Financial sector sustainability and performance – Policy Imperative for the monetary authorities'

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Abstract

Purpose – The objective of this study is to ascertain whether financial sector sustainability had any correlation with financial sector performance in Nigeria and recommend appropriate policy directions.
Design/methodology/approach – The study selected four major Nigerian banks namely Zenith Bank Guaranty Bank United Bank for Africa and First Bank of Nigeria as its sample and covered 2010 to 2019. Secondary panel data were obtained from the published financial Statements of the banks and subjected to analytical techniques of panel unit root tests descriptive statistics panel least square and Co-integration statistical techniques at the 5% level of significance.
Findings – The findings revealed that the exogenous variables (SUST) have significant Impact on the endogenous variable (ROA, ROE) in the short-run but insignificant in the long run.
Research limitations/implications – The period covered was limited to 10 years and has an African development focus with emphasis on West Africa, Nigeria. However, the implication could be general to most or all economic and financial landscape. It shows that there is a correlation between financial sector sustainability and return on assets and returns on equity.
Practical implications – Monetary authorities should develop applicable annual performance sustainability framework for all banks; and set performance targets, that will be measured and monitored by appropriate regulatory unit periodically.
Social implications – The financial sector survival is directly related to its contribution towards the survival and development of its host community and operating environment.
Originality/value – This approach is novel in the sense that its approach is practical and measurable, which most research work have not focused on.

Keywords Finance, Financial markets, Central bank, Sustainable banking, Institutional theory
Paper type Research paper

1. Introduction

Sustainable banking principles refers to various principles, policies and practices evolved by the monetary authorities that enhance banking services provision and their long-term existence as a going concern (CBN, 2012; IISD, 2012). The focus of such policies will include the community and the environment, how to better such operating environments, owing to expected spinoffs from such relationships. Contributions to the environments come in

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different forms ranging from healthy operational practices, to incorporation of locals through employment provisions, scholarships to local indigenes, and provisions of financial and other essential infrastructures for the betterment of the communities and mutual co-existence (Bowman, 2011; Ahuja, 2015). The foregoing practices are generally referred to as Corporate Social Responsibilities and in this study will be used to proxy Sustainability.

Financial Performances are generally measured by the returns on its utilised assets as well as returns accruing to shareholders, while the former is known as returns on assets (ROA), the latter is known as return on equity (ROE) (Orlitzky *et al.*, 2003; Callan and Thomas, 2009; Saunder *et al.*, 2012). While some of these researchers were able to establish a positive nexus between corporate or financial sustainability and financial performance others disagreed on the existence of any possible tradeoff and/or link between corporate sustainability and financial performance (Nobanee and Ellili, 2019; Islam *et al.*, 2012; Neiling and Webb 2009).

Banking can be traced back to the zero BC (Goyal and Joshi, 2011) banking exist for the benefit of various stake holders (Clifton and Amran, 2011). In the past, there was wrong concept about banks that they have no business with environmental development (Ahuja, 2015). At the inception of the sustainability project by the Central banks, there were undue concentration on social initiatives at the detriment of environmental issues (Bowman, 2011; Goyal and Joshi, 2011). As the banking landscape evolved, greater emphasis was placed on environmental friendly operations (Meena, 2013; Sahoo and Prasad, 2007; Shakil *et al.*, 2014). This strategy should focus on environmentally friendly banking practices (David and Shameem, 2017; Shaumya and Arulrajah, 2017).

Banks play a pivotal role in engineering sustainable development, and monetary authorities have realised that poor performance of its environment was a threat to banking business survival and success. There is a link between bank's profitability performance and its positive contributions to its environment's performance.

The justification for this study is to determine whether sustainable banking affects bank financial performance. Most Nigerian banks have evolved corporate social responsibilities towards their environment in which they operate, and we are concerned whether there is a tradeoff between such contributions to the environment and the benefits they derive from such relationships. The main objective of this study is to elucidate the key determinants of sustainable banking practices in the Nigerian context. The specific objectives of this study will include:

(1) To determine whether financial institution's sustainability has any impact on their RoA.

(2) To evaluate whether financial institution's sustainability has any impact on their RoE.

1.1 Hypothesis testing

This research work will be guided by the following hypotheses;

H1. Financial institution's Sustainability has no significant impact on their return on assets.

H2. Financial institution's Sustainability has no significant impact on their return on equity.

2. Review of related literature

This section considers in-depth related literatures on financial institution's sustainability and related frame works. Bank's business operation would impact their business and operating

environments, such outcome could either lead to positive trajectories in its business or unexpected shutdown in its operations.

