

Banks' Activities Effect on Economic Growth in Nigeria

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Abstract

The operational and business activities of the bank is vital for the overall economic prosperity of Nigeria. The major activities of fund mobilisation and allocation is considerably agreed to have positive impact on economic growth. The main objective of this study is to investigate this general consideration, the direction of causality, and the degree of impact on a quarterly period from 1999-2020. Using the Johansen cointegration test, and the Granger non-causality test, a Toda–Yamamoto procedure. The results show a positive and significant long-short run cointegrating nexus between banks' activities and economic growth. Substantiating the general consideration of a proportional nexus between economic growth and banking activities in Nigeria. The non-directional causality observed between economic growth and banking activities can be attributed to uncertainties not limited to supply-demand side effects, unexpected effects, sectoral adjustment effect, inflation effect, and real balance effect surrounding the banking and economic climate. The study recommends economic diversification in a period of economic and financial boom and affordable credit facilities for small and medium scale enterprises. To cushion and mitigate future vicissitude of a non-directional causality.

Keywords: Cointegration, economic growth, fund mobilisation, funds allocation, Nigeria.

1. INTRODUCTION

The contribution of the financial services industry to the overall social and business growth of any economy is undeniable. Capital provided by banks through funds mobilisation drives economic growth. It is crucial to achieving an all-inclusive financial, economic growth and human capital development. The banking sector is one of the most extensive means of financial intermediation (Adeniyi 2006). The profitability of the bank is pivotal to shareholders' interest and investment. The pivotal interest is evident in access bank

churning out about N764.72 billion in 2020 compared to N666.75billion in the comparative period of 2019, first bank holding N83.70billion from N75.29 billion in 2019, united bank for Africa N620.38 billion from N559.81 billion in 2019 among others. The churning out of high profit in 2020 as against the oil price collapse and the ripple effect of the COVID-19 pandemic in 2019, the safety protocols, economic, financial, and business activities lockdown, and social distancing, revealed the status of profit to stakeholders in the banking sector. To sustain the bank's profitability to spur economic growth after the

2008 global financial crisis and the 2005 bank merger and acquisition. The government, regulatory and supervisory bodies developed diverse prudential guidelines and bailout strategies to drive economic stability through banking activities and stability. Empirically, the findings of Obamuyi, (2012); Obamuyi (2013); Adekola (2016); unanimously revealed a retrogressive decline in banks' profitability between 2002-2008 from 80.8% reported in 2002 to 13.95% in 2007, in 2008 it nose-dived to 49.14% due to 2008 crisis after recording a slight growth. By sustained implication, a consistent decline in banks' profit before tax erodes the extension plans and shareholders' investment goals in the bank.

The decline in profit declared according to Obamuyi, (2011) can be attributed to kinetic and non-kinetic factors of global economic crises, the festering banking sector crises, and the compromised criteria to measure bank performance by supervisory and regulatory authorities in Nigeria. Olokoyo (2011) argues that the diminishing trend in banks' profitability suggests that banks shorn of strategic conceptualized lending and credit administration procedures, creative competitive advantage prowess, and policies cannot survive the competitive banking climate, as the period of cheap profits is out of fashion. These claims are further collaborated by banks via the high profit declared notwithstanding the 2019 oil price collapse and the ripple effect of the COVID-19 pandemic and the safety protocol on the economy. Banks' profitability is a viable indicator of bank robustness, representing the managerial prowess of the bank to generate an above-average return from its assets.

Athanasoglou, Brissimis, and Delis (2008) opined that a profitable financial service sector has the prowess to buffer and resist financial volatility, to drive economic growth. The robustness of the industry is keen on accelerating the operational and business activities of the industry. Profitability fluctuations of banks reduce their operational and business activities of funds mobilization which negatively affect economic consumption and investment (Albertazzi and Gambacorta 2007). The profitability of the financial service

institution in Nigeria is of no interest to the government, but its operational and business activities are considered by the government to benefit the economy.

The Nigerian financial institutions are private and largely controlled and only a few banks are owned by the government. Bank profitability signifies the variance between liability overheads and profitable assets. Bank profitability re-shaped the statement of financial position and is determined by macro and micro factors. Macro factors significantly influenced bank profitability via; tax rate, inflation, gross domestic product (GDP), and interest rate, despite its unrelated nexus with the internal mechanism of the bank. Meanwhile, micro factors relating to the internal operational and business activities of the bank influenced bank profitability via bank-specific variables of non-performing loans (NLPs), bank size, expense and risk management, marketable securities, and capital (Güngör, 2007). The business and operational activities of mobilisation and allocation of funds for investment purposes by banks will not only affect the economy but also the population and government policies. For this purpose, the casual nexus and effect of bank activities on economic growth are investigated.

