EXCHANGE RATE FLUCTUATION AND NIGERIA'S ECONOMIC GROWTH

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Abstract
The study investigates the effect of exchange rate fluctuation on economic growth of Nigeria: 1996 – 2016. The research adopted Rudi Dornbusch Exchange rate overshooting model as the main theoretical framework. The study employed multiple regression analysis with Ordinary Least Square (OLS) econometric technique to examine the effect of exchange rate fluctuation on the economic growth in Nigeria. The result showed that exchange rate has significant positive effect on economic growth in Nigeria. It therefore suggests strict foreign control policies in order to determine appropriate exchange rate value in Nigeria.
Key words: Economic growth, exchange rate, exchange rate appreciation, exchange rate depreciation

Introduction

Exchange rate is the price of one country's currency in relation to another country currency. It is the required amount of unit of a currency that can buy another currency. Kandil, (2004) says that exchange rate fluctuations influence domestic prices through their effect on aggregate supply and demand. In general, when a country currency depreciates it will result in high import prices, if that country is an international price taker, while lower import prices result from appreciation. Aliyu, (2011) asserted that appreciation of exchange rate result to increase imports and reduces exports while depreciation exchange rate tend to cause a shift from foreign goods to domestic goods. Hence, it leads to diversion of income from importing countries to exporting countries through a shift in terms of trade.

Developed nations of the world do put extra efforts in the management of their exchange rate policies. In Nigeria, exchange rate policy has undergone substantial transformation from the immediate post-independence period when the country maintains a fixed parity with the British Pound through the oil boom of the 1970s, to the floating of the currency since 1986, following the near collapse of the economy between 1982 and 1985 (Akpan & Akpan, 2012).

In 1986 when the federal government adopted Structural Adjustment Programme (SAP), the country moved from fixed exchange regime to a flexible exchange rate regime where exchange rate is left completely to be determined by market forces (i.e. forces of demand and supply of foreign exchange). The prevailing system manage to

float until monetary authorities intervene periodically in the foreign exchange market in order to attain some strategic objectives (Mordi, 2006). Inconsistency in policies and lack of continuity in exchange rate policies aggregated unstable nature of the naira rate (Gbosi, 2005).

Bensonate (2012) and Aliyu (2011) noted that despite various efforts by the government to maintain stable exchange rate, naira has depreciated through 1980s to date. Flexible exchange rate and management of the floating exchange rate have not proved better as the naira keeps deteriorating and many macro-economic variables keep being unstable. It is therefore known that, the effects of these various macro-economic shocks depend on the exchange rate policy adopted by the country and so, it is important to investigate the effect of exchange rate fluctuations on the Nigeria economic growth of the nation.

Literature Review

Theoretical Framework

The Dornbusch overshooting hypothesis (DOH) model is a theoretical explanation for high level of exchange rate volatility. They assume that, goods' price are sticky, or slow to change in the short run but the price of currencies are flexible; that the arbitrage in asset markets hold via the uncovered interest parity equation and the expectation of exchange rate are "consistent" and rational. The most important insight of the economy can induce compensating volatility in others, specifically, when an exogenous variables changes, the short run effect on the exchange rate can be greater than the long run effect, so in the short run, the exchange rate over shoots it new equilibrium long term value.

The model also assumes that a domestic output is an imperfect substitute of imports, and on aggregate demand for domestic goods. Therefore, it will determine the absolute and relative price (Dornbusch, 1976). Both the goods market and money market are in equilibrium purchasing power parity (PPP) in long run. Moreover, while commodity prices are sticky, assets prices (i.e. exchange rate) adjust instantaneously in response to new information. Thus, when a change in monetary policy occurs (e.g. an unanticipated permanent increase in the money supply), the market will adjust to a new equilibrium between prices and quantities initially, because of the "stickness" of prices of goods, the new short run equilibrium level will first be achieved through shift in financial market prices. Then gradually, continuously re-prices approaching its new long equilibrium are to be attained in the domestic money market, the currency exchange market, and the goods market. As a result, the foreign exchange market will initially over-react to a monetary change, achieving a new short run equilibrium. Overtime goods' prices will eventually respond, following the foreign exchange market to dissipate its over-reaction and the economy to reach the new long run equilibrium in all market.

Another theory that explains this is the balance of payment theory. It holds that under free exchange rates, the exchange rate of the currency of a country depends upon its balance of payment. A favourable balance of payment raises the exchange rate, while an unfavourable balance of payment reduces the exchange rate. Thus, the theory implies that the exchange rate is determined by the demand for and supply of exchange of goods which depends on imports and exports of goods and services, international loans, reparation payments, etc (Jhingan, 2003). It takes exchange rate to be endogenously determined.

Empirical Review

Gytson and Schmidt (1983) studies ten (10) countries using different estimate of key parameter of the model and the result shows that devaluation was expansionary in eight of the ten countries. On the contrary Edarol, (1989) and Daiz-Alejandro (1985) examined the impact of devaluation on GDP and other macro-economic variables and observed that devaluation was contra directionary. Devaluation includes income distribution towards savings which in turn depressed consumption and real absorption.

Akpan and Akpan (2012) investigated the effect of exchange rate movement on real output growth in Nigeria based on quarterly series for the period of 1986 – 2010. The paper examined the possible direct and indirect relationship between exchange rates and GDP growth, the estimation result suggests that there is no evidence of a strong relationship between changes in exchange rate and output growths, rather Nigeria's economic growth has been directly affected by monetary variables.

Asher (2012) examined the impact of exchange rate fluctuation on the Nigeria economic growth for the period of thirty (30) years, (1980 – 2010). The result showed that real exchange rate has positive effect on the economic growth. In similar study, Akpan (2008) investigated foreign exchange market and economic growth in an emerging petroleum based economy from 1970 – 2003 in Nigeria. He found out that positive relationship exists between exchange rate and economic growth.

Eme and Johnson (2012) investigated the effect of exchange rate movement on real output growth in Nigeria for the period of 1986 – 2010. The result reveals that, there is no evidence of a strong direct relationship between exchange rate and output growth.

Methodology

This study relied on time series secondary data spanning from 1996 to 2016 sourced from World Development Indicator, 2016 and Central Bank of Nigeria Statistical Bulletin 2015 edition. Data collected include Gross Domestic Product (GDP) to measure economic growth, exchange rate (EXCHR), interest rate (INTR) and inflation (INFL).

Multiple regression analysis with OLS econometric technique for data analysis was adopted to verify whether a significant relationship exists between economic growth which is the dependent variable and exchange rate, interest rate and inflation as the

independent variables in the Nigerian economy. The empirical model which specifies that economic growth (GDP) is significantly influenced by exchange rate, in conformity with the Dornbusch Overshooting Model which have been applied to examine the effects of exchange rate fluctuation on economic growth are formulated as follows:

GDP = f (EXCHR, INTR. INFL) ..... (1)
Equation 1 can be transformed as:
$GDP = \lambda o + \lambda_1 EXCHR + \lambda_2 INTR + \lambda_3 INFL + i$ ..... (2)

Where:
GDP = Gross Domestic Product
EXCHR = Exchange Rate
INTR = Interest Rate
INFL = Inflation Rate
λo = Intercept Term
λ_1, and λ_3 = Parameters to be estimated
i = Error Term

The behavioural assumptions and the presumptive signs are stated as follows:

$\lambda_1 > 0$ and $\lambda_2 < 0$, $\lambda_3 < 0$. This implies that exchange rate in favour of Nigeria's currency is expected to be positively related to economic growth, while interest rate and inflation is expected to be positive related to economic growth; while interest rate and inflation is expected to be positively related to economic growth.

Result and Discussion
This section provide in details the result of the data used in the study and the interpretation and discussion of results. It is a step by step analysis beginning from the unit root to the regression analysis.

We used the Augmented Dickey-Fuller Unit root to test the data and the decision rule to test the statistic value must be greater than Mackinnon critical. The parameter statistics are shown in Table 1.

Table 1: Augmented Dickey-Fuller Unit Root Test

Variables	Level	First difference	Second difference	Lag(s)	Model	Order of integration
DLOG(GDP)	-2.505	-10.35***		1	Trend and drift	1(1)
D(EXCR)	1.529	-4.456**	-5.621***	1	Trend & drift	1(2)
INTR	3.285	-3.489		1	Trend & drift	1(1)
INFL	-2.197	-5.860***		0	Trend & drift	1(0)
ECM	-4.691***				None	

Source: *Extracted from output data; Authors' computation*
Note: *(**) *** denotes statistically significant at 1%, 5% and 10% level respectively.