2.1 Central Bank sustainable banking frame work

Nine sustainable banking principles were identified by the Central Bank of Nigeria (CBN, 2012), namely:

Principle 1 – Environmental and Social Risk management affecting bank's business operations.

Principle 2 – Environmental and Social footprint affecting business operations of Banks.

Principle 3 – Need to respect human rights in bank's business.

Principle 4 – Banks' requirements to promote woman's economic empowerment activities.

Principle 5 – Banks' pledge to pursue Financial Inclusion.

Principle 6 – Provision of Environmental and social governance practises.

Principle 7 – Banks' involvement in Capacity Building programmes for their staff.

Principle 8 – Banks' playing collaborative partnership both locally and internationally.

Principle 9 – Banks must report on their progress at institutional and sectoral level.

2.2 Challenges to effective sustainability frame work implementation

IFC (2012) and Masukujjaman *et al.* (2016) identified several impediments to a successful sustainability framework implementation and they include the following:

(1) Insufficient government support

(2) Difficulty in attraction relevant customers towards clean energy initiatives/practises

(3) Difficulty I n channelling credit to green sector areas

(4) Lack of leadership in the green banking field

(5) Inadequate knowledge of the business case

(6) Higher adoption cost

(7) Limited research work in this area

2.3 Theoretical discussion

There are several theories that support sustainability banking including institutional theory, the good management theory, the slack resources theory and the stakeholders' theory. The relevant theoretical frame work this study adopts is the institution theory and stakeholders theory. While the institution theory holds that external environment puts pressure on an organisation and forces such organisation to change their policies, procedure or structures. It holds, that an institution changes under external pressure in order to win specific resources or to reach social and economic legitimacy. An institution is a body or frame work or establishment, either social or political or economic that carries out its activities within the ambits of the law, rules and worms in competition with organisations (Dimaggio and powell 1983; Hoejmose *et al.*, 2014; Lin and Sheu, 2012; Pleasant *et al.*, 2014). This theory recognises four independent variables: (1) top management pressure, (2) customer pressure,

(3) community pressure and (4) competitors pressure (Sarkis *et al.*, 2010; Freeman, 1984; Amran and Usman, 2015).

The stakeholders' theory was postulated by Milton Freeman (Saunder *et al.*, 2012) and argues that firms exist to add value to all stakeholders to a business including employees, government, suppliers, investors, customers and the community; hence, firms must maximise stakeholders' value and emphasises an interconnection between the business and its various stakeholders, that they should serve the needs of stakeholders and not just shareholders. A stakeholder approach is relevant as it promotes the study of how firms function as part of the larger environment and how its modus operandi affects the stakeholders of the firm.

2.4 Empirical discussion

Several researches carried out on subject have failed to come to a consensus on the likely outcome of various sustainability measures undertaken by corporations and institutions on their financial performances. Notable among such empirical arguments are;

Orlitzky *et al.* (2003) studied sustainability-financial performance relationship and found that accounting based measures of financial performance had a stronger and significant relationship to corporate sustainability performance using market based parameters. In similar vein, Callan and Thomas (2009) made attempt to study the nature of relationship between sustainability performance and financial performance and concluded that using accounting based measures of firm profitability, there exists positively significant relationship between both RoE and returns on sales and sustainability performance. Also, Saunder *et al.* (2012), using stakeholders' theory in the study of the relationships, discovered that there was a positive correlation between financial performance measured by ROA and sustainable performance.

Also, Case (2012) argued in favour of philanthropy-giving back to the community from business profits of organisations, necessary to aid the going concern status of a business. They further argued that it entails refusal from investing in businesses having negative social impact. Some researchers argue that some banks and finance service industries as a result of lack of sustainable practices, have incurred massive distrust of their host communities (Rogers, 2013) while Wolk (2012) opined that focusing on environmental, and social governance, will lead to a sustainable productivity for a bank. Studies by Mehmet *et al.* (2019), Platonova *et al.* (2018) and Mallin *et al.* (2014), all discovered that sustainability practices will lead to positive correlation with the organisations' financial performances. Most of these studies used RoA and RoE as dependent variables while the methodology employed were panel fixed effect regression and Ordinary least square and two-step least square and Three-step least square regressions.

However, similar studies were carried out in the UAE by Nobanee and Ellili (2016) using growth in interest incomes as dependent variable and GMM as Methodology, and discovered a negative impact on financial performance. In the same vein, Islam *et al.* (2012) investigated at Bangladesh while Neiling and Webb (2009) researched in the USA, with both using RoE as dependent variable; *t*-test and fixed effect panel regressions respectively as statistical methods, and discovered an insignificant impact on firm's financial performance. Hence, there is no consensus on the exact effect of sustainability practices on organisation's financial performance. Similar insignificant results were arrived at by Chapple and Moon (2005).