The empirical and theoretical economic literature on the banking sector is enormous. There are few studies to the best of our knowledge in Nigeria that considered specifically the fund mobilisation and allocation activities of the bank and the causal nexus among them. Contemporary studies in Nigeria considering this causal effect nexus focused on bank deposit and credit as a determinant of GDP with other additional variables of profitability. The studies conducted by Aurangzeb (2012); Tabash, Mosab and Raj, Dhankar, (2014); Abedifar, Pejman, Iftekhhar Hasan & Amine Tarazi, (2016); Boukhatem and Moussa (2018) revealed a lack of consensus results while arguing in favour of competition and concentration as factors influencing economic growth.

The mixed results could be attributed to the predominant use of the classical linear model

and other linear models, method of data collection, variables of interest, and scope among others. Most empirical studies in Nigeria on this area neglect the causal effect nexus between banking activities and economic growth in Nigeria. Against this background, it is pertinent and justifiable to deploy another model according to Nam, Pyun, and Arize (2002), Grassa, and Gazdar (2014) an alternative model will be of significance in policy formulations. Johansen cointegration test, and the Granger non-causality test, a Toda–Yamamoto procedure that is applicable regardless of whether a series is $I(0)$, $I(1)$, or $I(2)$, non-cointegrated, or cointegrated of any order were adopted.

2. Review of Related literature

Theoretical framework

The causal effect nexus between “supply-led growth and demand-led growth models” was first in 1911 by Schumpeter. Stating that financial sector development is denoted by “supply-led growth” Granger causes economic growth through its operational and business activities of fund mobilisation for investment in the real economic sectors. The Schumpeter school of thought was substantiated by Ndubuisi, (2017) among others upholding that increase in economic growth can be attributed to the bank's operational and business activities of funds mobilisation for investment and its profitability. The Schumpeter proposition was in 1952 counter-argued by Robinson stating that economic growth drives an increase in banking activities to boost its profitability. The Robinson argument is rooted in the “demand-led growth”. In between the supply-leading and demand-leading models; the feedback model is established to postulate that there is a mutual effect nexus between fund mobilization and economic growth. The second is the Casino Model of Neutrality which states no relationship between fund mobilisation and economic growth. Kar, Nazlıoğlu, and Ağır, (2011) in the Middle East and North Africa (MENA) Countries and Grassa and Gazdar (2014) in the Gulf Cooperation Council (GCC)

countries noted that fund mobilisation activities of banks are vital but do not necessarily lead to economic growth and development. Similarly, Patrick (1966) promulgated the stages of development model arguing that the nexus between banking activities and economic growth is determined by the stages of development. At the primary stage, banking activities drive economic growth and decline as the economy expands for economic growth to drive banking activities for profitability.

3. Empirical Review

3.1 Funds Mobilisation (Deposits) and Economic Growth

Empirical findings on the nexus between bank deposits and economic growth in developed and emerging economies are inconclusive and mixed. Empirical findings of Fosu (2013) in 28 African countries, Menyah, Nazlioglu, and Wolde-Rufael (2014) in 21 African countries, and Kumar and Chauhan (2015) in India revealed that deposits do not Granger cause economic growth. Using the cointegration and granger causality model, Regehr, and Sengupta, (2016) and Saeed, (2014) collaborated on these findings. A unidirectional causal nexus was observed between economic growth and bank deposit by Liang and Reichert (2006) concluding that the causal nexus is strong in the case of developing countries as compared to advanced countries.

Tahir (2008) in Pakistan established that causality runs from economic growth to financial activities of the service sector both in the short-run and long run. In Lebanon Awdeh (2012) reported a unidirectional causality running from economic growth to banking activities supporting the demand-led growth hypothesis. On the contrary, the empirical findings of Aurangzeb (2012) revealed a bidirectional causality between bank deposits and economic growth in Pakistan using the classical linear regression and Granger causality. Sharma and Ranga (2014) in India and Babatunde et al. (2013) in Malaysia observed a positive impact of saving deposits on economic growth and profitability, loan and

advances on economic growth in respective countries. Ndubuaku, Inim, Udo, Idamoyibo, and Abner (2020) observed a positive and statistically impact of financial development on the employment rate in Nigeria. Udo, Akpan. Abner, Idogen, and Ndubuak (2019) support both the supply-led growth and demand-led growth in Nigeria, collaborating the Patrick 1966 position on stages of development affecting economic growth and banking sector activities.

3.2 Funds Allocation (Credit) and Economic Growth

Korkmaz (2015) examined the nexus between banks' credit and economic growth in 10 European countries. Findings revealed a significant effect. In Nigeria, a positive effect was reported by Iwedi Marshal et al. (2015) while a significant long-run nexus between bank credit and economic growth without a significant level of causality was observed in Nigeria by Nwakanma et al. (2014). Martinho et al (2017) in Europe reported a positive link between real GDP growth and bank profitability due to the procyclicality of impairments. Adekola (2016) in 5 banks in Nigeria from (2005 to 2014), observed a unit increase in bank profitability and increase economic growth proportionately. In Georgia Ghurstskaia (2018) and Vietnam Tan, Trqng (2016) respectively observed a weak and strong nexus between economic growth and bank profitability.

