

Effect of financial performance indicators on share price of listed commercial banks in Nigeria

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World Journal of Advanced Research and Reviews, 2022, 16(02), 145–155

Publication history: Received on 26 September 2022; revised on 31 October 2022; accepted on 03 November 2022

Article DOI: <https://doi.org/10.30574/wjarr.2022.16.2.1131>

Abstract

Placement of funds on the capital market could be confounding particularly when the market is unreadable in a blurred investment macroclimate riddled by unethical practices of all dimensions which naturally renders traditional financial indicators blinded. This study investigates effect of financial performance indicators on share prices of the thirteen listed commercial banks in Nigeria within the periods of 2010 to 2020. Net interest margin, economic value added and free cash flow are the exogenous variables that proxy financial performance indicators. Study employs panel ordinary least squares because of the homogeneity nature of the cross sectional and time series data under observation while the Hausman test suggested random effect testing. Findings from the study revealed that while Free Cash flow has a positive significant effect, both economic value added and net interest margin have negative significant effect on share prices of listed money deposit banks in Nigeria. Study therefore recommends that Central Bank of Nigeria, policy makers in the financial circle, professional bodies and the academia to project financial indicators that are futuristic with demands for economic sustainability beyond profitability. This study also recommends that listed commercial banks should be more creative and innovative with value added products to scale up their interest incomes sources since investors' appetite to safeguard funds cannot be over emphasized.

Keywords: Economic Value added; Financial Performance Indicators; Free Cash Flow; Net Interest Margin

1. Introduction

Financial performance indicators are economic metrics that guide economic decisions of the investing public while protecting their stakes in business entities. Such investment decision could be influenced by returns, safety cushion, security, cyclical cash needs or for a controlling stake in the company (Pettinger, 2019). Whatever the reason might be, an investor is expected to do a comprehensive financial evaluation of all the investment options and then invest in the assets that will meet his investment appetite (Skousen *et al.*, 2007). In a bid to make the right investment decision, investors world over tend to find a common ground to monitor share prices of firms of interests, such that even after the 2007 global financial crisis the dependence on share price is further emphasised (Sharif *et al.*, 2015).

The value placed on share price could be seen from perspectives of the different players in the capital market and the public. A rise in the price of a company's share could signify confidence of market players; so also, a fall in share price could connote that investors are weary of such shares hence a restrain in such stock patronage. The rise and fall in share prices are primarily determined by the market forces of demand and supply. These market forces could transmit the

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fear of the market as obtainable in a bearish market or the confidence in the market as expressed in a bullish market. The share price is so vital that it has a way of reflecting the performing status of a firm, the reposing confidence of investors in the firm and the management ingenuity of those at the helm of affairs. Arguably, it is not only investors nor the investing public that are interested in share price, even firms are also interested in their own share price movement as it is undeniably their projecting mirrors. The expressions of confidence or otherwise in share prices are mostly captured by the stock exchanges across climes of which the Nigerian Exchange Group is not exempted.

The expression of confidence by investors, as witnessed by the Nigeria capital market showed an uncommon eight months bullish run from mid March 2020 to November 2020 despite the global economic downturn occasioned by the novel COVID-19 pandemic outbreak as the market posted a positive market turnover with market capitalization standing at ₦24.52 trillion in year 2020 compared to a shadowy form of ₦6.59 trillion posted in 2019 (Joel-Nwakwoma, 2021) This trend as recorded on the Nigeria capital market indicates that investors seem to have confidence in the capital market performance which in essence could be an affirmation of the efficient market hypothesis which projects amongst others, that share price contains all the available information in the market. A firm with a high free cash flow could send a positive signals to investors who could be attracted to such share as high free cash flow (FCF) could signifies possibilities of firms business expansion, research and development which could positively affect shareholders wealth.

Furthermore, company with a well manage and increasing net interest margin (NIM) could signify to the investing public of its potential of assets earning management which then means the capability of covering its operating expenses of which such information when consummated by the market also reflects on the share price. While a firm with an increasing economic value added (EVA) could signify to the market its capabilities of maximising shareholders wealth far above profitability even unto economic sustainability. Therefore, there is the need to investigate how financial performance indicators affect share price as findings will enable the investing public to be informed as to the relationship each performance indicator has on share prices, more so, that certain financial performance indicators are greatly commanding the attention of investors as these could be seen in extensive engagement of such financial performance indicators in developed climes more than developing clime. Such financial performance indicators are, free cash flow, net interest margin and, economic value added.