3. Methods and materials

This section considers the various types of data used in this study from selected sources, the model estimations as appropriate and the relevant tests that will be conducted on the selected variables and model estimations during the analytical stage of the study.

3.1 Research design

(1) This study aimed at setting up policy standard that will help the CBN and the government to effectively track contributions by the financial institutions to their environments and host communities that will make long-term impact. The study used panel secondary data obtained from the annual accounts of selected study banks and from their five year financial summary covering 2010 to 2019.

3.2 Variable and model specification

(1) This work is modelled with reference to Orlitzky *et al.* (2003), Saunder *et al.* (2012) as well as Platonova *et al.* (2018), which used variables including ROA and ROE.

Hence,

$$\text{Financial Performance} = f(\text{Sustainability Performance, other control variables}) \quad (1)$$

The controllable variables may include firm size and debt ratio as enumerated in Orlitzky *et al.* (2003).

$$\text{ROA} = \alpha_0 + \beta_1 \text{SUST} + \beta_2 \text{FIRS} + \beta_3 \text{DEBR} + \mu_t \quad (2)$$

$$\text{ROE} = \alpha_0 + \beta_1 \text{SUST} + \beta_2 \text{FIRS} + \beta_3 \text{DEBR} + \mu_t \quad (3)$$

The variables for the selected sample will utilise panel data series as it considers several subsets in the Nigeria banking Landscape, which constitutes panel data series.

The panel data models will become:

$$\text{ROA}_{it} = \alpha_0 + \beta_1 \text{SUST}_{it} + \beta_2 \text{FIRS}_{it} + \beta_3 \text{DEBR}_{it} + \mu_{it} \quad [\text{Pooled Effect}] \quad (4)$$

$$\text{ROE}_{it} = \alpha_0 + \beta_1 \text{SUST}_{it} + \beta_2 \text{FIRS}_{it} + \beta_3 \text{DEBR}_{it} + \mu_{it} \quad [\text{Pooled Effect}] \quad (5)$$

where,

SUST = sustainability banking ratio of CSR to PBT

[CSR is corporate social responsibility and is computed as monetary value of all Contributions to the environments in healthy operational practices, employment to the local community, scholarships to local indigenes, and provisions of financial and other essential infrastructures; while, PBT is profit before tax of the companies]

ROA = return on assets [Is a financial ratio that shows the percentage of profit a company earns in relation to its overall resources or assets]

ROE = return on equity [This ratio measures the profitability of a business in relation to the equity or funds from the shareholders, known as ratio of net income to shareholder's equity]

FIRS = firm size = Shareholders equity/Total Assets [This is the scale of operations turned out by a business]

DEBR = debt ratio = Total debt or total liabilities/Total Assets [Financial ratio that shows the percentage of a company's assets provided through debt]

α_0 = intercept term

B = vector of parameters

μ = error term

it = panel data variables

Apriori Expectation

ROA, ROE >0< SUST (positive and significant)

3.3 The Nigerian banking landscape prior to 2020 and sample selection basis

The banking landscape in Nigeria comprised 15 banks with all sharing a cumulative average shareholder's fund of N2,928.223 trillion (as at December 2019), and our selected sample (FBN, Zenith, GTB and UBA Plc) held a combined N2,890.329 trillion of this shareholder's fund translating to 98.71%. This outcome best justified our reason for narrowing the sample selection to these four banks (Patton, 2012).

3.3.1 Review of selected financial institution sustainable banking practices. This study selected four major commercial bank (GTB) Category institution namely: Zenith bank PLC (Zenith), Guaranty Trust Bank PLC, United Bank for Africa PLC (UBA PLC) and First Bank holding PLC of Nigeria (FBN PLC); the research adopted the CBN Financial Sector Sustainability principles (2) and principle (8) (earlier stated in this study) and these were assessed using return on Equity (ROE), ratio of CSR to PBT, and return on assets (ROA).

(1) Zenith Bank PLC

Zenith bank is the foremost financial institution in Nigeria that commenced banking business on May 30, 1990 and currently has 7,594 employees with 48% being female (Zenith, 2019). The banking group earned an average CSR/Profitability to 1.24% of average PBT (Zenith Bank Plc, 2010–2019).

(2) Guaranty Trust Bank PLC

This bank was incorporated in 1990 and commenced operation in February 1991. The bank has a total staff strength of 5,361 and 2,413 is female which translate to about 45% of its work force. ROE, ROA and CSR to PBT for the 5 years 2019 December 31st shows an average ROE of 0.33%, ROA of 0.058 and 0.3108% (Guaranty Trust Bank Plc, 2010–2019).