In Saudi Arabia using ARDL Osman (2014) reported a long-run and short-run nexus between private sector credit and economic growth. Taking a departure from regression and other linear models Emecheta and Ibe (2014) in Nigeria using the Vector Autoregressive technique reported a positive and significant nexus between bank credit, broad money, and economic growth. Supporting unidirectional causality running from economic growth to bank credit. A unidirectional causality was also reported by Marshal et al. (2015) in Nigeria. Obradovic and Grbic (2015) in Nigeria like Udo et al, (2019) supported both a unidirectional and bidirectional causality in Nigeria. Given the inconclusiveness in the

extant studies and scarcity of literature in Nigeria, it is vital to investigate, in a robust manner, the effect of bank activities on economic growth in Nigeria.

4. Data Source and Model

Grounded on the theoretical underpinning which asserts that banks' operational and business activities affected economic growth and visa-visa via the supply-demand side effects, unexpected effect, sectoral adjustment effect, inflation effect, and real balance effect (Ahmad Ahmad, Koh, & Shaharuddin, 2016). The Johansen and Juselius (1990) maximum likelihood estimation model were adopted to determine the cointegrating nexus between the variables. The variables matrix is shown in equation (1). The VAR of order k is considered in equation (1). The $I(1)$ time series X_{t-i} and X_{t-k} are said to be cointegrated if a linear relationship exists of the form as in equation (1), where X_t is $I(0)$.

The VECM is expressed as: $\Delta Z_t = \Psi + \sum_{j=0}^{k-1} \mu_j \Delta Z_{t-j} + \Pi Z_{t-k} + \varepsilon_t, \dots \dots \dots (\text{eq 1})$

Where:

Δ = the first difference notation, Z_t is the $p \times 1$ which is the vector of the n variables,

ψ is the $p \times 1$, constant vector demonstrating a direct movement in a system, and k = Lag structure. The Gaussian white noise residual vector is represented by the ε_t .

While μ_j is a $p \times (k - 1)$ matrix that shows short-term changes between variables across p equations at the j th lag, Π is a $(p \times p)$ coefficient matrix, which is the cointegrating vectors.

To assess the reduced rank of the matrix Π , the vector error correction model of Johansen and Juselius (1990) employs: The $\lambda \text{Trace} = -T \sum_{i=r+1}^p \ln(1 - \lambda_i)$, which is the trace statistics and $\lambda_{\max} = -T \ln(1 - \lambda_r + t)$, which represents the Maximum Eigenvalue method. Where T represents the number of observations in the sample study, r is the number of

individual series and λ is the Eigenvalues. To assess the short-run interrelationship between the variables, we used the Vector Error-Correction Model (VECM), which is a controlled form of VAR with the inbuilt specification. We specify the VECM for the short-run relationship as follows:

$$\Delta \ln Y_t = \beta + \sum_{k=1}^p \mu^{2k} \Delta \ln X_{t-k} + \sum_{k=1}^p \delta_{2k} \Delta \ln Y_{t-k} + \lambda_2 \alpha^{t-1} + \varepsilon_t \dots \dots \dots (\text{eq 2})$$

$$\Delta \ln X_t = \beta + \sum_{k=1}^p \mu^{1k} \Delta \ln X_{t-k} + \sum_{k=1}^p \delta_{1k} \Delta \ln Y_{t-k} + \lambda_1 \alpha^{t-1} + \varepsilon_t \dots \dots \dots (\text{eq 3})$$

Where

λ_1 and λ_2 = the error correction coefficients that indicate the speed of adjustment to the long-run equilibrium connection between the variables. α^{t-1} = the error correction term from the cointegration model. The short-run dynamics of the variables are captured using $\Delta \ln Y_{t-k}$ and $\Delta \ln X_{t-k}$ s. The model is inept in determining the direction of causality.

For this purpose, the Toda–Yamamoto (1995) model is based on the estimation of the augmented VAR model ($k+d_{\max}$) where k is the optimal time lag on the first VAR model and d_{\max} is the maximum integrated order of the system's variables (VAR model) was adopted. The model is applicable regardless of the order of cointegration whether $I(0)$, $I(1)$ or $I(2)$, non-cointegrated or cointegrated. Hence, the potential bias associated with unit root and cointegration tests is avoided (Rambaldi & Doran 1996) among others. Using quarterly data collected from World Bank development indicators from 1999Q1-2020Q4.