The financial performance indicators; net interest margin, economic value added, free cash flow used to explain share price of listed firms varies across empirical studies of developed clime (Endri, 2018; Silaban, 2017) and developing economies (Akinleye *et al.*, 2018; Narayan and Reddy, 2018; Khan *et al.*, 2016; Mundia, 2016). Also, similar studies in Nigeria; Idowu *et al.*, (2018) focused on free cash flow on selected non financial quoted firms of while this study engaged free cash flow, net interest margin and economic value added, variables to investigate effects on share prices of listed money deposit banks in Nigeria, and this is the difference of this study.

Based on the study objectives of free cash flow, net interest margin and economic value added the following hypotheses in null form were formulated and tested.

- H01: Net interest margin has no significant effect on share price of listed commercial banks in Nigeria.
- H02: Economic value added has no significant effect on share price of listed commercial banks in Nigeria.
- H03: Free Cash flow ratio has no significant effect on share price of listed commercial banks in Nigeria.

2. Literature Review

2.1. Financial Performance Indicators

Financial performance indicators are vital decision-making tools in the hand of a retail investor, mutual fund managers, foreign institutional investors or any other person investing in equity market for different reasons. It allows an investor to do a comprehensive financial evaluation of all the investment options and then invest in the asset that will meet his investment appetite (Skousen *et al.*, 2007). It is also rated in definition as a fundamental measurement that securities analysts use to forecast the market's direction, such as investment advisory sentiment, volume of stock trading, direction of interest rates, and buying or selling by corporate insiders (Akinmade *et al.*, 2020; Harvey, 1995).

2.2. Net Interest Margin

This key indicator measures the bank's management capability to generate interest income by taking into account the performance of banks to disburse loans, given that the operational income of banks is highly dependent on the difference between interests and credit disbursed (Mahardian, 2008). Net interest margin is measured by comparing net interest income to earning assets. The greater the net interest margin, the higher the interest income on earning

assets managed by the bank. If that is the case, then it shows better financial performance of the bank (Almilia & Herdiningtyas, 2005).

However, during the Covid-19 lockdown, most financial institutions experienced evidence in their interest incomes from charges bordering on online banking transactions as virtual transactions took over from physical presence transactions triggering more into financial inclusion nets such that; banks naturally enable individuals to benefit from short-term credits. In this case; the net interest incomes of banks increase (Organisation for Economic Co-operation and Development, 2020).

2.3. Economic Value Added

Economic value added is basically a management technique, developed by Stern Stewart & company (Stern, Stewart & Chew, 1995). This financial performance indicator calculates the economic value added achieved or created by the firm over a particular period of time. It is a key financial performance indicator that motivates companies to find out ways to increase efficiency of capital utilization and consequently produce a superior operating performance, which in turn reflects a stock's intrinsic value. Economic value added focuses on shareholders wealth creation rather than exclusive profits of the company and hence it is gaining popularity. Economic value added can be used for the purposes of setting organizational goals, performance measurement, determining bonus, communication with shareholders and investors, motivation of managers, capital budgeting, corporate budgeting, and corporate valuation Awan, *et al.*, 2014).

Even though, economic value added is considered as a superior measure of performance, it too suffers from certain limitations. One major limitation of economic value added is its over reliant on financial metrics like the amount of capital invested, profit margins and cost of capital. Similarly, a company can reduce expense recognition by delaying or cancelling expenditures in favour of better financial results. For instance, a company can terminate the employee training program and thereby tend to save the consultation fees which increases economic value added but puts the commitment to work at halt (Altaf, 2016).

2.4. Free Cash Flows

The free cash flows as financial performance indicator shows the cash that the company possesses after spending for maintenance or development of the property and the presence of huge free cash flow are processed into stock price by the market. Free cash flows are the cash that are ready to be distributed to the shareholders immediately after taking into account all the cash taxes and planned capital expenditures (Christy, 2009). Free cash flows are the operation profits before accounting for depreciation but after taking into account dividend payments and taxes (Lehn & Poulsen, 1989). It represents resources that managers have at their disposal to invest, but which could have been distributed among the shareholders. It allows a company to go after opportunities that lead to the enhancement of the shareholders' value (Jensen, 2005).