From the results obtained in ADF unit root test as evident in table 1 shows that all the variables had unit root problem at various level, while GDP, EXCHR, INFL become stationary at their first difference. And, INTR was neither stationary at level nor at first difference but became stationary at second difference. Using the variables integrated at order one, i.e., 1(1), and the generated residual which is stationary at level, we therefore employ the Johansen Co-integration Rank test to help us to determine the number of co-integrating equations in the Error Correction Model (ECM).

Having given the unit root properties of the variables we proceed to carry out the co-integration rank test to help us determine the number of co-integration equations in the Error Correction Model (ECM). The relevant data are shown in Table 2.

Table 2: Co-integration Rank Test:Unrestricted Co-integration Rank Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None*	0.886702	68.18129	42.91525	0.0000
At most 1*	0.759041	31.15985	25.87211	0.0100
At most 2*	0.336220	6.966688	12.51798	0.3480

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
*Denotes rejection of the hypothesis at the 0.05 level
** Mackinnon-Haug-Michelis (1999) p-values

(Trace)

Source: *Extracted from output data; Authors' computation*

In table 2, the result of the trace statistic indicates two (2) co-integrating equations at 5% level. This can also easily be seen as two of the trace statistic values are greater than their critical value at 5% level. This reveals that there is a long-run relationship among the variables employed in the model. Having confirmed the fact that all the

1(1) variables are co-integrated in model, we proceed to estimate the Error Correction Model (ECM). The results of the regression are presented in Table 3.

Table 3: Estimated Regression Result: Dependent Variable: LOG(GDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.09881	0.666069	16.66315	0.0000
EXCHR	0.013446	0.003035	4.431059	0.0010
INTR	-0.105247	0.018087	-5.818793	0.0001
INFL	-0.065812	0.015035	-4.377213	0.0011
ECM(-1)	0-006072	0.002006	-3.026250	0.0115
R-squared				
Adjusted R-squared	0.969938	Mean dependent var		10.35407
S.E. of regression	0.959006	S.D. dependent var		0.863694
Sum squared resid	0.174871	Akaike info criterion		-0.399227
Log likelihood	0.336380	Schwarz criterion		-0.157793
F-statistic	8.193813	Hannan-Quinn criter.		-0.386863
Prob(F-statistic)	88.72740	Durbin-Watson stat		2.031175
	0.000000			

Source: *Extracted from output data; Authors' computation*

Table 3 shows the estimated Error Correction Model (ECM) results on the impact of exchange rate fluctuations on economic growth in Nigeria, about 0.006 percent of the disequilibrium errors between the actual and the long-run or equilibrium value of Gross Domestic Product (GDP) accumulated in the previous period has been corrected in the current period. The ECM (-1) coefficient conforms to a priori expectation as its sign is negative and it is statistically significant, hence justifying by the use of the error correction model in this study.

The model with an adjusted R^2 of 0.9590 reveals that the independent variables (EXCHR, INFL and INTR) included in our model accounts for 95.90 percent changes in Nigeria economic growth (GDP), while the remaining 4.10 percent unexplained changes is due to other extraneous factors that accounts for the changes in economic growth which are captured by the error term. This implies that there is no misspecification error in the model. The F-ratio with 88.727 with probability values of 0.000 as well as a significant R-squared are all highly significant at the 5 percent levels; thus, the model has goodness of fit. Moreso, the Durbin Watson (DW) statistic of 2.031 imply that autocorrelation is not present in the model.

Discussion of Findings

From the result in table 3, the relationship between exchange rate fluctuation and economic growth in Nigeria shows that a unit change in EXCHR when all variables are held constant will lead to an increase in GDP by 0.0013 percent. The impact is positive and statistically significant with a significant t-statistic value 4.4310 and probability values of 0.001. Thus, exchange rate (EXCHR) impacts positively on

economic growth in Nigeria and this result is in line with the findings of Asher, (2012) who examined the impacts of exchange rate fluctuation on the Nigeria economic growth. The results showed that real exchange rate has a positive effect on the economic growth. In a similar study, Akpan (2008) investigated foreign exchange market and economic growth in an emerging petroleum based economy in Nigeria. He found that positive relationship exists between exchange rate and economic growth. Also Obansa, *et al.* (2013), Azeez, *et al*. (2012) examined the relationship between exchange rate and economic growth in Nigeria over different period as cited in the empirical review. The results indicated that exchange rate has a strong impact on economic growth and that the effect of exchange rate is positive related to Gross Domestic Product (GDP). But contrary to the finding of Aghion *et al.* (2009) who found a similar result, but they also showed that the negative effect of real exchange rate volatility on economic growth shrinks in countries with higher levels of financial development. Also Johnson (2012), investigated the effect of exchange rate movement on real output growth in Nigeria. The result revealed that there is no evidence of a strong direct relationship between changes in exchange rate and output growth.

The result in table 3 also shows that, a unit changes in interest rate (INTR) when all variables are held constant will cause a decrease in GDP by 0.1052 percent. The impact of interest rate on economic growth is negative and statistically significant with an absolute significant t-statistic value 5.8187 and probability values of 0.0001. This implies that interest rate (INTR) has significant positive impact on economic growth in Nigeria.

Similarly the result in that table 3 still shows that a unit change in INFL when all variables are held constant will lead to a decrease in GDP by 0.065 percent. This reveals that inflation in the result has a negative statistically significant impact on economic growth with an absolute significant of t-statistic value of 4.3772 and probability values of 0.0011. Thus, the relationship between inflation and economic growth is negative.

Conclusion

Exchange rate movement in developing countries are often sensitive and controversial, mainly because of the kind of structural transformation required, such as reducing imports or expanding non-oil exports, which invariably imply a depreciation of the nominal exchange rate. Such domestic adjustments, due to their short-run impact on prices and demand, are perceived as damaging to the economy. Ironically, the distortions inherent in an overvalued exchange rate regime are hardly a subject of debate in developing economies that are dependent on imports for production and consumption. This study which investigates the effect of exchange rate fluctuations on economic growth in Nigeria concludes that a movement in exchange rate is a crucial macroeconomic indicator in explaining change in economic performance in Nigeria. Also, stable exchange rate will curtail inflation, increase export, maintain a favourable

balance of trade, and help to solve the problem of deficits and increase the external reserve of the economy.

Recommendations

Sequel to the findings of this study, the following policy recommendations are suggested. To control exchange rate, these policies have to be adopted.

1. Strict foreign exchange control policies should be adopted in order to help in the determination of appropriate exchange rate value. This will go a long way to strengthen the naira.
2. The government should create incentive such as loan subsidy etc, to small scale industries, thereby encouraging them to process on domestic goods into processed goods that will help boast Nigeria's export.
3. The government should encourage the export promotion strategies in order to maintain a surplus balance of trade.
4. An effective policy should be made based on the fiscal and monetary policies which should be aimed at achieving a realistic exchange rate for naira.
5. An appropriate environment and infrastructural facilities should be provided so that foreign investors will be attracted to invest in Nigeria. This will provide employment opportunities; increase the level of income and the standard of living of the people.

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OWNERSHIP STRUCTURE AND FIRMS' VALUE OF SELECTED CONSUMER MANUFACTURING FIRMS LISTED ON THE NIGERIAN STOCK EXCHANGE

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Abstract
The study focused on effect of managerial ownership, institutional ownership and foreign ownership on firm value among selected consumer goods manufacturing firms on the Nigeria Stock Exchange. The study covers the period of 2011 2020. Ex-post facto research was used in this study. The participants in this study were twenty-eight consumer products manufacturing companies that were publicly traded on the Nigerian Stock Exchange. Our sample population of fourteen consumer products manufacturers was chosen using a purposeful sampling strategy. This study observed that there is significant relationship managerial ownership, institutional ownership and foreign ownership and firm value of selected consumer goods manufacturing firms on the Nigeria Stock Exchange. The study recommends among others that government should make and implement policies that will induce direct foreign investment in our domestic firms. This will help to increase market values of our firms.
Keywords: Managerial ownership; Institutional ownership; foreign ownership; Firm value

Introduction

One of the most important internal mechanisms of corporate governance is the ownership structure. There is a prevalent belief that who owns a firm has a significant impact on its value. It is appropriate because an owner has significant power in appointing management, which will influence the company's future course. As indicated by existing studies, there is a notion that ownership structure influences business value enhancement. Studies on corporate governance, show that organizations with good ownership structure practices have better access to cheaper funding, higher performance, and better value in the capital market (Claessens & Yurtoglu, 2013).