(3) United Bank of Africa

UBA Plc is known as the leading pan Africa bank with a global footprint. Established in 1946 as a full fledge retail and commercial bank, currently employing over 12, 889 staff with 5, 839 being female representing an estimated 45% of its work force. An x-ray of the bank's 5-years average performance shows average ROE of 0.2483% and a ROA of 0.0237% and an average of 0.8164% was CSR/Profitability (United Bank for Africa Plc, 2010–2019).

(4) First Bank Holding PLC

FBN Plc was established in 1894 as Nigeria's foremost retail bank and known as Nigeria premier Bank, known for its rich history and customer base is engaged in commercial and whole sale banking business. It presently has over 9,159 employees with about 48% being female. Its 5-year financial summary showed average ROE, average (ROA) were 0.082 and 0.00092% respectively, CSR/Profitability average of 1.459% (First Bank of Nigeria Plc, 2010–2019).

3.4 Overview

It will be observed that while these selected financial institutions have excelled in *Principle four*-woman economic empowerment (*principle six*), business operation impact in their environment of operations (*principle two*) and collaborative partnership (*principle eight*) in

terms of giving back to their hosts communities, as seen from their CSR and other contributions to PBT performance appears poor relative to stakeholders' earnings.

4. Results and discussions

Tables 1–7 were all extracted using Eviews-10 software, from Tables A1–A4 in the Appendix section of this research paper.

4.1 Analysis

Table 1 shows the stationarity tests for the panel data series using Levin, Lin and Chu (LLC). All the panel variables were found to be stationery at even with significant positive sign of 0.0000, hence we reject the null hypothesis of the presence of unit root and accept the alternative at the 5% level of significance, that there is no unit root in the panel data. The control variables, however, were integrated at the first difference levels.

The mean, median and standard deviation show even spread and variations for the series, depicting positive and healthy trend. The kurtosis is below 3 for the dependent variables but above 3 for the independent variable SUST showing mesokurtic and platykurtic tendencies respectively. The DEBR and SUST dependent variables show a Jarque-Bera statistics of significant *p*-value (0.000000) but insignificant for the dependent variables of ROA and ROE. This signs indicates departure from the features of a normal distribution for the variables.

4.1.1 Hypothesis testing I.

H1. Financial institution's Sustainability has no significant impact on their return on assets

The result of above test hypothesis is shown in Tables 3 and 4.

Table 3 shows the panel linear regression impact of ROA on financial sector sustainability (SUST) using the control variables, Debt ratio (DEBR) and firm size (FIRS). At a lag of three (−3), financial sector sustainability showed a negative but significant relationship to return on assets with a *p*-value of 0.0292 at a 5% level of significance. The result indicates that a 1% rise in investments in financial sector corporate social responsibility being proxy by SUST, will result to a 0.003462 decline in RoE. The control variables at a lead of three levels showed a significant impact on ROA. The Durbin–Watson at 2.298209 shows that the linear model is resistant to autocorrelation errors while the R^2 and adjusted R^2 at 94.99 and 93.62% shows a goodness fit for the model and its ability to take on more variables.

A cointegration test using Pedroni Residual tool in Table 4, showed that there is no long-run correlation between ROA and SUST as the *p*-value at the 5% level of significance for all the statistics are all insignificant being above 0.05%.

Decision: From the foregoing, we conclude that while there is a significant impact of SUST on ROA in the short-run, there is an insignificant impact in the long-run. Hence, we reject the null hypothesis, to accept the alternative that financial institutions sustainability has significant impact on the financial sector's return on assets.

Variable	LLC test statistic	Critical Value@5%	*p*-value	Level of integration
D(SUST)	−4.8081	−8.769	0.0000	*I*(0)
ROE	−12.8971	−16.327	0.0000	*I*(0)
ROA	−4.5016	−7.644	0.0000	*I*(0)
D(DEBR)	−4.13509	−4.299	0.0000	*I*(1)
D(FIRS)	−3.00593	−3.107	0.0013	*I*(1)

Source(s): E-views 10 Computation of the author(s)