High free cash flow is a catalyst to high stock prices. The ratio of stock price to free cash flow per share is a method of measuring the value of a firm. Banks that portrays low prices in regards to free cash flow ratios represent banks that have been neglected at attractive prices. A bank's share price which is low and free cash flows is increasing implies that its earnings and share value/price will increase (Hee-Jung, 2018). However, if a bank has insufficient free cash flows, it will be unable to sustain its growth rate thereby negatively affecting its stock price and this can lead to liquidation of the bank. Measuring a bank's free cash flows portrays the appropriate management of the overall bank's operations which includes various factors such as capital expenditures, sales and employee costs. Screening of banks which have effective and attractive levels of price to free cash flows leads to a vital method to shine light upon the more mature stock values.

2.5. Share Price

Shares are type of security that signify ownership in a corporation and represents a claim on part of the corporation's assets and earnings. It is simply a notarized paper corresponding to a stake in the company. Share price is the cost of purchasing such securities on an exchange. It fluctuates on a daily basis depending on the market forces of demand and supply. If shares of a company are in high demand due to the company performing well, then the price per share would increase. If there is a surplus of shares and little demand due to the company performing below par, then the price per share would decrease (Callahan & Iyer, 2010).

According to Mohtadi and Agarwal (2004), share price is also seen as the determinant of a firm's value, as they view stock price as the price of a single share of a number of saleable stocks of a company, derivative or other financial asset. Share price is the most obvious and important criteria for determining a firm's value. Similarly, Pech *et al.* (2015) opine

that share prices are determined in the marketplace, where seller's supply meets buyer's demand and in layman's terms, it is the highest amount someone is willing to pay for the stock, or the lowest amount that it can be bought for.

2.6. Empirical Review

Sarjono and Suprpto (2020) investigated the effect of the CAMEL ratio of net interest margin, capital adequacy ratio, return on assets on stock price of eleven listed Indonesian banks from 2005 to 2014. Findings from the study showed that return on asset and net interest margin are negatively correlated with stock price while positive correlation was established for capital adequacy ratio. The study done in Indonesia did not capture economic value added and free cash flow of which this study covers

Endri (2018) examined indicators that influence the banking stock price listed in Indonesia Stock Exchange during 2006-2016 period using panel data regression method with eleven banks selected as research sample. Findings of analysis revealed that net interest margin and cash adequacy ratio significantly affects the movement of share prices. Of the variables that influence significantly, the net interest margin ratio variable is the least influence variable. All independent variables consisting of; net interest margin, cash adequacy simultaneously affect the banking stock price significantly. This study did not extend to EVA and FCF of which this work does.

Silaban (2017) investigated the effects of net interest margin and capital adequacy ratio on share price of listed Indonesian banks from 2012-2016. The study panel regression analysis on purposive sampled data of all the forty state and private banks listed in the Indonesian Stock Exchange. Findings from the analysis showed that net interest margin improves the growth of bank profitability thus affecting the share price of the banks while capital adequacy ratio does not have a significant effect on bank profitability. This can happen because net interest margin has a component of net interest in its ratio. The study did not consider EVA and FCF of which this study consider.

Akinleye *et al.* (2018) examined effects of free cash flow on the growth of non-financial quoted firms in Nigeria between 2012 and 2016. The study employed ex-post facto research design with correlation analysis through panel least ordinary square. Findings from the study showed that free cash flow exerts a negative impact on firms' growth rate. Thus, the study established that, rising free cash flow has the capacity to erode the growth prospect of firms quoted on the Nigeria stock exchange. Study though done in Nigeria was limited to free cash flow of hence, the need for this study which extends scope to cover NIM and EVA

Mundia (2016) examined the relationship between free cash flows and stock prices of forty two non-financial firms listed at the Nairobi Securities Exchange in the years 2011 to 2015. The study employed multiple linear regressions to identify the existence of relationship. Results from findings showed a positively significant free cash flow of the non-financial listed firms listed. The study emphasised that strong free cash flows is a value driver that enables development of new products, increase its dividends, venture into new markets, and pay off of liabilities. Analyzing a firm's free cash flow brings to light proper management of the overall firm operations such as production, inventory control, sales, accounts receivables management and capital expenditures. Result of this work done using Nairobi's data cannot be generalised to Nigeria hence the need for this study to use Nigeria data.