Claessens and Yurtoglu (2013) believe that effective corporate governance frameworks raise market valuations because improved governance practices encourage companies to improve the efficiency of their investment decisions, resulting in more future cash flows given to shareholders. However, various owners may have different goals and time frames for making decisions (Barnea & Rubin, 2010). The correlations between the different sorts of owners and the firm's value are worth investigating.

The ownership structure can be in three categories: managerial, institutional, and foreign ownerships. Institutional investors are typically large and may own a significant portion of a company's stock; managers are the best informed about the company's situation and often have the most significant influence on its strategy and investments; and foreign investors are likely to differ from domestic investors in terms of their preferences, time horizons, and the extent of the information asymmetry problem (Won, Chang & Martynov, 2011). We expect different owners to have different preferences as a result of these variations.

Some studies including Siallagan and Mas'ud, (2006); Diyah and Erman (2007), and Sujoko and Ugy, (2007) found a negative significant relationship between ownership structure and firm value. Kumar (2004), Rachmawati and Hanung (2007), Chevalier *et al.,* (2006), Umar and Ali (2004) found a positive significant relationship between ownership structure and firm value in their various studies. The findings in related studies are inconsistent and inconclusive. However, the majority of researches did not focus on consumer goods manufacturing companies, which are key drivers of Nigeria's economic development. As a result, this study aims to determine the effect of ownership structure on firm value among selected listed consumer goods manufacturing firms in Nigeria.

The specific objectives of the study are to ascertain the effect of managerial ownership on firms' value; to determine the effect of institutional ownership on firms' value; and to ascertain the effect of foreign ownership on firms' value. The study also hypothesized: Managerial ownership does not have significant effect on firms' value of selected listed consumer goods manufacturing firms in Nigeria; there is no positive significant relationship between institutional ownership and firms' value of selected listed consumer goods manufacturing firms in Nigeria; and foreign ownership does not have significant effect on firms' value of selected listed consumer goods manufacturing firms in Nigeria.

Review of Related Literature

Conceptual review

Ownership Structure

Ownership structure according to Jaya, Bambang and Endang (2017), is the mechanism used by corporate governance (that includes corporate policies, control system and guidelines) required for the proper management of corporations and for reducing inefficiencies in companies. Ownership structure can be seen as how equity shares of organisations are owned, held and distributed among various equity shareholders in the organisation. Uwuigbe, et al. (2017) sees ownership structure as the total number of equity shares owned by shareholders. In this study, three ownership structure was used - managerial, institutional and concentration of ownerships.

Theoretical framework

Agency theory

According to agency theory, a conflict of interest between the principal agent and the company's performance emerges when each party tries to achieve the desired level of prosperity. Conflicts of interest between agents and principals are referred to as the agency dilemma (Setiawan, Merita & Mery, 2006). Party managers, as agents, have a better understanding of the company's capabilities and hazards, whereas the principals (owners / investors) have less knowledge of internal difficulties. Managers have access to information on the company's management procedures. While the owner as an individual/institution possesses only a tiny amount of information about the company's overall state. As a result, the owners hardly comprehend the manager's judgments, and shareholders are not very interested in learning how to run the company (Nurfauziah & Harjito, 2006).

Indeed, agency theory emphasizes the importance of the board of directors in resolving conflicts of interest between shareholders and management in a company. From an agency theory standpoint, the board's function is to address agency problems between managers and shareholders by setting compensation and dismissing managers who do not create value for the shareholders (Carter, Simkins, & Simpson, 2003).

Bebchuk and Weisbach (2010) agree that shareholders elect the board of directors who oversee management's activities on their behalf as a governance mechanism. Thus, the shareholders nearly always exert pressure on management to increase the firm's value. As a result, this research is based on agency theory.

Empirical review:

Siallagan and Mas'ud (2006), Diyah and Erman (2007), and Sujoko and Ugy (2007), showed that management ownership has a detrimental impact on business value since it causes the market to react negatively. Increased managerial ownership is viewed as a negative by the market since it will be more geared toward management's interests while other parties' interests will be ignored. Lua, Grace and Yung-Cheng (2007), Harjito dan Nurfauziah (2006), and Kumar (2004) found no effect of managerial ownership on firms' value because management has no control over firm policy. Because institutional investors are made up of professionals who are capable of evaluating firm performance through informal discussions with management, direction in operations, and decision making, ownership by institutional investors has a positive impact on firm value (Kumar, 2007; Rachmawati & Hanung, 2007).
Institutional ownership has a detrimental impact on firm value (Sujoko & Ugy, 2007). Wahyudi and Hartini (2006) and Diyah and Erman (2007) showed that institutional ownership has no effect on firm value; however, indirect institutional ownership has an association with firm value through control mechanisms toward management, in which institutional owners conduct intense control on managers so that managers

reduce their intention to add more share ownership, the market reacts positively and it leads to increase in firm value.

Foreign ownership has a favorable effect on business value (Chevalier *et al.*, 2006; Umar & Ali, 2004). Foreign investors could provide access to the international market for management expertise and technology, allowing the company to strengthen its operations. Foreign investors, in general, are far more capable in management due to their expertise and resources (Lee, 2008).

Methodology

The study focused on how ownership structure affects firm value in Nigeria. This study covers listed consumer goods manufacturing firms listed on the Nigeria Stock Exchange for the period of 2011 to 2020. *Ex-post facto* research design was used. The participants in this study were twenty-eight consumer products manufacturing companies that were listed and quoted on the Nigerian Stock Exchange. The sample population of fourteen consumer products manufacturers was chosen using a purposeful sampling strategy. The manufacturing companies whose yearly financial reports and accounts were up to date as of December 31, 2020, and could be accessed on their corporate website or Nigeria Stock Exchange factbook were selected. The sample population include: Nestle Nigeria; Guinness Nigeria; PZ Cussion Nigeria; GSK Nig. Plc; Cadbury Nigeria Plc; Fidson Nigeria Plc; Nigerian Flour Mills Plc; Dangote Sugar Plc; International Breweries Plc; Nigerian Breweries Plc; Unilever Nigeria Plc; Evans Nigeria Plc; Morison Industry Plc; and Honey well flour mills Plc. The secondary source of data used for this study include those data obtained from Nigerian Stock Exchange Fact-book and Annual Reports and Accounts of the selected listed companies.

Model specification:

The linear regression model guiding the research is adopted from the studies of Kumar (2004); Rachmawati and Hanung (2007); and Bebchuk and Weisbach (2010). The model is modified by as follows:

$$FIVUE = f(Mgrow, Insow, Fonow) \quad (i)$$

Explicitly, the regression models are:

$$FIVUE_{it} = \beta_0 it + \beta_2 Mgrow_{it} + e_{ij} \quad (ii)$$

$$FIVUE_{it} = \beta_0 it + \beta_1 Insow\ it + e_{ij} \quad (iii)$$

$$FIVUE_{it} = \beta_0 it + \beta_1 Fonowit + e_{ij} \quad (iv)$$

Where:
FIVUE = firm value
Mgrow = managerial ownership
Insow = institutional ownership
Fonow = foreign ownership
$_{it}$ = time period of study

β_0 = intercept (constant value)
e_{ij} = error term
β_1 = coefficient of the independent variable
$\beta > 0$; r2 > 0.

Measurement of variables

The dependent variable, firm value was measured by Tobin's Q Ratio. Harjoto and Jo (2011); Omar and Zallom (2016) Tobins' Q Ratio formular was adopted for this study. Tobins' Q Ratio was calculated by: Number of shares x market price at 31 December + Total liabilities) scaled by Total assets.

Managerial ownership, institutional ownership, and foreign ownership are used to proxy the independent variable (ownership structure). Managerial ownership is measured as the number of shares owned by top executives divided by the total number of shares outstanding. The institutional ownership is measured as the total number of outstanding shares divided by the number of shares owned by institutional investors. Foreign ownership, which is defined as the percentage of shares owned by foreign investors as a fraction of the total number of shares.