Table 1.
Panel unit root test

	DEBR	FIRS	ROA	ROE	SUST
Mean	1.601136	0.138155	0.029744	0.209964	0.824692
Median	0.854160	0.138930	0.026300	0.217100	0.727000
Maximum	3.905970	0.195240	0.061600	0.365600	4.299000
Minimum	0.613130	0.078600	0.004800	0.037300	0.000000
Std. Dev	1.353342	0.030646	0.015395	0.081994	0.764266
Skewness	1.106076	−0.152907	0.399941	−0.265100	2.467808
Kurtosis	2.239267	2.140566	2.341085	2.544201	12.02941
Jarque-Bera	8.892543	1.352243	1.745217	0.794404	172.0720
Probability	0.011722	0.508586	0.417860	0.672198	0.000000
Sum	62.44432	5.388040	1.160000	8.188600	32.16300
Sum sq. Dev	69.59830	0.035689	0.009006	0.255474	22.19589
Observations	39	39	39	39	39

Source(s): E-views 10 Computation of the author(s)

Table 2. Descriptive statistics

Dependent variable: ROA
Method: Panel EGLS (period weights)
Linear estimation after one-step weighting matrix
Period weights (PCSE) standard errors and covariance (df corrected)

Variable	Coefficient	Std. Error	*t*-statistic	Prob
C	−0.009768	0.004582	−2.131614	0.0564
SUST (−3)	−0.003462	0.001381	−2.506751	0.0292
DEBR (3)	−0.003988	0.000613	−6.505235	0.0000
FIRS (3)	0.358465	0.035932	9.976089	0.0000

Source(s): E-views 10 Computation of the author(s) (Table A5)

Table 3. Panel least square result

Pedroni residual cointegration test
Series: DEBR FIRS ROA SUST
Null hypothesis: No cointegration
Alternative hypothesis: Common AR coefs. (Within-dimension)

	Statistic	Prob	Weighted Statistic	Prob
Panel *v*-statistic	−1.700100	0.9554	−1.753213	0.9602
Panel rho-Statistic	0.074529	0.5297	−0.110873	0.4559
Panel PP-Statistic	−1.107140	0.1341	−1.384130	0.0832
Panel ADF-Statistic	3.593178	0.9998	4.995918	1.0000

Source(s): E-views 10 Computation of the author(s)

Table 4. Cointegration test results for ROA/SUST impact

4.1.2 Hypothesis testing II.

H1. Financial institution's sustainability has no significant impact on their return on assets

In this sector, we shall test the nature of impact which financial institution's sustainability exercises on return of equity using panel linear regression and Pedroni residual cointegration tests.

The panel least squares regression result in Table 5 shows that at a lag of 2 points, the financial institution's corporate social responsibility contributions proxy by SUST shows a very significant impact on ROE for the sector with a strong p-value of 0.0107 at the 5% chosen level of significance. Again, the Durbin Watson at 1.737902 is a good indication that the developed model is to autocorrelation errors resistant while the R^2 and adjusted R^2 at 75.44 and 69.31% shows a goodness of fit for the model and its ability to take on more variables.

Table 5. Panel least square result

Dependent variable: ROE
Method: Panel least squares
Period weights (PCSE) standard errors and covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-statistic	Prob
C	0.232693	0.052665	4.418328	0.0008
SUST (−2)	−0.088454	0.029304	−3.018509	0.0107
DEBR (3)	−0.036887	0.007948	−4.641208	0.0006
FIRS (−3)	0.708341	0.300934	2.353805	0.0365

Source(s): E-views 10 Computation of the author(s) (Table A6)

Table 6. Cointegration result for ROE/SUST impact

Pedroni residual cointegration test
Series: DEBR FIRS ROE SUST
Null hypothesis: No cointegration
Alternative hypothesis: Common AR coeffs. (Within-dimension)

	Statistic	Prob	Weighted Statistic	center
Panel v-statistic	−1.695818	0.9550	−1.753210	0.9602
Panel rho-statistic	0.120437	0.5479	0.076955	0.5307
Panel PP-statistic	−0.975559	0.1646	−1.006663	0.1570
Panel ADF-statistic	3.814684	0.9999	4.525137	1.0000

Source(s): E-views 10 Computation of the author(s)

Table 7. Cointegration Results for combined (ROA and ROE)/SUST Impact

Pedroni residual cointegration test
Series: DEBR FIRS ROA ROE SUST
Null hypothesis: No cointegration
Alternative hypothesis: Common AR coeffs. (within-dimension)

	Statistic	Prob	Weighted Statistic	Prob
Panel v-statistic	−1.920489	0.9726	−2.110419	0.9826
Panel rho-statistic	1.300221	0.9032	1.209376	0.8867
Panel PP-statistic	−2.004525	0.0225	−3.454003	0.0003
Panel ADF-statistic	−2.053715	0.0200	−3.203604	0.0007

Source(s): Author's E-views 10 computations

Similar explanations in Table 4 is applicable to Table 6, which indicates an insignificant cointegration between SUST and ROE, for the various test statistics at the 5% level of significance, all being greater than the 0.05 threshold.