3. Theoretical Framework

3.1. The Efficient Market Hypothesis

This hypothesis was developed in 1965 by an economist; Eugene Fama who asserted that market efficiency is the degree to which share prices reflect all available and relevant information. Such that if markets are efficient, then all information is already processed and incorporated into prices, and so there is no way to "beat" the market because there are no undervalued or overvalued securities available. Fama stated that an investor can't outperform the market, and that market anomalies should not exist because they will immediately be arbitrated away as the market is populated by large number of rational investors' intent to maximize profit, compete with each other in trying to predict future values of individual securities as security prices are presumed to reflect the effects of information based on past, current and future events.

The core idea behind the EMH is that stock prices should fully reflect all new and available information in an unbiased manner to the market participants. Such markets deliver accurate signals for resource apportionment as market prices represent each security's basic worth, although deviations can occur. Price adjustments are only expected to arise from the release of new information (Mabhunu, 2004). The efficiency of the stock market is imperative in economic development as it is an enabling environment for mobilizing savings and investment resources for developmental

purposes. It also affords investors opportunities to diversify their portfolio across a variety of assets leading to reduction in the cost of capital (Clement *et al*, 2017).

4. Methodology

Study deployed *ex post facto* research design as reliance on secondary data already collected by the study population. Population of this study is made up of thirteen listed commercial banks on the floor of the Nigerian Exchange Groups from year 2010 to 2020. Study did not use sampling size due to the small size of the study but census all the elements of the population; Access Bank Plc, Ecobank Plc, Fidelity Bank Plc, First Bank of Nigeria Plc, First City Monument Bank Plc, Guaranty Trust Bank Plc, Stanbic IBTC Plc, Sterling Bank Plc, United Bank of Africa Plc, Union Bank Plc, Unity Bank Plc, Wema Bank Plc, and Zenith Bank Plc.

4.1. Model Specification

This study utilised the panel ordinary least squares regression technique due to the homogeneous nature of the study and also because the study involves the combination of time series and cross-sectional data. Hausman specification test was utilized to test the appropriateness of either the fixed or random effect model.

4.2. Model Specification

The functional model for this study is stated as;

$$SHP = F (NIM, EVA, FCF)$$

The model is stated econometrically as;

$$SHP_{it} = \beta_0 + \beta_1NIM_{it} + \beta_2EVA_{it} + \beta_3FCF_{it} + \epsilon_{it}$$

Where:

SHP_{it} = Share price of bank i at time t

NIM_{it} = Net interest margin of bank i at time t

EVA_{it} = Earnings per share of bank i at time t

FCF_{it} = Free cash flow of bank i at time t

ϵ = error term

β_0 = Intercept of the regression line

β_1 - β_5 = Coefficient of the independent variables

Table 1 Variables Measurement Table

Financial Performance Indicators	Measurement	Supporting Studies
Share Price	P/E ratio X Earning per share	Pech, Noguera and White.(2015); Wafubwa (2014); Almumami (2014)
Net Interest Margin	Net Interest Income /Total assets	Nasution and Lingga (2019); Endri (2018); D’Apolito and Pacelli (2017);
Economic Value Added	Net Operating Profit After Tax – (WACC x Capital invested)	Kaur, Sidana and Panda (2019); Upadhyay (2018); Ende (2017); Sabol and Sverer (2017).
Free Cash Flow	operational cash flow + received dividends and received profits for short-term deposits - finance costs- taxes - purchases of assets	Akinleye, Olarewaju and Fajuyagbe (2018); Etale and Bingilar (2016); Maringka, Moeljadi, Djazuli and Ratnawati (2016)

Source: Author’s Compilation, (2021).