Results and Discussion

Hypothesis One

Ho: Managerial ownership does not have significant effect on firms, value of selected listed consumer goods manufacturing firms in Nigeria.
Hi: Managerial ownership has significant effect on firms value of selected listed consumer goods manufacturing firms in Nigeria

Table 1 : ANOVA[a] Result: Managerial ownership and firms' value

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	24568541310.576	1	24568541310.576	35.083	.000[b]
	Residual	67929282635.969	97	700301882.845		
	Total	92497823946.545	98			

a. Dependent Variable: firm value
b. Predictors: (Constant), managerial ownership

Table 2: Regression Coefficient for Managerial ownership and firms' value

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-28962.815	11155.214		-2.596	.011
	managerial ownership	6125.942	1034.251	.515	5.923	.000

a. Dependent Variable: firm value

Table 3: Model Summary for Managerial ownership and firms' value

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.515[a]	.266	.258	26463.21755	.461

Note: $r^2 = 26$, f(1,97) = 35,083, p = .000

R square and adjusted R square are 0.266 and 0.258 respectively, according to Table 3: model summary. This means that managerial ownership accounted for 26.6 percent of the difference in company value observed among the sampled group. In addition, Table 1 (ANOVA Table) shows that managerial ownership is statistically significant in predicting firm worth among selected listed consumer products manufacturing firms, because the probability value obtained (p-value), 0.00, is less than 0.05 (P 0.05). Table 2 confirmed this, with the coefficient of management ownership indicating a positive (T, 5.923) impact on company value.

Decision: Since p-value obtained from Table 1 (ANOVA) is 0.000 which is less than 0.05, we accept the alternate hypothesis and reject the null hypothesis which state that managerial ownership has significant effect on firms' value of selected listed consumer goods manufacturing firms in Nigeria.

Hypothesis Two:

Ho: There is no positive significant relationship between institutional ownership and firms' value of selected listed consumer goods manufacturing firms in Nigeria.

Hi: There is positive significant relationship between institutional ownership and firms' value of selected listed consumer goods manufacturing firms in Nigeria.

Table 4 : ANOVA[a] Result: institutional ownership and firm value

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	70412099693.979	1	70412099693.979	309.248	.000[b]
	Residual	22085724252.567	97	227687878.892		
	Total	92497823946.545	98			

a. Dependent Variable: firm value

b. Predictors: (Constant), institutional ownership

Table 5: Regression Coefficient for institutional ownership and firm value

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6629.368	2222.688		2.983	.004
	institutional ownership	40573.331	2307.209	.872	17.585	.000

a. Dependent Variable: firm value

Table 6: Model Summary for institutional ownership and firm value

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.872[a]	.761	.759	15089.32997	.596

Note : r^2 = 76 , f (1, 97) = 309,248, p = .000

From Table 6: model summary, the R-square and adjusted R square are 0.761 and 0.759, respectively. This means that institutional ownership accounted for 76.1 percent of the variation in company value observed among the sampled population. Furthermore, Table 4 (ANOVA Table) shows that institutional ownership is statistically significant in predicting company value among chosen publicly traded consumer products manufacturing firms, because the probability value obtained (p-value), 0.00, is less than 0.05 (P 0.05). This was corroborated in Table 5, where the coefficient of institutional ownership demonstrated that institutional ownership has a positive (T, 17.585) impact on company value.

Decision: Since p-value obtained from Table 1 (ANOVA) is 0.000 which is less than 0.05, we accept the alternate hypothesis and reject the null hypothesis which state that institutional ownership has significant effect on firms' value of selected listed consumer goods manufacturing firms in Nigeria.

Hypothesis Three:

Ho: Foreign ownership does not have significant effect on firms' value of selected listed consumer goods manufacturing firms in Nigeria.

Hi: Foreign ownership does not have significant effect on firms' value of selected listed consumer goods manufacturing firms in Nigeria.

Table 7 : ANOVA[a] Result: Foreign ownership and firms' value

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	25824584000.962	1	25824584000.962	37.571	.000[b]
	Residual	66673239945.583	97	687352989.130		
	Total	92497823946.545	98			

a. Dependent Variable: firm value

b. Predictors: (Constant), Foreign ownership

Table 8: Regression Coefficient for foreign ownership and firms' value						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	75376.818	7063.697		10.671	.000
	foreign ownership	-191830.115	31296.086	-.528	-6.130	.000

a. Dependent Variable: audit quality

Table 9: Model Summary for foreign ownership and firms' value

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.528[a]	.279	.272	26217.41767	.618

Note: $r^2 = 27$, f (1,97), = 37,571, p = .000

Table 9: model summary shows that R square and adjusted R square are 0.279 and 0.272, respectively. This means that foreign ownership was responsible for 27.2 percent of the difference in firm value observed among the sampled group. Furthermore, Table 7 (ANOVA Table) shows that foreign ownership is statistically significant in predicting company value among chosen publicly traded consumer products manufacturing firms, because the probability value obtained (p-value), 0.00, is less than 0.05 (P 0.05).

Decision: Since p-value obtained from Table 7 (ANOVA) is 0.000 which is less than 0.05, we accept the alternate hypothesis and reject the null hypothesis which state that foreign ownership has significant effect on firms' value of selected listed consumer goods manufacturing firms in Nigeria.

Discussion

The first hypothesis claims that managerial ownership has a considerable effect on the firms' value of quoted consumer goods manufacturing companies in Nigeria. It was discovered that managerial ownership had a beneficial effect on the firms' value of a company. This finding implies that management will attempt to influence firm policy in order to increase firms' value as a result of their investment in the company. This contradicts Kumar (2004), Diyah and Erman (2007), and Sujoko and Ugy (2007), who found no influence of managerial ownership on business value.

Hypothesis two demonstrates that institutional ownership has a significant effect on the firms' value of quoted and listed consumer goods manufacturing companies in Nigeria. This research found that institutional investors, who are experts capable of analyzing business performance through informal discussions with management, operational direction, and decision-making, can have effect on the firm's value. This finding is in line with the findings of Rachmawati and Hanung (2007) and Kumar (2004), who claim that institutional ownership has a considerable impact on firm value. The practical implication of this finding is that institutional ownership exercise some

control mechanism on managers to safe-guard their investment in the firm and improve firms' value.

Hypothesis three demonstrates that foreign ownership has significant effect on the value of listed consumer goods manufacturing companies in Nigeria. Foreign ownership was discovered to have a positive substantial association with business value. The practical implication of this conclusion is that foreign investors may be able to gain access to the international market for management talent and technology, allowing the company to better its operations. This research backs up Umar and Ali (2004) and Lee (2008), who claim that foreign ownership has a considerable impact on firm value.

Conclusion

Managerial ownership has a considerable effect on firms' value of selected listed consumer products manufacturing firms in Nigeria. Institutional investors, who are professionals capable of analyzing a firm's performance through informal discussions with management, operational direction, and decision-making, can have an impact on the firm's value. Foreign ownership has a considerable positive link with the value of a company. The practical implication of this conclusion is firms should aim at having ownership structure that should be mixed in order to maximize potentials of acquiring market shares and improving the on the firm's value.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. The study found that managerial ownership has significant effect on firm value of sample population, therefore regulatory authority should make it compulsory for management team to be stock holders in their respective firms. This will encourage them to involve in firm policy that will improve their firm value.
2. The study discovered that institutional ownership has significant effect on firm value of sample population, therefore firms should encourage potential institutions to invest their company in order to enhance their firm value.
3. The study discovered that foreign ownership has significant effect on firm value of sample population; therefore government should make and implement policies that will induce direct foreign investment in the domestic firms. This will help to increase market values of listed consumer manufacturing firms in Nigeria.

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AUDIT COMMITTEE ATTRIBUTES AND THE VALUE OF FIRM: EVIDENCE FROM LISTED INSURANCE COMPANIES IN NIGERIA

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Abstract
This study investigated the relationship between audit committee attributes and the value of the firm of listed insurance companies in Nigeria. In order to do this, three research questions were raised and three hypotheses were formulated. Data of audit committee attributes (audit committee independence, audit committee size and audit committee remuneration) and firm value (Tobin's Q) were obtained from the Nigerian Stock Exchange fact-book, and annual reports and accounts the listed insurance companies on the Nigerian Stock Exchange from 2012-2019. Data obtained were analyzed using both descriptive and inferential statistical tools. Findings of the regression result revealed that while audit committee independence significantly and positively affects the value of the firm, audit committee remuneration and audit committee size negatively and insignificantly affect the value of the firm of insurance companies in Nigeria. Given the findings of the study, it was recommended among others that stakeholders and management should exhibit a positive attitude towards the audit committee attributes by ensuring their independence without interference in their duty or responsibilities. Again, there is the need to increase the audit committee size of listed insurance companies in order to ensure enhanced value of the.
Keywords: Audit committee attributes; Firm value; Tobin's Q; Audit committee independence;' Audit committee size; Audit committee

Introduction

In recent times, audit committee attributes has been deemed as one of the most vital sub-components of the board given its specific role in protecting shareholders interests in relation to their financial oversight and controls. Gabriela (2016) opined that the roles of the audit committee are to supervise firms' financial reporting system, internal control, audit process as well as risk management practices. The roles *inter-alia* according to Temple (2016) is so for Nigerian firms' audit committees, which duties have developed after the adoption of diverse corporate governance codes.