The basic model is expressed mathematical as

$$\ln \text{GDP} = \beta_0 + \beta_1 \ln \text{MFD}_t + \beta_2 \text{M}_3 \text{GDP} + \beta_3 \text{EXCH} + \mu_t \dots \dots \dots (\text{eq4})$$

$$\ln \text{GDP} = \beta_0 + \beta_1 \ln \text{BACR}_t + \beta_2 \text{M}_3 \text{GDP} + \beta_3 \text{EXCH} + \mu_t \dots \dots \dots (\text{eq5})$$

Where: Y = Economic Growth proxy Gross Domestic Product (GDP) Dependent variable

β_0 = Constant; the value Y assumes when the independent variables are zero

β_1 - β_3 = Coefficient; the rate of change in Y

X_1 - X_3 = The independent variables

μ_t = Error Term

MFD = Mobilised funds is proxy by gross domestic savings deposit % of GDP. Calculated as gross domestic savings – final consumption expenditure. This is an all-encompassing indicator of household, private corporate sector, and public sector savings.

BACR = Allocated funds (Bank Credit) % of GDP

M3GDP = Money supply % of GDP;

Coefficient β_1 - β_3 in both models is expected to have a positive sign in the short-run and long run.

5. Results Presentation and Analysis

To achieve model stability, the stationarity properties of individual series in the model were examined using the diverse unit root models of Augmented Dickey and Fuller (ADF) (1979) and Phillips and Perron (PP) (1988). The Akaike information criterion was adopted to test the ADF statistics and select optimal lag length. The model consists of variables in mixed relative (rate, percentage) and absolute values, the semi-log (linear-log) functional form of the model is specified.

5.1 Descriptive statistics

The test for descriptive statistics was performed to investigate the time-varying effect of bank activities on economic growth and the leptokurtosis characteristics of the variables.

Table 1, revealed that the sample mean is not zero and the standard deviation is high for domestic savings (MFD) indicating series proneness to shocks. The mean and median values are not too far from each other indicating no extreme projection. The skewness statistic shows that all the series are positively skewed except for GDP, M3 and BACR which are negatively skewed. This implies a non-symmetric effect with the variables having an extreme tail to the right, while M3 and BACR

show an extreme tail to the left. The kurtosis statistic shows a blend of platykurtic and leptokurtic variables. The Jarque–Bera statistic which combines both skewness and kurtosis statistics shows that the normality assumption for the series can be rejected.

Table 1: *Descriptive Statistics of Variables*

	GDP	MFD	M3	BACR
Mean	10.6092	29.0071	18.573	14.534
Median	10.8016	25.399	20.684	17.586
Std. Dev.	1.0206	11.199	4.8466	5.4137
Skewness	-0.5059	0.6988	-0.3278	-0.2218
Kurtosis	2.0213	2.9532	1.3977	1.3277
Jarque-Bera	7.2668	6.8458	10.988	10.975

Table 2 *Unit Root Test Results*

Augmented Dickey-Fuller Test				Phillips-Perron Test		
Variables	T-stat	5% Critical Value	Order of Integration	T-stat	5% Critical Value	Order of Integration
BACR	-9.206	-3.462	I (1)	-9.206	-3.462	I (1)
LOGGDP	-8.862	-3.464	I (1)	-21.067	-3.462	I (1)
M3	-9.289	-3.462	I (1)	-9.289	-3.462	I (1)
MFD	-7.593	-3.467	I (1)	-8.963	-3.465	I (1)

Source: Author's Computation (2022)

5.3 Cointegration Test

The cointegrating vectors are presented and deliberated upon in Table 3 and 4 respectively, under the assumption of a linear deterministic trend in the series. The critical values were derived assuming no exogenous series.

Equation 4

H0= No cointegrating nexus between bank saving deposit and economic growth

Table 3: *Cointegration Test Results*

Hypothesized Coefficients	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.204890	37.51915	29.79707	0.0053
At most 1 *	0.148459	18.94790	15.49471	0.0145
At most 2 *	0.070601	5.930552	3.841466	0.0149

The trace test indicates 3 cointegrating eqn(s) at the 0.05 level

Source: Author (2022)

Equation 5

H0= No cointegrating nexus between bank's credit and economic growth

isProbability	0.0264	0.0326	0.00411	0.0041
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Source: Author's Computation (2022)

5.2 Unit Root Test

From the results of the augmented Dickey-Fuller test (ADF) and Phillips-Perron Test methods

presented in Table 2, it can be inferred that the variables are stationary at the first difference I (1). The p-values of the variables are all less < than 0.05, which causes the null hypothesis of the presence of unit root to be convincingly rejected.

H1 = Cointegrating nexus exists between bank saving a deposit and economic growth

The Eigenvalue statistics indicate (3) cointegrating equations of bank saving a deposit and economic growth at a 95% confidence level. Denoting the rejection of the hypothesis at a 5% critical value. The presence of cointegration indicates shocks and diverges in the short run influencing the individual series speed of convergence in the long run with time. On this premise, the VECM was conducted.

