that of the orthodox theory of banking, this theory limits banks to commercial transaction only on short term basis, the theory stress that lending short will help in making the bank willing and ready to meet depositors demand.



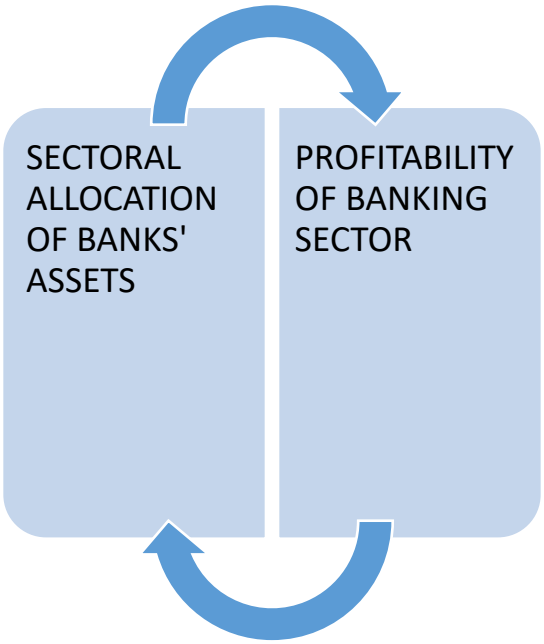


Fig 1: Sectorial Allocation of Banks' Assets
Source: Author, 2023

2.3 Empirical Review

Abina (2020) examined sectorial allocation of bank credits and economic development in Nigeria. The study made use of human development index as proxy for dependent variable measuring economic development while bank credits to public sector, manufacturing, agricultural, mining general commerce sector, real estate and construction, was used in the study as independent variables. All data were obtained from Central Bank of Nigeria statistical bulletin and index-mudi which span across 1985 to 2019. Data stationarity was ensured using the Augmented Dickey Fuller statistics, while the error correction model was applied to as the statistical tool for acceptance of hypothesis. The results of the analysis showed that bank credits to manufacturing, mining and general commerce sector contributed negatively to human development index while bank credit to public sector, real estate and agricultural sector contributed positively to human development index. The study also upholds the bank-based systems and that of the commercial bank theory. The current risky business environment is affecting banks' ability to lend to the manufacturing, mining and general commerce sector which ought to drive development.

In Nigeria, a study conducted by Maxwell and Egbeonu (2016) examined sectoral loans demand and performance of deposit money banks in Nigeria. Using ordinary least squares (OLS) tool. The study discovered that loans and advances to agriculture, quarrying and mining sectors have negatively contributed to the performance of banks, while manufacturing and real estate construction sectors have positively contributed to the performance of deposit money banks over the relevant period. Relying on these findings, the study recommends that banks should increase credit to the less preferred sectors such as agriculture, mining and quarrying sectors, which will

lead to overall economic growth in Nigeria. The literature is replete with empirical studies of various jurisdictions around the world. This will help sharpen perspectives and policy direction.

Andabai and Eze (2018) examined the causal relationship between bank credit and manufacturing sector output, the study made use of time series data from 1990-2016, it was discovered after using vector error correction model and causality test that there is no causal relationship between bank credit and manufacturing sector output. The study further suggests that reduced interest rate with favourable inflation rate will stimulate manufacturing sector output which should be regulated by the needed authorities. Michael, Babatunde, and Joseph (2017) investigated how bank loan affect the manufacturing sector in Nigeria, the study made use of time series data from 1999-2014. Autoregressive Distributed Lag (ARDL) was used as the statistical tool for analysis, it was discovered that financial institution credit increases output in the manufacturing industry.

Aduralere and Oyelade (2019) investigated the impact of commercial bank credits on agricultural output in Nigeria over the period 1980 to 2015 by setting three specific objectives which are to examine the trend of commercial bank credit and agricultural output in Nigeria; to investigate the effect of commercial bank credit on agricultural output in Nigeria and to investigate the effect of commercial bank credit on subsector of agriculture in Nigeria. The trend analysis and the impact of commercial bank credit on subsector of agriculture in Nigeria make this work unique and different from other studies in this area. Trend analysis was used to achieve the first objective and fully modified ordinary least square (OLS) for objective two and three. It was evidenced that interest rate on commercial banks' credit to agriculture and deposit money bank's assets are statistically significant in determine agricultural output in Nigeria within the period considered. Also, commercial bank loan on agriculture and deposit money bank's assets determine the output of crop production in Nigeria; commercial bank loan on agriculture and interest rate on commercial banks' credit to agriculture determine the output of livestock production in Nigeria and commercial bank loan on agriculture and interest rate on commercial banks' credit to agriculture determine the output of forestry in Nigeria while commercial bank loan on agriculture and interest rate on commercial banks' credit to agriculture determine the output of fishing in Nigeria.