Again, the roles of the audit committee has evolved and progressively been re-defined from a voluntary monitoring mechanism to a committee which aims at enhancing the flow of quality information from management to shareholders of the firm (Peter &Hannu, 2017; Hanen& Ahmed, 2015; Simeon, Ray & Stephan, 2012; and Sharma, Naiker& Lee, 2009). Madawaki (2012) asserted that the search for mechanisms to ensure enhanced firm value has largely focused on audit committee structure whose role is to oversee financial reporting process and audit of financial statements.

The audit committee embodies a standing committee of board of directors, charged with the responsibility of dealing with audit-related matters; audit committee acts as liaison between the auditor and board of directors and its activities encompassed the review of nominations of auditors, scope of audit, results of audit, internal financial control, corporate gate-keeping among others. The existence of an audit committee is envisaged to be beneficial to internal and external auditors since they improved quality of audit functions

On the other hand, the value of the firm signifies the financial valuation of corporate firms (Sean, Chew, Kuan Low & Poon, 2016). In the accounting literature, the value of the firm has been categorized using diverse measurements such as Tobin's Q, which is a ratio of the total assets minus book value of equity plus market value of equity to total assets; this study adopts this measurement of the firm of the firm. Moreover, there is robust body of literature linking audit committee attributes such as audit committee independence, audit committee size and other audit committee attributes with the value of the firm (see Hanen& Ahmed, 2015; and Todd & Dana, 2008).

A study by Chan and Li (2008) found that a greater level of audit committee independence and audit committee remuneration augments the value of the firm. The rationale for this is that the level of audit committee independence is linked with improved monitoring of the financial reporting process, which in turn affected the value of the firm (Harrast& Lori, 2007). Contrarily, prior studies suggest that lack of audit committee independence improves monitoring quality and firm value, particularly where audit committee has a high percentage of past associates and ex-employees, also known as grey-directors; it is less likely the auditor will issue a going-concern report (Peter & Hannu, 2017; and Sharma, Naiker& Lee, 2009).

Some evidences suggest that smaller rather than larger audit committees are linked with enhanced firm value (Archambeault, Todd & Dana, 2008; Harrast & Lori, 2007). Thus, it becomes palpable evidence that there are conflicting viewpoints in the accounting literature of the relationship between audit committee attributes (like audit committee independence, audit committee remuneration and audit committee size) and the value of the firm.

Furthermore, there is landslide of studies on the relationship between audit committee attributes and the value of the firm and firm performance (Peter &Hannu, 2017; Temple, 2016; Hanen& Ahmed, 2015; Wakaba, 2014; Husam, Keith, Simeon, Ray & Stephan, 2012; Sharma, Naiker& Lee, 2009; Archambeault, Todd & Dana, 2008; Harrast& Lori, 2007) in both developed and developing nations. However, to the researcher's knowledge, there are scanty studies in this area, particularly as it relates to listed insurance companies in Nigeria.

Most studies had focused on the banking, manufacturing and oil and gas sectors in Nigeria. Perhaps, the dearth of studies on the relationship between audit committee attributes and the value of the firm of listed insurance companies may be linked with the impulsive nature of insurance companies in Nigeria. Given the gap in the accounting literature, this study assessed the relationship between audit committee attributes the value of the firm of listed insurance companies in Nigeria. The audit committee attributes employed are audit committee size, audit committee independence and audit committee remuneration while the value of the firm – Tobin's Q. Hence, this study was carried out with the view to resolve the conflicting findings as well as confirming or refuting the viewpoints of prior studies in this area.

Predicated on the above arguments the researcher formulated the following Hypothesis to guide the investigation thus:

H_o1: There is no significant relationship between audit committee size and the value of the firm.

H_o: There is no significant relationship between audit committee independence and the value of the firm.

H_o: There is no significant relationship between audit committee remuneration and the value of the firm.

Literature Review and Theoretical Framework

Firm Value

The core objective of the firm is value maximization for shareholders; it involves maximizing an entity's equity, which is reflected in the present value of future expected benefits accruable to the shareholders. Krause and Tse (2016) see the value of the firm as value attributable to the stocks levels held by old owners. In the accounting literature, the value of the firm has been defined to mean the financial valuation of an entity (Sean, Chew, Kuan, Low & Poon, 2016). Aside, this viewpoint, Hanen and Ahmed (2015) see the value of the firm as a ratio of total assets less book value of equity in addition to market value of equity to total assets.

The definition of firm value according to Hanen and Ahmed (2015) are clearly indications that the value of the firm represents Tobin Q of the firm. Thus, Tobin's Q is refers to the ratio of market value of the firm to its replacement cost of assets (Chan & Li, 2008; and Hansen & Ahmed, 2015). No doubt, extant literature has used Tobin's Q as measure for the value of the firm (Hanen & Ahmed, 2015; Sean, Chew, Kuan, Low & Poon, 2016; and Todd & Dana, 2008).

More importantly, there is a significant body of literature relating audit committee attributes such as audit committee independence, audit committee size, audit committee remuneration, among other with the value of the firm (Chan & Li, 2008; Harrast& Lori, 2007). In the view of Chan & Li's (2008), the establishments of audit committees have a positive impact on the value of the firm sincetheir knowledge and experience can be shared during board meetings.

Audit Committee Size

The first category consists of the size of the audit committee. On the one hand, the increased number of members is argued to provide more effective monitoring and thus improve firm value. On the other hand, what is controversial, according to some authors larger audit committees may lead to low firm value. Sharma *et al.* (2009) found evidence that the number of audit committee meetings is negatively associated with multiple directorships, an independent audit committee chair and audit committee independence. Moreover, they found a positive association between the higher risk of financial misreporting and audit committee size, institutional and managerial ownership, financial expertise and independence of the board.

The Nigerian corporate governance code states that "the board should establish an audit committee of at least three, or in the case of smaller companies, two, independent non-executive directors." Several authors examined the audit committee size and firm value. Felo (2003) provides evidence that an increase in the fraction of audit committee members with general financial expertise is associated with improvements in analyst perceptions of firm value. Empirical evidence between audit committee size and firm value is mixed.

While McMullen (1996) found a significant positive association between these variables, Mengana & Pike (2005) did not find any association. The 2006 Central Bank of Nigeria code of corporate governance did not state clearly the exact number for the size of the audit committee members, through the Companies and Allied Matters Act (CAMA) 2020 specifies that the maximum number of audit committee members should be six.

Audit Committee Independence

The second category of audit committee attribute is the independence of the audit committee, we have to at first define what it means. We measured the independence of the audit committee by the proportion of independent directors over the total number of directors sitting in an audit committee. The term "independent director" is usually used interchangeably with the term "non-executive director" what is not correct because not all non-executive directors are independent. The approach taken by the UK Cadbury Report was substantially similar in that it refers to independent directors as needing to be only independent of management and free from any business or other relationship which could affect their independent judgment.

Furthermore, it is observed that the definition gives little guidance as to what the test should entail. The board should identify in the annual report each non-executive director it considers to be independent. The board should determine whether the director is independent in character and judgment and whether there are relationships

or circumstances which are likely to affect, or could appear to affect, the director's judgment. An important issue to consider when evaluating the independence of any board or committee is the endogeneity of board/committee composition. Hermalin & Weisbach (1998) suggest that poor performance leads to increases in board independence.

The independence of audit committee has its benefits but also risks. On the one hand, it is argued that having an independent audit committee within the corporation facilitates more effective monitoring of financial reporting (Carcello and Neal, 2003) and external audits (Abbott *et al.,* 2004; Carcello and Neal, 2003). On the other hand, being completely separate from management could mean that the independent audit committee members see less industry issues and are more likely to side with the auditor requiring less negotiations and deliberations and thus fewer meetings. This can have negative impact on a firm's value (Sharma *et al.,* 2009).

Audit Committee Remuneration

Audit committee remuneration is considered important in evaluating a firm's value. Audit remuneration refers to the fee or compensation given by management to an auditor for carrying out an audit. In the view of Bruynseels & Cardinaels (2014), audit committee remuneration is positively associated with a firm's value. Chan & Li (2008) asserted that a significant high level of remuneration enhances firm value.