Decision: Based on the outcome from Table 5 and Table 6 and the accompanying notes, we conclude that significant relationship does exist in the short-run between financial sector performance measured by return on assets and financial sector's sustainability measured by the sector's social corporate responsibility contributions. Hence, we reject the null hypothesis again, to accept the alternative that the financial sector sustainability has significant impact on the sector's ROE.

4.1.3 Further cointegration testing. A further panel co-integration confirmatory test was carried out using combined variables in Table 7, and we discovered a significant impact of the sustainability on assets (ROA) and equity (ROE) returns with panel PP and panel ADF weighted probabilities of 0.0003 and 0.0007 respectively being significant at the 5% level of significance. However, this is opened for further studies as our focus in this research is on sustainability impact on specific performance variables such as ROA and ROE.

4.2 Discussions

The study researched on Financial Sector Sustainability and the Nigeria Financial System – Policy Imperatives for the Monetary Authorities. The work selected a sample of four major banks that controls about 70–80% of financial transactions in Nigeria as on the basis of shareholders' funds, contributes over 98.70%, namely Zenith bank Plc, United Bank for Africa Plc, First Bank Plc and Guaranty Trust Bank Plc. The objective of this study was to empirically investigate whether the independent variables ROA and ROE) exerts any impact on the dependent variable (Financial sector sustainability) using principle 2 and principle 8 highlighted in the literature. The parameters considered include Return on Assets (ROA) and Return on Equity both as dependent variables, to measure financial performance while corporate social responsibilities (SUST) was the independent variable and period covered was 10 years (2010–2019); The short-run tests using panel least squares regression for hypothesis one, showed a negatively significant impact of financial sector sustainability (p-value = 0.0292) on Return on Assets (ROA), while for return on equity, financial sector sustainability showed a negative but significant impact (p-value = 0.0107) with a level of 5% significance. The outcome of this finding is supported by the result of the work of Mehmet *et al.* (2019), Platonova *et al.* (2018), and Orlitzky *et al.* (2003), as well as Saunder *et al.* (2012), all who discovered a significant relationship between sustainability practises and company financial performance; this result is also in consonance with the theoretical analysis of institutional and stakeholder's theory. However, the long-run test using Panel Kao residual Co-integration tests for both hypothesis, recorded an insignificant impact on both ROA and ROE (p-value being above 5% in both cases) by financial sector sustainability. This result corroborates the research findings of Islam *et al.* (2012), Neiling and Webb (2009), and Nobanee and Ellili (2016) of an insignificant long-run effect. The result of this work however, does not agree with the findings of Chapel and Moon (2005) of a positive and significant long-run relationship between ROA and company sustainability.

Policy implications: From the findings of this work, it shows that a 1% increase in corporate sustainability such as CSR will result to 0.003462% decline in Return on Assets of the financial institutions, and also, a 1% rise in corporate sustainability, will significantly impact the financial sector's return on equity, leading to a 0.088454% fall in the short-run. This result further reveals that banks received the impact of these sustainability efforts/indicators only in the short run. We are concerned by the outcome of this study because rather than show a positive outcome on financial performance, it is leading to a negative and significant impact. This suggests that monetary authorities in Nigeria should urgently

investigate the nature and economic effects of the various corporate sustainability measures being carried out by the commercial banks in their operating environments, and be able to determine whether such contributions are leading to growth in such communities' gross domestic output.

5. Conclusion

This research work studied Financial Sector Sustainability and Performance – A Policy Imperative for the monetary authorities' using four major banks in Nigeria as sample with Sustainability measured by ratio of CSR and other contributions to the environment, to Profit before Tax as independent variable while return on assets and return on equity were used as the dependent variables to test the short-run and long-run effects of ROA and ROE on Sustainability and covered 2010 to 2019. The findings showed that corporate sustainability of the financial sector showed a negative but significant impact on return on assets and return on equity in the short-run on sustainability while in the long-run the impact was insignificant. This study concludes that financial Performance is affected by corporate sustainability practises and indicators, significantly in the short-run but not in the long-run.

This study recommends

(1) That monetary authorities should develop a measurable sustainability framework that every financial institution should commit to annually toward the development of their host communities and environments. This will ensure uniform contribution standards for all financial institutions.

(2) That the sustainability framework should be targeted at specific projects, measurable and regularly monitored by specific compliance and regulatory units.