5. Data Analysis and Results

Table 2 Descriptive Statistics

	SHP	NIM	EVA	FCF
Mean	7.852727	0.358212	8.683628	8.037233
Median	9.050000	0.391323	8.715189	8.193537
Maximum	10.45000	0.711087	9.517911	8.872757
Minimum	4.800000	0.036881	8.024684	7.094538
Std. Dev.	2.022249	0.227174	0.482381	0.476336
Skewness	-0.324869	-0.259589	0.393093	-0.288706
Kurtosis	1.492765	1.800694	2.194111	2.510875
Jarque-Bera	16.05125	10.17612	7.552468	3.412027
Probability	0.000327	0.006170	0.022909	0.181588
Observations	143	143	143	143

Source: E-view Output, 2021

Table 2 descriptive statistics shows that the standard deviation value of share price (SHP) of 2.022249 is less than the mean value of 7.852727, which means that the data are not widely dispersed from the mean. The standard deviation of net interest margin (NIM); 0.2271741 is below the average value 0.358212 which signifies that the data are not widely dispersed from the mean.

The standard deviation of EVA; 0.482381 is below the average value 8.683628 which indicates that the data are not fairly dispersed from the mean. The free cash flow (FCF) standard deviation value of 0.476336 is below the mean value of 8.037233 which signifies that the data are not fairly dispersed.

Table 3 Correlation Coefficient Matrix

	SHP	NIM	EVA	FCF
SHP	1			
NIM	-0.2512	1		
EVA	-0.4027	-0.1013	1	
FCF	-0.0204	0.0223	0.3905	1

Source: E-Views Output, 2021

Table 3 presents the correlation matrix of the independent variables. It is observed that the variables correlate fairly well (between 0.39 and -0.40). There is no correlation coefficient greater than 0.8, hence there is no problem of multicollinearity of data (Neter, Kutner, Nachtsheim & Wasserman, 1996).

Table 4 presents the variance factor (VIF) and tolerance coefficients of each of the explanatory variables. It is observed that the collinearity diagnosis revealed a VIF well below 10, a tolerance above 0.2.

Table 4 Variance Inflation Factors

Date: 08/30/21 Time: 14:26			
Sample: 1 143			
Included observations: 143			
	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
NIM	3.593115	1.195342	1.003153
EVA	3.90E-36	1.014493	1.001083
FCF	3.18E-24	1.015875	1.002229
C	0.877675	1.227498	NA

Source: Eview Output, 2021

This shows no threat of multicollinearity or independent errors. Researchers suggested that multicollinearity does not constitute a problem when the vif does not exceed 10 and when the tolerance for each of the variable is above 0.2 (Wasserman & Kutner, 1990).

Table 5 Hausman Test

Equation: Untitled			
Test period random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	0.225142	1	0.6351

The Hausman test at 0.6351 suggest the adoption of random effect as against fixed effect testing

Table 6 Heteroscedacity Test

F-statistic	1.662371	Prob. F(3,138)	0.1780
Obs*R-squared	4.952685	Prob. Chi-Square(3)	0.1753
Scaled explained SS	12.84294	Prob. Chi-Square(3)	0.0050

The Breusch Pagan-Godfrey Test of Heteroskedasticity shows $obs^2 R$ of 4.952.5181, hence the data are homokedastic, which is desirable, study accept null hypothesis that residuals are not heteroskedastic but homokedastic.

5.1. Dependent Variable: SHP

Table 7 regression line $SHP = +20.96337 -2.729215NIM -2.119525EVA +0.780388FCF$ indicates that SHP will reduce by -2.729215 units for every 1 unit increase in net interest (NIM) margin. SHP will also reduce by -2.119525 that for every 1 unit increase in EVA, while for every 1 unit increase in Free Cash Flow (FCF) SHP will increase by 0.780388 units.

The F-Statistic of 17.74000 and its corresponding P-value of 0.000 indicates that the model is fit. The Coefficient of Determination (R^2) of 0.276 indicates that about 28% of variation in SHP can be explained by NIM, EVA and FCF. The remaining 72% are attributed to other performance indicators that are not captured in the regression. The Durbin-Watson value of 2.35 aligns with the rule of thumb that DW test statistic values in the range of 1.5 to 2.5 are relatively normal.