Prior studies have used audit committee remuneration as one of the proxies for audit committee characteristics. Besides, there is inconclusive result on the relationship between audit committee remuneration and firm value; some studies showed a positive impact while others a negative impact on firm value. Thus, this study was carried out to resolve the puzzle in the accounting literature on the relationship between audit committee remuneration and the value of the firm of listed insurance companies in Nigeria.

Theoretical Framework

In this study, the theoretical framework is premised on the agency theory by Jensen and Meckling (1976). The theory proposes that the interest of the principal and agent varies and that the principal can control or reduce this by giving incentives to the agent and incurring expenses from activities designed to monitor and limit the self-interest activities of the agent (Jensen & Meckling, 1976; Fama & Jensen, 1983). As observed by Nuryanah and Islam (2011), the principal will ensure that the agent acts in the interest of the principal by giving him the incentives and by monitoring his activities.

Fundamental among the measures established to reduce the self-serving nature of the agent is an independent audit committee. Therefore in order to reduce information asymmetry, there is the need for audit committee incentives like remuneration and board subcommittees composed of directors with the appropriate attributes such as

independence, expertise and experience to prevent or reduce the selfish interest of the agent. The agency theory is very important in the context of the control mechanisms adopted by companies, such as audit committees that we examine in our work.

Empirical Review

This section reviews some empirical studies on audit committee attributes, value of the firm and performance in Nigeria, the world over. For instance, Peter and Hannu (2017) examined the link between audit committee adoption and financial value in UK as well as their impact on firm value during the pre/post global financial crisis era. The regression result revealed that the adoption of audit committee by firms has a positive and statistically significant effect the value of the firm.

Berkman and Zuta (2017) explored the link between attributes of the audit committee of firm and the likelihood of negative events occurring in the firm's life in Israel using hand-collected data from 2010-2014. The regression result revealed that the larger the audit committee size, the larger the likelihood of negative events, consistent with cumbersome working and likely conflict of interests of a large audit committee.

Khosa (2017) study in India found that audit committee independence is negatively linked with the value of the firm when he carried out a research using a sample of 317 listed firms comprising 1,350 firm-year observations from 2008-2012. Tobin Q was used as a measure for the value of the firm and the regression result revealed that the establishment of an audit committee had a negative correlation with the value of the firm (Tobin's Q).

In UK, Gabriela (2016) analyzed the impact of diverse audit committee characteristics on firm financial performance with evidence from non-financial companies listed on the London Stock Exchange. The audit committee characteristics investigated in this study are audit committee size, independence, expertise and frequency of meeting and Tobin Q was used to proxy financial performance. Regression statistical tool was used in the analysis of data and findings suggest that the features of audit committees have an impact on UK firm performance. Contrarily, audit committee independence appeared to be negatively correlated with firm performance.

In Nigeria, Temple (2016) statistically surveyed the influence of audit committee size on quality of financial reporting in quoted Nigerian banks using five years documentary records obtained from the annual reports and accounts of fifteen banks traded in the Nigerian Stock Exchange as at December 31, 2014. The study established that the size of the audit committee has insignificant impact on the quality of financial reporting in quoted Nigerian banks.

Sean, Chew, Kuan Low & Poon (2016) identified the relationship between audit committee characteristics and firm performance in Malaysia. In addition to common variables in audit committee such as size, financial expertise and independence was analyzed. The multiple regression result showed that audit committee characteristics influence the firm performance most efficiently.

In a study by Vlaminck and Sarens (2015) on audit committee attributes and its relationship with quality of financial statements in Germany, the study via the Pearson's correlation a significant link between multiple directorships of audit committees and quality of financial reporting.

Musa, Oloruntoba and Oba (2014) investigated the impacts of audit committee characteristics on quality financial reporting by deposit banks in Nigeria. The multivariate regression documented a positive impact of audit committee independence on financial reporting quality. In addition, it was found that audit committee size has an insignificant effect on financial reporting quality.

In Kenya, Wakaba (2014) examined the effect of audit committee attributes on firm the performance of listed firms from 2006 to 2011 for 46 companies. The multiple regression results revealed that audit committee experience, gender diversity size and independence has significant effects on firm performance.

Mamun, Yasseer, Rahman & Wickramasinghe & Nathan (2014) examined the relation between audit committee characteristics and financial reporting among public listed companies in Malaysia. The samples collected were 75 firms and covered fiscal years of 2008-2010. Their performance measurement tool was Economic Value Added (EVA) and F-test to obtain the results. The research concluded that audit committee independence was significantly connected with financial reporting because independent audit committees can reduce biased accounting information which will improve the investment.

Methodology

This study adopted the ex-post facto design by employing already existing secondary data involving listed basic materials companies in Nigeria. The design ensures the reliability of data since the data obtained were outside the researcher's influence. The study population refers to the entire elements under study; thus, the study population comprised of all listed insurance companies on the Nigerian Stock Exchange (NSE) as at 31st December, 2020. There are thirty-two (32) listed insurance companies as at 31st December, 2020 (Nigerian Stock Exchange Factbook, 2020).

The purposive sampling technique was adopted in selecting twenty-five (25) listed insurance companies on the NSE with complete dataset required for the investigation. The complete dataset implies firms that disclosed audit committee attributes measures like audit committee size, audit committee independence and audit committee

remuneration. Thus, annual data in respect of the sampled listed insurance companies were obtained for a period of 8years spanning from 2012 – 2019.

The sources of data in this study emanated from secondary; the secondary data includes those obtained from NSE Fact-book and the annual reports and accounts. These data are deemed valid by the regulatory framework of business and capital markets operations in Nigeria; hence there was no need for validity and reliability of the research instruments of the study.

The study employed secondary data from the annual reports and accounts and Nigerian Stock Exchange Factbook of quoted insurance companies in Nigeria. However, due to the nature of data that obtained, a simple regression statistical analysis was done. The general model of the linear regression is given in equations 1-2:

$$Y = \alpha + \beta x + E_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where: Y = Dependent variable ; X = Independent variable; α = Intercept parameter (where the regression surface crosses y axis); β=Co efficient of independent variables; Et = Error margin. The simple regression model is given as:

$$TobQ = f(audsize,) \quad eq.\ 2$$
$$TobQ = f(audcin) \quad eq.\ 3$$
$$TobQ = f(audrem) \quad eq.\ 4$$

On the basis of equations 2-3, equations 5-7 were expressed in their explicit forms as follows:

$$Tobq_{it} = \alpha_0 + ß_1 audsize_{it} + \mu_{It} \quad eq.\ 5$$
$$Tobq_{it} = \alpha_0 + ß_1 audcin_{it} + \mu_{It} \quad eq.\ 6$$
$$Tobq_{it} = \alpha_0 + ß_1 audrem_{it} + \mu_{It} \quad eq.\ 7$$

Where: *Tobq* = Proxy for the value of the firm; *audsize*=audit committee size; *audcin*= audit committee independence; *audrem*=audit committee remuneration; α_0ß=regression coefficients; $_{it}$ = individual insurance companies; μ_t=error term

The analysis was done in phases: descriptive statistics (such as the mean, standard deviation, minimum and maximum value, Pearson correlation matrix) and inferential statistics (Breusch-Pagan/Cook Weisberg Test and Ordinary Least Square - OLS). The data that was obtained were analyzed via STATA 13.0 statistical software.

Results and Discussions

Table 1: Summary of Descriptive Statistics of the Variables of the Study

Variable	Obs.	Mean	Std. Dev.	Min	Max
TobQ	200	0.608	0.484	0	1
Audsize	200	5.531	0.974	2	6
Audcin	200	25.95	12.85	0	100
Audrem	200	3.321	0.744	1	9

Source: Researcher's Computation, 2021.

Table 1 shows the summary of descriptive statistics of the variables of concern; the result indicates that there were 200 observations with respect to the data from twenty-five insurance companies for a period of 8years. As observed, TobQrecorded a mean and standard deviation of 0.608 and 0.445 respectively with a minimum value of 0 and maximum value of 1.

With regards measures of audit committee attributes (audsize, audcin, audrem), they recorded means and standard deviations of 5.531, 25.95, 3.21 and 0.974 12.85, 0.744 respectively. The low standard deviation recorded by most of the audit committee attributes measures suggest that the size of the audit committee of the sampled insurance firms and their independence is low and however, closely around their respective average values excluding that of audit committee independence which recorded a high standard deviation. The respective minimum values recorded for audsize, audcinand audrem are 2, 0, 1 while the maximum values were 6, 100 and 9 respectively.