Ubesie, et al. (2019) evaluated the effect of allocation of deposit money banks' credit to agricultural, industrial, building and construction and wholesale and retail trade on economic growth in Nigeria from 2008Q1 to 2017Q4 using ordinary least squares (OLS) regression model. They found that that deposit money banks' credit to agricultural sector had no significant effect on economic growth in Nigeria.

3.0 Research Methodology

In order to study the relationship between Sectorial allocation of bank credits and economic
development in Nigeria. The data for the study will be gathered from World Bank data base and statistical bulletin of Central Bank of Nigeria (CBN, 2020).

3.1. Method of Data Analysis

The first step consists of analysing the stationarity or the integration of the variables engaged in the model using the Augmented Dickey-Fuller test statistic, then to apprehend the long run association between the 6 variables, we will run the Johansen Cointegration Test. After admitting the integration and the long run association of all the variables, we will then be able to move to the last step that is to conduct the causality test and then the Error Correction Model (ECM) (Gujarati & Porter, 2009).

3.2. Model Specification

Accounting profitability determinants Several studies like that of Kosmidou et al. (2007) and Van Horen (2007) suggested that return on assets (ROA) is the best measure of profitability over time since assets have a direct impact on both income and expenses. Nevertheless, the ROE can be a critical measure of profit in many cases. Our sample is an unbalanced panel and the models illustrating ROA and ROE are estimated using a generalized least square panel estimator because the number of years of the data varies by bank.

The basic framework for the panel models is:

$Yit = \alpha i + \beta X + \varepsilon it$

where Yit is the dependent variable (ROA), αi is the firm specific intercept in fixed effect models and common intercept with random variation across banks in the random effects model, β is a vector of the regression coefficients, Xit is a vector of the explanatory variables described, and εit is the disturbance term which is supposed to be normally distributed with a mean of zero. However, several internal and external variables are highly correlated; where only a subset of independent variables (k) is significant in determining the best model for each profitability ratio.

The model used in this research is specified in three forms.

The Functional Form of the Model:

ROA= *f* (PETR, BREW, CONG, AGRIC, CONS, FMCG) ……. (1)

The Equation 1 above shows the functional relationship between the dependent and independent variable, it is imperative to include the estimation parameters; thus, we rewrite the Equation 1 as follows:

$ROAt = \beta 0 + \beta 1PETRt + \beta 2BREW + \beta 3CONGt + \beta 4AGRICt + \beta 5CONSt + \beta 6FMCGt + Ui$ …….(2)

Apriori: $\beta 1 > 0, \beta 2 > 0, \beta 3 > 0\ \beta 4 > 0, \beta 5 > 0, \beta 6 > 0$

For estimation purpose the Equation 2 above shows the econometric form of Equation 1.

Where,

ROA = Return on asset

PETR = Allocation of Banks' Assets to Petroleum Sector

BREW= Allocation of Banks' Assets to Breweries Sector

CONG = Allocation of Banks' Assets to Conglomerates Sector

AGRIC= Allocation of Banks' Assets to Agricultural Sector
CONS = Allocation of Banks' Assets to Construction Sector
FMCG = Allocation of Banks' Assets to Fast Moving Consumer Goods Sector
βo = constant or intercept
Ui = error term
β1,> β6= estimation parameters for the respective independent variables.

3.3. Apriori Expectation

Based on the theories earlier stated it is expected that each of the variables should cause a positive
change in the dependent variable, this is estimated via the apriori expectation sign below. In the specified model, the expected relationship is that banks allocation of assets to the Petroleum Sector (PETR), Breweries Sector (BREW), Conglomerates Sector (CONG), Agricultural Sector (AGRIC), Construction Sector (CONS), Fast Moving Consumer Goods Sector (FMCG). will have individual positive impacts on return on assets (ROA). In summary, it is anticipated that increase in credit disbursement should spur up profitability of commercial banking in Nigeria.