H1 = Cointegrating nexus exists between bank's credit and economic growth

Table 4: *Cointegration Test Results*

Hypothesized Coefficients	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.162006	27.44177	29.79707	0.0913
At most 1 *	0.080954	15.49471	12.41847	0.0379
At most 2 *	0.059817	5.242847	3.841466	0.0220

The trace test indicates no cointegration at the 0.05 level

Source: Author (2022)

5.4 Vector Error Correction Model Estimation

The VECM measures the speed of converging from short-run disequilibrium instigated by unexpected shocks to banks' operational and business activities resulting in a decrease in funds mobilisation and allocation for economic activities to drive growth and development. It is measured as the effects of residual from the long-run model. The short-run imbalance and dynamic structure are expressed as VECM.

Table 5: *Vector Error Correction Model Estimation*

Variables	D(LOGGDP)	D(M3)	D(MFD)
CointEq1	-0.017543	0.093236	-2.623813
	[-1.48401]	[0.50226]	[-4.07708]
CointEq2	-0.005663	-0.015654	-0.242586
	[-3.03100]	[-0.53353]	[-2.38487]
R-squared	0.295954	0.044864	0.203640
F-statistic	3.783252	0.422740	2.301417
Log likelihood	103.3428	-119.7195	-220.4218
Akaike AIC	-2.329451	3.178259	5.664736
Schwarz SC	-2.063401	3.444309	5.930786

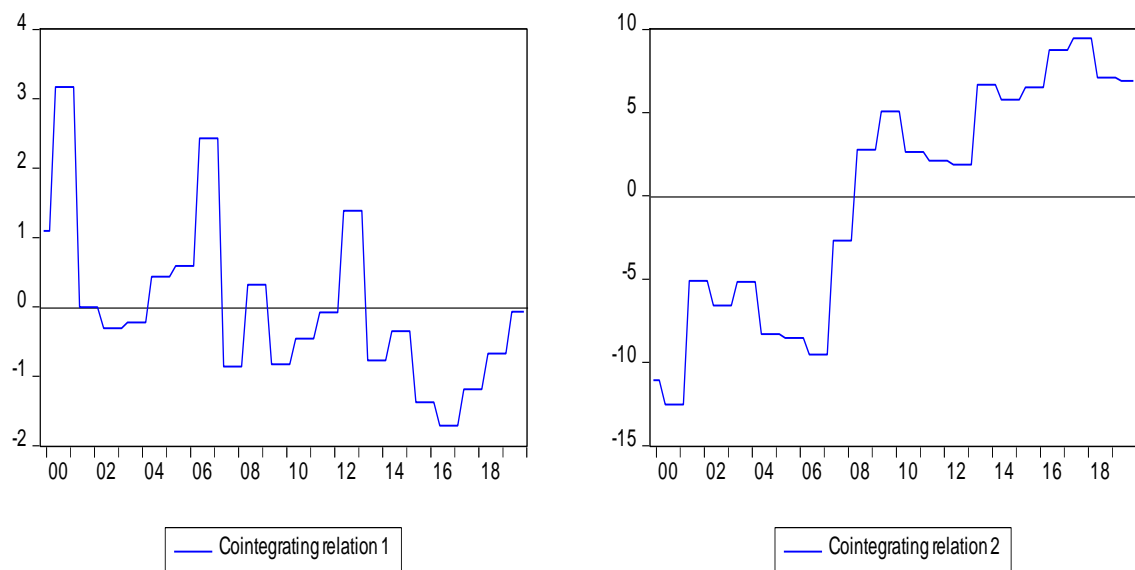
Source: Author (2022)

Table 6: *Vector Error Correction Model Estimation*

Variables	D(BACR)	D(LOGGDP)	D(M3)
CointEq1	-0.015009	-0.000302	0.106524
	[-0.16524]	[-0.06668]	[1.52837]
CointEq2	-0.082549	-0.009972	0.141800
	[-0.46480]	[-1.12433]	[1.04056]
R-squared	0.019476	0.284060	0.062843
F-statistic	0.188697	3.769266	0.637043
Log-likelihood	-145.3631	109.3737	122.8483
Akaike AIC	3.632072	2.361735	3.102312
Schwarz SC	3.890706	2.103101	3.360946

Source: Author (2022)

The data in Tables 5 and 6 show the fitting degree of the VECM model $R^2 > 0.5$, and AIC and SC criteria values are relatively small, which indicates the reasonability of the model estimation. The zero average line represents a stable and long-term equilibrium relationship among variables. Figure 1 revealed significant and sustained fluctuational shocks in banks' operational and business activities. The fluctuational shocks show that the short-term fluctuation within the period significantly deviated from the long-term equilibrium relationship. The short-term fluctuation effect shows a sharp decline in economic growth indicators caused by financial and non-financial crises (see fig. 1).

Fig. 1: *Cointegration Relationship Graph.*

Source: Author (2022)

Shocks in banks' activities mirror positive or negative forces accredited to an unanticipated change in banks' fundamental operational activities (supply-demand). Triggered by several factors such as financial crisis, economic factors, global health, and social events, disrupting supply funds mobilisation (supply-side shocks), or allocation for economic investment (demand-side shocks). The supply-side shocks are stirred by events such as the financial crisis, bankruptcy, and insider abuse among others. These events trigger precautionary demand shocks, arising from uncertainty posed by geopolitical turbulence, and public health emergencies among other economic agents.