Furthermore, it was found that audit committee independence recorded the highest maximum value and the lowest minimum value. The audit committee size recorded a mean value of about 5.5, indicating that the average number of directors/members of the audit committee of the sampled insurance companies is 5 persons/directors. Meanwhile, the number of members in the audit committee of the sampled firms ranges from 2 (minimum) to 6 (maximum).

Table 2: Result of Correlation Analysis

Variable	TobQ	Audsize	Audcin	Audrem
Tobq	1.0000			
Audsize	0.4120	1.0000		
Audcin	0.0207	-0.0315	1.0000	
Audrem	0.0552	0.2615	0.0140	1.0000

Source: Researcher's Computation, 2021

From Table 2, it was found that all the measures of audit attributes were positive. The direction of the relationship between the dependent and independent variables are positive; indicating that a unit increase in any of the explanatory variables (audit committee attributes) will result to a positive increase in the dependent variable (firm value)

Furthermore, Table 2 indicated that the independent variables did not show signs of the existence of multico-llinearity as evident in the Pearson correlation (Pearson *R*) between pairs of independent variable that was found to have ranged from -0.0315 to 0.4120. Since no pair of independent variables had Pearson *R* of 0.80, there is no sign of multicollinearity.

Table 3: Breusch-Pagan/Cook Weisberg Test

Breusch Pagan Cooke/Weisberg Test for Heteroskedasticity	chi2(1) = 22.17; Prob>chi2(1)= 0.0000

Source: Researcher's Computation, 2021

To confirm the fitness of audit committee attributes and firm value models, the data was subjected to heteroskedasticity using Breusch-Pagan/Cook Weisberg test. As shown in Table 3, the chi2(1) of the fitted values for the variables is 22.17 with a p-value of 0.0000; this result confirms the absence of heteroskedasticity problem in the model of audit committee attributes and the value of the firm.

H_o1: There is no significant relationship between audit committee size and the value of the firm.

Table 4: OLS Results for Audit Committee Size and Firm Value

Dependent Variable: Tobin's Q (TobQ)				**No. of Obs. = 200**	
Variables	**Symbol**	**Coefficient**	**Std.Err**	**t-Statistics**	**Sig.**
Constant	_CONS	-1.2114	0.1531	-9.21	0.000
Audit committee size	audsize	0.05134	0.0233	3.11	0.025
F(1, 198)				77.15	
(p-value)				(0.000)	
R-Squared				0.829	
R-Squared Adj.				0.800	

Source: Researcher's Computation, 2021

Table 4 showed that audit committee size (audzie) obtained positive coefficients of about 0.051 and 0.233 respectively; an indication audit committee size has positive relationship with the value of the firm. Thus, bigger companies with larger audit committee sizes may be synonymous with improved firm value due to their monitoring role.

In addition, audit committee size obtained a t-stat. of 3.11 (P>| t | = 0.025), which suggests that audit committee size has a positive and significant relationship with the value of the firm. On the basis of the above, we thus reject the null hypothesis and accept the alternate hypothesis stating that audit committee size significantly and positively affects the value of insurance companies in Nigeria.

H_o2: There is no significant relationship between audit committee independence and the value of the firm

Table 5: OLS Results for Audit Committee Independence and Firm Value

Dependent Variable: Tobin's Q (TobQ)				**No. of Obs. = 200**	
Variables	**Symbol**	**Coefficient**	**Std.Err**	**t-Statistics**	**Sig.**
Constant	_CONS	-1.0393	0.1647	-7.30	0.000
Audit committee ind.	Audcin	-0.0393	0.0018	-1.93	0.052
F(1, 198)				44.33	
(p-value)				(0.000)	
R-Squared				0.770	
R-Squared Adj.				0.760	

Source: Researcher's Computation, 2021

Table 5 showed that audit committee independence (audcin) obtained negative coefficients of about -0.0393and 0.0018 respectively; an indication that audit committee independence has a negative relationship with the value of the firm. Thus, a unit increase in audit committee independence will lead to a 0.0393decrease in the value of the firm. Thus, high level of audit committee independence may result in improved or enhanced value of the firm.

Furthermore, audit committee independence obtained a t-stat. of -1.93 (P>| t | = 0.052), which suggests that audit committee independence has a negative and insignificant relationship with the value of the firm. On the basis of the above, we thus reject the alternate hypothesis and accept the null hypothesis stating that audit committee independence insignificantly and negatively affects the value of insurance companies in Nigeria.

H_o3: There is no significant relationship between audit committee remuneration and the value of the firm.

Table 6: OLS Results for Audit Committee Remuneration and Firm Value

Dependent Variable: Tobin's Q (TobQ)				**No. of Obs. = 200**	
Variables	**Symbol**	**Coefficient**	**Std.Err**	**t-Statistics**	**Sig.**
Constant	_CONS	-1.3839	0.3829	-5.21	0.000
Audit committerem	Audrem	-0.2478	0.0437	-1.71	0.055
F(1, 198)				52.48	
(p-value)				(0.000)	
R-Squared				0.800	
R-Squared Adj.				0.790	

Source: Researcher's Computation, 2021

Table 6 showed that audit committee remuneration (audrem) obtained negative coefficients of about -0.2478 and 0.0437 respectively; an indication that audit committee remuneration has a negative relationship with the value of the firm. Hence, a unit increase in audit committee remuneration will lead to a 0.2378 decrease in the value of the firm. Thus, lowered level of audit committee remuneration will result in enhanced value of the firm.

Furthermore, audit committee remuneration obtained a t-stat. of -1.71(P>| t | = 0.055), which suggests that audit committee remuneration has a negative and insignificant relationship with the value of the firm. On the basis of the above, we thus reject the alternate hypothesis and accept the null hypothesis stating that audit committee remuneration insignificantly and negatively affects the value of insurance companies in Nigeria.

Conclusion and Recommendations

Independent audit committee plays a positive role in enhancing the value of the firm. Abott (2002) showed that an increase in the number of independent members in audit committee reduces creative accounting. Thus, audit committee independence ensures effectiveness, reliability of financial reports and mitigates manipulative and selfish motives of managers as well as improving the value of the firm. Contrarily, increased audit committee remuneration and audit committee size are likely to decrease the value of the firm.

In this study, we investigated the relationship between three (3) audit committee attributes and the value of the firm of listed insurance companies in Nigeria. Given the results of the study, it was concluded that while audit committee independence significantly and positively affects the value of the firm, it was found that audit committee remuneration and audit committee size negatively and insignificantly affect firm value of insurance companies in Nigeria.

Given the findings of the study, it was recommended that stakeholders and management should exhibit a positive attitude towards the audit committee attributes by ensuring their independence without interference in their duty or responsibilities. More so, there is need to ensure a fixed remuneration of the audit committee of listed insurance companies in Nigeria; this will encourage them to act in the interest of shareholders as well as improving the value of the firm. Besides, there is the need to increase the audit committee size of listed insurance companies in order to ensure enhanced value of the.

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DETERMINANTS OF TAX MORALE AND TAX COMPLIANCE: EVIDENCE FROM NIGERIA

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Abstract
This study examined the determinants of tax morale and tax compliance in Nigeria. The objective of the study are: trust in government, culture, age, religion, education, employment. The study adopted cross sectional research survey design as a method of investigation. Four (4) public limited companies listed under the Nigeria stock exchange formed the basis upon which investigation was carried and sample size obtained for the study. Questionnaire was used as a research instrument to elicit responses, a total of three hundred and eighty two (382) questionnaire copies were administered and all the three hundred and eighty two copies were retrieved. Multiple regression was used to analyse the data. The study revealed that trust in government, employment , religion, age have significant relationship with tax morale and tax compliance, while culture and education have insignificant relationship with tax morale and tax compliance in Nigeria. The study concludes that transparency, accountability, people oriented tax policies and using non-economic factor in explaining the concept tax of compliance were lagging on the part of the government and need to be addressed. The study recommends that, understanding the social psychological (demographic) of a taxpayer as its relate to tax morale would help in addressing the issue of tax compliance in Nigeria, and this would also help the government to formulate the better policies in tax related matters.
Keywords: Avoidance, Compliance, Demographic, Morale, Tax. Evasion

Introduction

Over the years, the subject taxation has received a considerable attention in the literature. Taxation is one of the most vital subject in governance both in developed and developing countries, taxes and other incomes are important source of revenue to the government (Teera & Hudson, 2004). Taxation consist of direct or indirect tax that can be paid in money or its equivalent, the first known history of taxation can be traced to the ancient Egypt around 3000 B.C (Artoni, 2015). The issue of tax compliance has been a big challenge for Nigeria government, the Nigeria government has not had a quiet time in dealing with the issue of tax compliance over the years, in bid to seeking adequate compliance from taxpayers , several reforms, measures and policies has been introduced by successive government to solve the issues of tax compliance in Nigeria and yet no avail, for example is the introduction of income tax in Nigeria, granting autonomy to Nigeria inland revenue, tax policy and administration reforms amendment, self-assessment scheme, tax exemption scheme, introduction of the tax policy document amongst other (Oriakhi & Rolle, 2014).