4.0 Data Analysis

Table 1.
Result of error correction model estimates.
Dependent Variable: ROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.559915	0.011090	50.48763	0
PETR	4.000126	2.18E-06	1.843775	0.0771
BREW	0.000267	0.000138	1.934380	0.0645
CONG	-0.000204	6.98E-05	-2.927948	0.0072
AGRIC	0.000413	0.000200	2.070099	0.0489
CONS	-7.121505	2.083205	-3.430389	0.0021
FMCG	-3.832705	7.200005	-0.531699	0.5996
ECM(-1)	-0.418358	0.185380	-2.256760	0.033
R-squared	0.880393	Mean dependent var		0.523485

Adjusted R-squared	0.652903	S.D. dependent var	0.059145
S.E. of regression	0.043346	Akaike info criterion	-3.23201
Sum squared resid	0.046971	Schwarz criterion	-2.86922
Log likelihood	61.32813	Hannan-Quinn criter.	-3.10994
F-statistic	4.939929	Durbin-Watson stat	2.133603
Prob(F-statistic)	0.001303		

4.1 Summary of Findings

Allocation of banks' assets to breweries sector has a positive coefficient of 0.000267 alongside a significant P-value of 0.0645 which is greater than 0.05 level of significant thus suggesting rejection of the alternate hypothesis, and accept the null hypothesis which states that there is a significant relationship between Allocation of banks' assets to real estate and construction (BREW) and ROA. This implies that for every ne percent increase in (BREW) it will lead to about 0.000267% increase in ROA this result is in accordance with our apriori expectation. Allocation of banks' assets to conglomerate sector (CONG) exhibited a negative coefficient of -0.000204 alongside a significant P-value of 0.0072 which is less than 0.05 level of significant thus suggesting acceptance of the alternate hypothesis, which states that there is a significant relationship between Allocation of banks' assets to conglomerate sector (CONG) and ROA, the result did not adhere to our apriori expectation earlier stated, moreover for every one percent increase in loan apportion to conglomerate sector will lead to a decrease of -0.000204% in ROA. Allocation of banks' assets to agricultural sector exhibited a positive coefficient of 0.000413 alongside a significant P-value of 0.0489 which is less than 0.05 level of significant thus suggesting acceptance of the alternate hypothesis, which states that there is a significant relationship between Allocation of banks' assets to agricultural sector (AGRIC) and ROA, this means for every one percent increase in loan given for agricultural purpose, there is an increase of 0.000413 % in ROA, this result adhere to our apriori expectation. Allocation of banks' assets to construction sector (CONS) exhibited a positive coefficient of -7.121505 alongside a significant p-value of 0.0021 which is less than 0.05 level of significant thus suggesting acceptance of the alternate hypothesis, which states that there is a significant relationship between Allocation of banks' assets to construction sector (CONS) and ROA, for every unit increase in the loan given to them there will be a decrease of -3.832705% in its contribution to ROA. Lastly, commercial bank assets allocated to Fast Moving Consumer Goods (FMCG) exhibited a negative coefficient of 0-3.832705 alongside a significant P-value of 0.5996 which is greater than 0.05 level of significant thus suggesting reject the alternate hypothesis, and accept the null hypothesis which states that there is no significant relationship between bank credit allocated to FMCG and ROA.

Table 2.
Result of pairwisegranger causality.

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
PETR does not Granger Cause ROA	15	0.04382	0.9572	
ROA does not Granger Cause PETR		1.60667	0.2191	
BREW does not Granger Cause ROA	15	0.1949	0.8241	
ROA does not Granger Cause BREW		0.72795	0.4921	
CONG does not Granger Cause ROA	15	0.08564	0.9182	
ROA does not Granger Cause CONG		1.63161	0.2143	
AGRIC does not Granger Cause ROA	15	0.0548	0.9468	
ROA does not Granger Cause AGRIC		0.39754	0.6758	
CONS does not Granger Cause ROA	15	0.05112	0.9503	
ROA does not Granger Cause CONS		0.11622	0.8907	
FMCG does not Granger Cause ROA	15	0.05967	0.9422	
ROA does not Granger Cause FMCG		1.18254	0.3219	
PETR does not Granger Cause BREW	15	11.2355	0.0003	
BREW does not Granger Cause PETR		21.6702	2.0006	
CONG does not Granger Cause AGRIC	15	12.4099	0.0002	
AGRIC does not Granger Cause CONG		10.4538	0.0004	
CONS does not Granger Cause AGRIC	15	7.25977	0.003	
AGRIC does not Granger Cause CONS		10.8013	0.0004	
BREW does not Granger Cause AGRIC	15	6.18313	0.0062	
AGRIC does not Granger Cause BREW		18.6824	8.3206	
FMCG does not Granger Cause AGRIC	15	11.1163	0.0003	
AGRIC does not Granger Cause FMCG		17.5699	1.0005	
CONG does not Granger Cause PETR	15	12.3189	0.0002	
PETR does not Granger Cause CONG		3.28246	0.053	
CONS does not Granger Cause PETR	15	5.49754	0.0099	
PETR does not Granger Cause CONS		2.14492	0.1366	
AGRIC does not Granger Cause PETR	15	4.37798	0.0226	
PETR does not Granger Cause AGRIC		7.61355	0.0024	
FMCG does not Granger Cause PETR	15	13.1554	0.0001	
PETR does not Granger Cause FMCG		10.1588	0.0005	
CONS does not Granger Cause CONG	15	0.87705	0.4275	
CONG does not Granger Cause CONS		4.70691	0.0176	
AGRIC does not Granger Cause CONG	15	4.03299	0.0293	
CONG does not Granger Cause AGRIC		17.9736	1.1205	
FMCG does not Granger Cause CONG	15	1.20888	0.3142	
CONG does not Granger Cause FMCG		6.57586	0.0047	
BREW does not Granger Cause CONS	15	1.3392	0.2789	
CONS does not Granger Cause BREW		6.94173	0.0037	
FMCG does not Granger Cause CONS	15	0.94354	0.4017	
CONS does not Granger Cause FMCG		2.07745	0.1448	