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Appendixes

1. Financial metrics table – Zenith Bank Plc, covering 2010–2019

Year	*A* PBT (#*B*)	*B* CSR (#*B*)	*C* Shareholders fund (#*B*)	*D* Total Assets (#*B*)	SUST = CSR/PBT	ROE = *A*/*C*	ROA = *A*/*D*	*E* Total debt (N'Bn)	Debt ratio = *E*/*D*	Shareholder equity ratio = *C*/*D*
2019	243.3	2.73	941.886	6346.879	1.1221	0.2583	0.0383	5404.99	0.85160	0.14840
2018	232.0	3.1	815.751	5955.710	1.3362	0.2837	0.0390	5139.96	0.86303	0.13697
2017	203.5	2.61	821.658	5595.263	1.2825	0.2476	0.0364	4783.14	0.85486	0.14685
2016	156.7	2.557	704.465	4739.825	1.6318	0.2224	0.0331	4040.76	0.85251	0.14863
2015	125.6	0.923	546.946	3750.327	0.7349	0.2296	0.0335	3203.38	0.85416	0.14863
2014	119.796	1.100	552.638	3755.300	0.9182	0.2171	0.0319	2911.11	0.77520	0.14716
2013	110.597	0.856	509.251	3143.1	0.7740	0.2171	0.0352	2406.07	0.76551	0.16202
2012	102.100	0.587	462.956	2604.5	0.5749	0.2205	0.0392	1998.88	0.76753	0.17775
2011	67.440	0.716	394.268	2326.7	1.062	0.1711	0.0290	1932.43	0.83065	0.16945
2010	50.114	0.503	372.190	1906.3	1.004	0.1346	0.0263	1534.13	0.80477	0.19524

Source(s): Zenith Bank Plc Annual Accounts, 2020 and Authors computation, 2020

Table A1.
Zenith bank PLC

2. Financial metrics table – United Bank for Africa Plc, covering 2010–2019

Year	*A* PBT (#*B*)	*B* CSR (#*B*)	*C* Shareholders fund (#*B*)	*D* Total assets (#*B*)	SUST = CSR/PBT	ROE = *A*/*C*	ROA = *A*/*D*	*E* Total debt (NTBn)	Debt ratio = *E*/*D*	Shareholder equity ratio = *C*/*D*
2019	111.3	0.752819	599.978	5604.052	0.6764	0.1855	0.0199	3689.97	0.65845	0.10706
2018	106.8	1.048353	502.608	4869.738	0.9816	0.2125	0.0219	3226.71	0.66260	0.10321
2017	105.264	0.832765	527.779	4069.474	0.7911	0.1994	0.0259	2530.97	0.62194	0.12969
2016	90.6	0.0	448.069	3504.470	0.0	0.2022	0.0258	2148.69	0.61313	0.12786
2015	68.5	0.0	332.621	2752.622	0.0	0.2259	0.0249	2420.00	0.87916	0.12084
2014	56.20	0.388055	265.406	2762.573	0.6905	0.2118	0.0203	2497.17	0.90393	0.09608
2013	56.06	0.421107	235.036	2642.296	0.7351	0.2385	0.0212	2407.26	0.91105	0.08895
2012	52.010	0.087500	192.467	2272.923	0.1682	0.2702	0.0229	2080.46	0.91532	0.08468
2011	26.600	0.102157	150.940	1920.435	0.3840	0.1762	0.0139	1769.50	0.92141	0.07860
2010	15.885	0.682900	153.025	1599.185	4.299	0.1038	0.0099	1440.72	0.90091	0.09565

Source(s): UBA Plc Annual Accounts, 2020 and Authors computation, 2020

Table A2.
UBA PLC

3. Financial metrics table – First bank Plc, covering 2010–2019

Year	*A* PBT (#*B*)	*B* CSR (#*B*)	*C* Shareholders fund (#*B*)	*D* Total Assets (#*B*)	SUST = CSR/PBT	ROE = *A*/*C*	ROA = *A*/*D*	*E* Total debt (N'Bn)	Debt ratio = *E*/*D*	Shareholder equity ratio = *C*/*D*
2019	83.6	0.000	661.125	6203.526	0.000	0.1265	0.0135	24152.98	3.89343	0.10657
2018	65.3	0.9093	530.647	5568.316	1.393	0.1237	0.0117	21749.69	3.90597	0.09530
2017	56.8	0.9841	673.719	5236.537	1.733	0.0843	0.0109	20261.44	3.86924	0.12866
2016	22.9	0.1665	583.671	4736.805	0.727	0.0392	0.0048	18363.55	3.87678	0.12322
2015	21.6	0.4283	578.800	4166.189	1.983	0.0373	0.0052	16085.96	3.86107	0.13893
2014	92.88	0.900	522.890	4342.666	0.969	0.1776	0.0214	16847.77	3.87959	0.12041
2013	91.34	1.248	471.777	3869.001	1.3664	0.1936	0.0236	15004.23	3.87806	0.12194
2012	93.92	1.044	441.315	3226.367	1.1116	0.2128	0.0291	12464.15	3.86306	0.13678
2011	35.86	0.0	368.580	2861.691	0.0	0.0973	0.0125	11078.72	3.87139	0.12880
2010	33.77	0.0	401.595	2354.831	0.0	0.0841	0.0143	9017.73	3.82946	0.17054