Table 7 Random Effect Regression

Dependent Variable: SHP				
Method: Panel EGLS (Cross-section random effects)				
Sample: 2010 2020				
Periods included: 11				
Cross-sections included: 13				
Total panel (balanced) observations: 143				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	20.96337	3.224995	6.500281	0.0000
NIM	-2.729215	0.676735	-4.032914	0.0001
EVA	-2.119525	0.346116	-6.123742	0.0000
FCF	0.780388	0.348790	2.237413	0.0269
	Effects Specification		S.D	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			1.818382	1.0000
Weighted Statistics				
R-squared	0.276870	Mean dependent var		7.852727
Adjusted R-squared	0.261263	S.D. dependent var		2.022249
S.E. of regression	1.738119	Sum squared resid		419.9270
F-statistic	17.74000	Durbin-Watson stat		2.351792
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.276870	Mean dependent var		7.852727
Sum squared resid	419.9270	Durbin-Watson stat		2.351792

Source: Eview Output, 2021

5.2. Net Interest Margin and Share Price

The regression line $SHP = +20.96337 - 2.729215NIM - 2.119525EVA + 0.780388FCF$ indicates that Share price will reduce by -2.729215 units for every 1 unit increase in net interest margin (NIM), The significance P-value of NIM at 0.0001 lead the study to reject the null hypothesis and to accept the alternate hypothesis that NIM has a negatively significant effect on share price of listed deposit money banks in Nigeria.

5.3. Economic Value Added and Share Price

The regression line $SHP = +20.96337 - 2.729215NIM - 2.119525EVA + 0.780388FCF$ indicates that Share price will reduce by -2.119525 units for every 1 unit increase in economic value added (EVA), the P-value is 0.0000, the study rejects the null hypothesis and accept the alternate hypothesis that indicates that economic value added has a negatively significant effect on share price of listed deposit money banks in Nigeria.

5.4. Free Cash Flow and Share Price

The regression line $SHP = +20.96337 - 2.729215NIM - 2.119525EVA + 0.780388FCF$ indicates that share price will increase by 0.780388units for every 1 unit increase in free cash flow (FCF). The P-value of FCF is 0.0269, thus the study

rejects the null hypothesis and accept the alternate hypothesis that indicates that Free Cash Flow has a significant effect on share price of listed deposit money banks in Nigeria.

6. Discussion

Based on the regression result, net interest margin has a significant effect on share price of listed commercial banks in Nigeria. This means that net interest margin is a determinant of share price. This finding is consistent with the previous work of Sarjono and Suprpto (2020). Likewise, the finding is contrary to the studies of Endri (2018); Silaban (2017).

In the panel regression, the result indicated that economic value added has significant effect on share price. This indicates that economic value added is a predictor of share price of listed commercial banks in Nigeria. The finding is in tandem with the findings in the previous works of Pasha and Ramzan (2019) Narayan and Reddy (2018) but contradicts the work of Nugroho (2018) Upadhyay (2018).

Finding from the study reveals that free cash flow is a positive predictor of share price of listed commercial banks in Nigeria. This finding contradicts prior studies of Akinleye *et al.* (2018) and aligns with Mundia (2016).

7. Conclusion

Financial performance indicators effects on share prices and its extensive effects as transmittable by the Capital market have become a relevant topic in finance literature. This study concludes that Net Interest Margin, Economic Value Added and Free Cash Flow, as a financial performance indicators deserve attention in Nigeria. That EVA, when projected could attract fund investors whose appetites are beyond profitability projections from the traditional performance indicators.

Based on the result obtained from the study, the study concludes that higher interest earning is associated with innovations, quality of management, and reduction in management and operating expenses. While FCF is also shown by the study as a predictor of share price of listed commercial banks in Nigeria.

Recommendations

The study offers the following recommendations based on the findings of the study:

- Since this study establishes that NIM is a determinant of Share price of listed commercial banks in Nigeria. The study recommends Deposit Money Banks in Nigeria should keep in check their interest expenses, scale up innovation and put emphasis on management quality so as to maintain meaningful interest earnings which could open up more frontiers for startups firms in Nigeria.
- That Central Bank of Nigeria, professional bodies and the academia should stipulate more projections of EVA so as to encourage listed commercial banks to see beyond profitability by placing emphasis on economic sustainability.
- The study submits that since strong free cash flows is a value driver that enables research and development, development of new products, dividends payment potential, the CBN, should ensure that banks translate their high free cashflow into economic goods in terms of dividend payment or research into new frontier for the benefits of the Nigeria economy.

Compliance with ethical standards

Acknowledgments

The contributions of Associate Prof Nwala Nneka and Prof. Uche Uwaleke and Dr. Idris cannot but be appreciated

Disclosure of conflict of interest

No conflict of interest.

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