FMCG does not Granger Cause AGRIC	15	11.2398	0.0003
AGRIC does not Granger Cause FMCG		5.02244	0.014

4.2 Causality Tests

From the causality result in Table 2, it can be seen that CONG does not granger cause FMCG and CONS does not granger cause BREW. AGRIC does not granger cause CONG. PETR does not granger cause FMCG. CONS does not granger cause CONS. AGRIC does not granger cause CONG. No causality relationship between FCMG and AGRIC. No causality between FCMG and PETR. PETR, BREW, CONG, AGRIC, CONS, FCMG granger cause ROA. There is a bi-directional relationship between PETR and ROA; BREW and ROA; CONG and ROA; AGRIC and ROA; CONS and ROA; and FMCG and ROA.

5.0 Conclusion and Recommendation

This study examines sectorial allocation of banks' assets and profitability of commercial banking sector in Nigeria. The study made use of return on assets (ROA) as proxy for dependent variable measuring profitability of commercial banks in Nigeria while banks assets allocations to Petroleum Sector, Breweries Sector, Conglomerates Sector, Agricultural Sector, Construction Sector and Fast Moving Consumer Goods Sector, was used in the study as independent variables. All data were obtained from Central Bank of Nigeria statistical bulletin and which span across 2008 to 2022. Data stationarity was ensured using the Augmented Dickey Fuller statistics, while the error correction model was applied to as the statistical tool for acceptance of hypothesis.

The study also upholds the bank-based systems and that of the commercial bank theory. Sectorial allocation to the Petroleum Sector (PETR), Breweries Sector (BREW), Conglomerates Sector (CONG), Agricultural Sector (AGRIC), Construction Sector (CONS), Fast Moving Consumer Goods Sector (FMCG) is significant and positive and contributed positively to return on assets (ROA), government should ensure the proper financing and monitoring of these sectors. No causality between FCMG and PETR. PETR, BREW, CONG,AGRIC, CONS, FCMG granger cause ROA. There is a bi-directional relationship between PETR and ROA; BREW and ROA; CONG and ROA; AGRIC and ROA; CONS and ROA; and FMCG and ROA. The current risky business environment is affecting banks' ability to lend to the Petroleum Sector (PETR), Breweries Sector (BREW), Conglomerates Sector (CONG), Agricultural Sector (AGRIC), Construction Sector (CONS), Fast Moving Consumer Goods Sector (FMCG). It was concluded that bank lending has a tremendous positive effect on profitability of commercial banks in Nigeria.

Commercial bank assets allocated to Fast Moving Consumer Goods (FMCG) and allocation of banks' assets to conglomerate sector (CONG) exhibited a negative coefficients, thus suggesting reject the alternate hypothesis, and accept the null hypothesis which states that there is no significant relationship between bank credit allocated to FMCG and ROA. However, there is a significant relationship between Allocation of banks' assets to conglomerate sector (CONG) and ROA, the result did not adhere to our apriori expectation earlier stated,

It is recommended that Allocation of Banks' Assets to Petroleum Sector (PETR), allocation of Banks' Assets to Breweries Sector (BREW), allocation of Banks' Assets to Conglomerates Sector (CONG), allocation of Banks' Assets to Agricultural Sector (AGRIC), allocation of Banks' Assets to Construction Sector (CONS), allocation of Banks' Assets to Fast Moving Consumer Goods Sector (FMCG) be increased and the disbursement of the loan be monitored so that it can reach the intended beneficiaries. Also, the disbursed loan should be monitored so that it is utilized or the purpose for which it was meant for.

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