Source(s): First Bank Plc Annual Accounts, 2020 and Authors computation, 2020

Table A3.
First Bank Plc

4. Financial metrics table – Guarantee Trust Bank Plc, covering 2010–2019

Year	*A* PBT (#*B*)	*B* CSR (#*B*)	*C* Shareholders fund (#*B*)	*D* Total assets (#/*B*)	SUST = CSR/PBT	ROE = *A*/*C*	ROA = *A*/*D*	*E* Total debt (NTBn)	Debt ratio = *E*/*D*	Shareholder equity ratio = *C*/*D*
2019	231.7	0.505365	687.337468	3758.918	0.2181	0.3371	0.0616	3071.58	0.81715	0.18286
2018	215.6	0.928078	576.277241	3287.342	0.4305	0.3741	0.0656	2711.07	0.82470	0.17530
2017	200.24	0.867113	620.038669	3351.096	0.4330	0.3230	0.0597	2731.06	0.81498	0.18503
2016	165.14	0.449616	501.692225	3116.393	0.2722	0.3291	0.0530	2614.70	0.83902	0.16099
2015	120.69	0.241666	413.561938	2524.593	0.2002	0.2918	0.0478	2111.03	0.83619	0.16381
2014	116.39	0.599916	374.332000	2355.816	0.5150	0.3109	0.0494	1981.54	0.84113	0.15890
2013	107.091	0.631991	332.353000	2102.846	0.5900	0.3222	0.0509	1770.49	0.84195	0.15805
2012	103.027	0.364750	281.826000	1734.877	0.3540	0.3656	0.0594	1453.05	0.83755	0.16245
2011	65.596	0.297493	238.779000	1611.819	0.4540	0.2747	0.0407	1378.26	0.85510	0.14814
2010	48.455	0.328031	210.825000	1152.411	0.6770	0.2298	0.0420	951.41	0.82558	0.18294

Source(s): GTB Plc Annual Accounts, 2020 and Authors computation, 2020

Table A4.
GTB PLC

5. Table 3 – Panel least square result

Dependent variable: ROA
Method: Panel EGLS (period weights)
Linear estimation after one-step weighting matrix
Period weights (PCSE) standard errors and covariance (df corrected)

Variable	Coefficient	Std. Error	*t*-statistic	Prob
C	−0.009768	0.004582	−2.131614	0.0564
SUST (−3)	−0.003462	0.001381	−2.506751	0.0292
DEBR (3)	−0.003988	0.000613	−6.505235	0.0000
FIRS (3)	0.358465	0.035932	9.976089	0.0000
	Weighted statistics			
R-squared	0.949892	Mean dependent variance		0.032938
Adjusted *R*-squared	0.936226	SD Dependent variance		0.019883
SE of regression	0.004839	Sum squared residual		0.000258
F-statistic	69.50839	Durbin–Watson statistic		2.298209
Prob (*F*-statistic)	0.000000			

Source(s): E-views 10 Computation of the author(s)

Table A5.

6. Table 5 – Panel least square result

Dependent variable: ROE
Method: Panel least squares
Period weights (PCSE) standard errors and covariance (df corrected)

Variable	Coefficient	Std. Error	*t*-statistic	Prob
C	0.232693	0.052665	4.418328	0.0008
SUST (–2)	−0.088454	0.029304	−3.018509	0.0107
DEBR (3)	−0.036887	0.007948	−4.641208	0.0006
FIRS (−3)	0.708341	0.300934	2.353805	0.0365
R-squared	0.754469	Mean dependent variance		0.216644
Adjusted *R*-squared	0.693087	SD Dependent variance		0.083676
SE of regression	0.046356	Akaike info criterion		−3.092611
Sum squared residual	0.025787	Schwarz criterion		−2.899464
Log likelihood	28.74089	Hannan-Quinn criterion		−3.082720
F-statistic	12.29124	Durbin–watson statistic		1.737902
Prob (*F*-statistic)	0.000571			

Source(s): E-views 10 Computation of the author(s)

Table A6.