Granger causality/Wald Test

The VAR Granger causality/Wald test approach is asymptotically following the chi-square (χ^2) statistics distribution regardless of the variable's order of integration. The VAR Toda–Yamamoto augmented Granger causality test is reported in Tables 7 and 8 respectively. At a 5% level of significance, bidirectional, unidirectional, and a non-directional augmented Granger causality test results are revealed between bank activities of fund mobilisation and allocation for investment in Nigeria.

Table 7 *Toda–Yamamoto Augmented Granger Causality for Domestic Savings Deposit*

Dependent variable: LOGGDP			
Excluded	Chi-sq	df	Prob.
M3	0.301954	2	0.8599
MFD	0.850305	2	0.6537
All	1.181556	4	0.8811
Dependent variable: M3			
Excluded	Chi-sq	Df	Prob.
LOGGDP	4.650150	2	0.0978
MFD	0.444082	2	0.8009
All	4.848044	4	0.3032
Dependent variable: MFD			
Excluded	Chi-sq	df	Prob.
LOGGDP	3.189178	2	0.2030
M3	1.807547	2	0.4050
All	10.49182	4	0.0329

Source: Author's Computation (2022)

Table 8 *Toda–Yamamoto Augmented Granger Causality for Bank Credit*

Dependent variable: LOGGDP			
Excluded	Chi-sq	df	Prob.
M3	0.130830	2	0.9367
BACR	0.027677	2	0.9863
All	0.359582	4	0.9857
Dependent variable: M3			
Excluded	Chi-sq	df	Prob.
LOGGDP	4.591587	2	0.1007
BACR	0.411949	2	0.8139
All	4.792604	4	0.3092
Dependent variable: BACR			
Excluded	Chi-sq	df	Prob.
LOGGDP	2.687597	2	0.2609
M3	0.028856	2	0.9857
All	3.378806	4	0.4965

Source: Author's Computation (2022)

The augmented Granger causality test reported in table 7 reveals no unidirectional and bidirectional feedback causal nexus between bank activities and economics at a 5% level. Economic growth and bank saving deposit equation have a chi-square (X²) value of 1.181556 with a p-value of 0.8811, suggesting that economic growth does not Granger-cause bank saving deposit activity of banks. The non-causal nexus is jointly and individually reported. There is no evidence of feedback at 5%.

The augmented Granger causality test reported in table 8 reveals no unidirectional and bidirectional feedback causal nexus between bank activity of funds allocation into the deficit sector as credit facility at a 5% level. The economic growth and bank credit equation

have a chi-square (X²) value of 0.359582 with a p-value of 0.9857, suggesting that economic growth does not Granger-cause bank credit activity of banks. The non-causal nexus is jointly and individually reported. There is no evidence of feedback at 5%. The result does not suggest rejection of the null hypothesis. The non-causal nexus can be attributed to bank size, which is associated with economies of scale as bigger banks drive performances and economic growth.

Higher bank credit implies the possibility of non-performing loans deteriorating bank assets quality causing a non-causal nexus. The findings of this study collaborate with the findings of El Kaseem (2017), Alper, Anbar (2011), Alshatti (2016) Lucy and al (2018), Kosmidou, Tamna and Pasiouras (2008). The causal link between bank activity and economic growth is crucially determined by the nature and operation of financial institutions and policies pursued.

Conclusions

The study empirically demonstrates that there is a positive and significant cointegrating nexus between the two major banking activities of fund mobilisation and allocation in both the short and long-run. The disequilibrium in the short-run caused by banking activities and economic uncertainties converged back to equilibrium in the long. In Nigeria, there is no causal nexus between banking activities and economic growth. Theoretical literature asserts that banking activities influence economic activities through various transmission channels of supply-demand side effects, unexpected effects, sectoral adjustment effect, inflation effect, and real balance effect.

The plausible reasons for non-causal relationships are not limited to:

1. The negative economic prosperity indicators are due to instability caused by stiff regulations and credit facility conditions, insurgency, and in the most recent time, the 2015-2016 recession and the partial 2018 recession.

2. Non-performing credit is attributed to negative economic prosperity indicators which discourage investment and the use of such facilities for non-economic investment.

3. Poor and lack of basic business and economic infrastructures.

4. Lack of affordable and accessible financial and business technology.

In the period of economic and financial boom, affordable credit facilities should be provided for businesses and industries especially small and medium scale enterprises for economic diversification as well as for investment in agricultural and manufacturing sectors. In the period of economic and financial decline, new personal loan schemes should be introduced by banks.

Reference

- [1] Abedifar, Pejman, Iftekhar Hasan & Amine Tarazi. 2016. Finance-growth nexus and dual-banking systems: Relative importance of Islamic banks. *Journal of Economic Behavior & Organization* 132: 198–215
- [2] Adekola O. A. (2016). The effect on bank profitability on economic growth in Nigeria, *Journal of Business and Management*, vol 18, issue 3, p1-9.
- [3] Adeniyi, O. M. (2006). *Bank Credit and Economic Development in Nigeria: A Case Study of Deposit Money Banks*. Jos Money Banks. Jos: University
- [4] Ahmad, R., Koh, E. H., & Shaharuddin, S. S. (2016). Determinants of bank profitability: A comparative study of East Asia and Latin America. *International Journal of Banking, Accounting, and Finance*, 7(1), 34–51. <https://doi.org/10.1504/IJBAAF.2016.079163>
- [5] Albertazzi, U., Gambacorta, L., (2007). Bank profitability and taxation. *Tem di discussione, Banca d'Italia*, No. 649.
- [6] Alper D., A. Anbar (2011). Bank specific and macroeconomic determinants of commercial bank profitability. Empirical evidence from Turkey. *Business and Economics Research Journal*, vol 2, 2, p139-152.
- [7] Alshatti A. S. (2016). Determinants of bank profitability – the case of Jordan, *Investment Management and Financial Innovation*, 13, 1, p84-91.
- [8] Athanasoglou, Panayiotis P., Sophocles N. Brissimis, and Matthaios D. Delis. 2008. Bank-specific, industry-specific and macroeconomic determinants of bank profitability. *Journal of International Financial Markets, Institutions and Money* 18: 121–36.
- [9] Aurangzeb (2012) Contribution of the banking sector in economic growth: A case of Pakistan. *Economics and Finance Review* 2: 45–54.
- [10] Awdeh (2012) Banking sector development and economic growth in Lebanon. *International Research Journal of Finance Economic* (100):53–62

- [11] Awdeh, Ali. 2012. Banking sector development and economic growth in Lebanon. *International Research Journal of Finance and Economics* 100: 53–62.
- [12] Babatunde, J., H., (2013) The impact of commercial banks on Malaysian economic development. *Int J Mod Bus* 1(3):20–31
- [13] Boukhatem, Jamel, and Fatma Ben Moussa (2018). The effect of Islamic banks on GDP growth: Some evidence from selected MENA countries. *Borsa Istanbul Review* 18.
- [14] El Kassem R. C. (2017). Determinants of bank profitability: Panel data from Qatar, *Open Journal of Accounting*, vol 6, p 103-111.
- [15] Emecheta, B., C, & Ibe, R., C, (2014) Impact of bank credit on economic growth in Nigeria: application of reduced vector autoregressive (VAR) technique. *Eur J Account Auditing Finance Res* 2(9):11–21
- [16] Fosu, S.B., (2013). Financial development and economic growth in Africa: A dynamic causal relationship (Master of Arts in Economics Dissertation). New Hampshire: University of New Hampshire.
- [17] Ghurstskaia. K. (2018). Macroeconomic determinants of bank profitability: Evidence from Georgia. *Ecoforum*, vol 7, 3.
- [18] Grassa, R. & K. Gazdar, 2014. Financial development and economic growth in GCC countries: A comparative study between Islamic and conventional finance. *International Journal of Social Economics*, 41(6): 493-514. Available at: <https://doi.org/10.1108/ijse-12-2012-0232>.
- [19] Iwedi M et al (2015) Bank domestic credits and economic growth nexus in Nigeria (1980–2013). *Int J Finance Accounting* 4(5):236–244
- [20] Juselius, K, J., & Johansen, S. (1990), Maximum likelihood estimation and inference on cointegration with application to the demand for money. *Oxford Bulletin of Economics and Statistics*, 52, 169-210.
- [21] Kar, M., S. Nazlıoğlu, & H. Ağır. 2011. “Financial Development and Economic Growth Nexus in the MENA Countries: Bootstrap Panel Granger Causality Analysis.” *Economic Modelling* 28: 685–93.
- [22] Korkmaz S (2015) Impact of bank credits on Economic growth and inflation”. *J Appl Finance Banking* 5(01):57–69
- [23] Kosmidou K., Tamna S., F. Pasiouras (2008). Determinants of profitability of domestic UK commercial banks Panel evidence from the period 1995...2002

- [24] Kumar S, & Chauhan S (2015) Impact of Commercial Deposit in Banks with GDP in context with Pradhan Mantri Jan Dhan Yojna. *BVIMSR's J Manage Res* 7(1):53–59
- [25] Liang H-Y, & Reichert A (2006) The Relationship between economic growth and Banking sector development. *Banks Bank Syst* 1(2):19–35.
- [26] Marshal I et al (2015) Causality modelling of the banking sector credits and economic growth in Nigeria. *IIARD Int J Banking Finace Res* 1(7):1–12
- [27] Martinho R., J. & Oliveria, V. (2017). Bank profitability and macroeconomic factors.
https://www.bportugal.pt/sites/default/files/anexos/papers/paper_5_en.pdf
- [28] Menyah, K., S. Nazlioglu & Y. Wolde-Rufael, 2014. Financial development, trade openness and economic growth in African countries: New insights from a panel causality approach. *Economic Modelling*, 37: 386-394. Available at: <https://doi.org/10.1016/j.econmod.2013.11.044>.
- [29] Nam, K., Pyun, C.S., & Arize, C.A (2002). Asymmetric Mean-Reversion, and Contrarian Profits: ANSTGARCH Approach. *Journal of Empirical Finance*, 9 (8), pp563-588. (2002) [https://doi.org/10.1016/S0927-5398\(02\)00011-7](https://doi.org/10.1016/S0927-5398(02)00011-7)
- [30] Ndubuaku, V. Inim, V., Udo, E., S., Idamoyibo, H., R., & Abner, I., P., (2020). Financial Development on Employment Rate in Nigeria, *Research in World Economy*, 12, (1), pp 267-278
- [31] Ndubuisi, P. (2017) An examination of the relationship between financial development and economic growth in Nigeria: Application of multivariate var framework. *International Association of African Researchers and Reviewers*, pp 20-34(2017) www.afrrevjo.net. Doi.10.1016/JEF2017.7.6176.1852015
- [32] Nwakanma, P., C. (2014) Bank credits to Private sector: Potency and Relevance in Nigeria's Economic Growth Process. *Account Finance Res* 3(02):23–35
- [33] Obamuyi, T. M. (2011). Incessant Bank Distress and the Policies of Central Bank of Nigeria. *International Journal of Finance and Accounting*, 1(1), 121 – 13.
- [34] Obamuyi, T. M. (2012). Financial Development and Economic Growth in Emerging Markets: The Nigerian Experience. *Indian Journal of Finance*, 6(4), 16-27.
- [35] Obamuyi, T. M. (2013). Determinants of Banks' Profitability in A

- Developing Economy: Evidence from Nigeria. *Organizations and Markets in Emerging Economies*, 2013, 4, 2(8) 97 – 111.
- [36] Obradovic S, & Grbic M (2015) Causality relationship between financial intermediation by banks and economic growth: Evidence from Serbia. *Prague Econ Pap* 24(01):60–72
- [37] Olokoyo, F. O. (2011). Determinants of Commercial Banks' Lending Behaviour in Nigeria. *International Journal of Financial Research*, 2(2), 61-72.
- [38] Osman, E. G., A (2014) The impact of private sector credit on Saudi Arabia Economic Growth (GDP): An Econometrics model using (ARDL) Approach to Cointegration. *Am Int J Soc Sci* 3(6):109–117
- [39] Patrick, H. T. (1966). Financial development and economic growth in underdeveloped countries. *Economic Development and Cultural Change*, 14(2), 174-189. <https://doi.org/10.1086/450153>
- [40] Rambaldi, A.N., & Doran, H.E. (1996), Testing for Granger Non-causality in Cointegrated Systems Made Easy, Working Papers in Econometrics and Applied Statistics. England: Department of Econometrics, the University of New England, No. 88
- [41] Regehr, K., & Sengupta, R. (2016). Has the relationship between bank size and profitability changed?. *Economic Review*, 101(2), 49–72. <https://fedinprint.org/item/fedker/31144>
- [42] Robinson, J. C. (1952). The generalisation of the general theory in the rate of interest and other essays. London: Macmillan Press
- [43] Saeed, M. S. (2014). Bank-related, industry-related and macroeconomic factors affecting bank profitability: A case of the United Kingdom. *Research Journal of Finance and Accounting*, 5(2), 42–50. <https://www.iiste.org/Journals/index.php/RJFA/article/view/10678>
- [44] Schumpeter, J. A. (1911). The theory of economic development. Oxford: Oxford University Press.
- [45] Sharma D, & Ranga M (2014) Impact of saving deposits of commercial banks on GDP. *Indian J Appl Res* 4(9):95–97
- [46] Tabash, Mosab I., & Raj S. Dhankar (2014). The flow of Islamic finance and economic growth: An empirical evidence of Middle East. *Journal of Finance and Accounting* 2: 11–19.
- [47] Tahir M (2008) An investigation of the effectiveness of financial development in Pakistan. *Lahore J Econ* 13(2(winter)):27–44 World

development indicators (WDI), World Bank

- [48] Toda, H.Y. & Yamamoto, T. (1995). Statistical inferences in vector autoregressions with possibly integrated processes. *Journal of Economics*. 66, 225–250.
- [49] Udo, E. S., Jack, A. E., Abner, I. P., & Idogen, K. (2019). Finance-led growth and growth-led finance: evidence from Nigeria economic and financial sector development. *Humanities and Social Sciences Letters*, 7(4), 191-198. <https://doi.org/10.18488/journal.73.2019.74.191.198>