Currently the signing of finance act 2020 also took tax into consideration. Though several improvements have been made to reposition the Nigerian tax system, the system is still facing numerous challenges, complying to payment of taxes is one of the biggest challenge to the government. The amount of revenue to be generated from taxes by the government for its expenditure depends among other things the willingness of the taxpayers to comply with tax laws of the country (Eshag, 1983).The primary function of tax is to generate revenue for the running of the government at level (Appah, 2014).

The issue of tax compliance hasn't been an easy one for the relevant tax authority, the need to improve on relevant policies becomes imperative. One ideal the government have continued to portrayed and uphold in ensuring adequate tax compliance in the society is the use deterrence, force compliance methods and other measures and this hasn't yielded any positive result in terms of tax revenue drive (Daude & Melguizo, 2010). Government expenditure has doubled and debt servicing costs have grown, but tax revenues have missed their targets over the year since 2015 (Reality Check team BBC News, 2019).

Taxation have been in existence since history of which many could ascribe different definitions to: Stein (1991) defined tax as a means by which the government raises revenue to meet its expenditure. Tobansi-Ochiogu (1994) defined tax as levy imposed by the government against the income, profit, or wealth of the individual, partnership, corporate organisations. Appah and Oyandonghan (2011) describes tax as compulsory levy imposed on subject or upon property by the government to provide security, social amenities and create condition for the economic well-being of the society. Hart (2015) defined taxation as the price paid by a civilized society for the opportunities of remaining civilized but unfortunately the citizen don't see the reasons to pay tax if there is no development in the society regardless of the opportunity of remaining civilized, this gives them the more opportunity to evade and avoid tax.

Ngerebo and Masa (2012) explain that tax is compulsory payment made on different basis and rate by the citizens (corporate or individual) to government and it is not non-negotiable but obligatory. Tax is a powerful tool that have been used by successive government all over the world for the growth and development of the nation, it is a form of payment by the citizens to support and to augment the cost of governance (Adekoya; Oyebamiji, &Lawal, 2019). Nigeria as country has not has not had efficient and effective tax system over the years, this is evidence in Nzotta (2007) when asserted that despite the tax audit and investigation, Nigeria is still struggling with the issue of losses from tax revenue, this is also evidence when the then executive chairman Babatunde Fowler of federal internal revenue board in 2019 asserted that Nigeria has lost over 15 billion naira to tax evasion (Retrieved from https:// www.vanguardngr.com/ 2019/10/nigeria-loses-about-15bn-to-tax-evasion-annually-fowler/)

Tax is a social contract between the citizen and the government of a nation, both parties are expected to oblige to their responsibility, the citizen are expected to pay their taxes while the government is also expected to utilize these taxes for the welfare and benefits of the citizens (Alm, 2012). The trust relationship concept between the citizen and the government, shows that it is expected that this taxes been utilised for the benefits and purpose of the society, but over the years there have been gap in this contract of both parties not yielding and living up to expectations, this has resulted in low level of tax compliance, tax evasion, tax avoidance (Guyer, 1992) . In recent times, cases of low level of tax compliance, tax evasion and tax avoidance has affected the capacity of the government not being able to raise adequate revenue to finance its economic activities rather government had resorted to external borrowings for finances.

Statement of the Problem

The government have continued to lament on the inadequacies in funding the economic, when there are adequate avenue that can be properly harness to resolve economic financial issues, tax is one major source of revenue that the government have failed to harness ((Odusola, 2006). The issue of tax evasion, tax avoidance, low level of tax compliance over the years have continued to inhibit government potentials in realising the needed objective. In developing countries the inability of governments to generate adequate tax revenue has been linked to non-tax compliance (Kangave, Nakato,Waiswa & Zzimbe, 2018). The government on a daily basis had resorted to external borrowings for finances, understanding what motivate a taxpayers minds (tax morale) a is key to resolving tax compliance issues and this can lead to adequate revenue generation from taxes.

There have been numerous empirical studies published that have continued to encourage or uphold the idea of economic model concept, deterrent measures in explaining the nature of tax compliance behaviour and yet no positive result have been achieved. James; Zaimah and kamil (2011) examined the role of financial condition and risk preference as an important variables in determining the nature of tax compliance behaviour. Kennedy; Modugu and Anyaduba (2014) examined the impact of tax audit and other qualitative attributes on the tax compliance level in Nigeria, their result shows that there exists a positive relationship between tax audit and tax compliance.

Meda and Rahmiati (2020) examined the nexus between tax morale and compliance of individual taxpayer. Observing the issue of tax compliance registered around the world, few researchers have rarely linked using non economic factor to explain the concept of tax compliance such as tax morale. it is against this backdrop this study have singled out tax morale as a concept in understanding the nature of tax compliance in the society, hence understanding the determinants of tax morale would help resolve the issue of tax evasion , tax avoidance , low level of tax compliance and

ensure adequate tax compliance in the society. To best of my knowledge this research work has not been elsewhere, It is an attempt to bringing in sociology and psychology into tax compliance issues. This study intend to rectify the gap in knowledge and to further contribute to the frontier of knowledge.

Objectives of the Study

The main objective of this study is to determine the determinants of tax morale. The specific objectives are to:

1. find out if trust in government has any impact on tax morale,
2. investigate if culture has any impact on tax morale,
3. examine if age plays a significant role on tax morale,
4. investigate if religion has any effect on tax morale.,
5. determine if level of education affect tax morale, and
6. find out if nature of employment has any impact on tax morale.

Predicated on the above specific objectives, the researchers made the following hypotheses to guide the investigation:

Ho_1. Trust in government does not have significant relationship with tax morale,
HO_2. Culture of the people does not have significant relationship with tax morale,
HO_3. Age does not have significant relationship with tax morale,
HO_4. Religious belief of the people does not affect the level of tax morale,
HO_5. Level of education does not have significant relationship with tax morale, and
HO_6. Nature of employment does not have any significant effect on tax morale.

Literature Review and Theoretical Framework

Tax Morale and Tax Compliance

Tax is a form of payment by citizens to support and augment the cost of governance (Adekoya, Oyebamiji & Lawal, 2019). According to Keen (2012) tax revenue is used mostly for enhancing and financing social economic development and other government programmes and services as highlighted in the annual budget. Over the years government have always complained and lamented on the issue of funding the economy. The issue of tax evasion and tax avoidance doesn't seems to be abating, harnessing the concept of tax morale is step in the right direction as this can prove a soft landing for the government to achieve its aims, rather than using economic concept alone to explain the concept of tax compliance behaviour, non-economic concept can also be applied to explain tax compliance behaviour. If the concept of tax morale is properly harness which embraces non-economic factors, the government can realise its needed objective from the area of tax alone.

Given the officially published tax figures for Nigeria (Federal and States), total taxes collected in 2021 in the second quarter of the year is about N8, 883.5 billion, as a percentage of Gross Domestic Product (GDP), Nigeria taxes represents 6.1% one of

the lowest in the world.(nairametrics, 2020). According to data from Organisation for Economic Co-operation and Development OECD (a group of some of the most developed countries in the world) indicates their average tax to GDP ratio should be 32.9% of GDP on the average. France, one of the OECD countries has a tax to GDP ratio of over 46%. (nairametrics, 2020).

The issue of tax compliance in Nigeria can be traced to a broken social contract which has perpetuated a culture of tax evasion and avoidance among citizens, in other words, tax morale is low, and this has become a stem bearing fruits of tax evasion, involuntary tax compliance, tax fraud, apathy to tax matters and other issues hampering government efforts to ramp up tax revenue. Paying tax is not particularly easy anywhere in the world especially for anyone who have spend time, energy and other resources to earn income and there is no adequate benefits in returns. The issue of tax compliance in Nigeria is a complex one, understanding the determinants of tax morale can help resolve issues on tax compliance in the society to a greater extent. (Alm & Torgler, 2006).

Several studies have alluded to a combination of factors as obstacles to sustainable tax revenue collection in Nigeria. Efforts at researching tax compliance was traced by Franzoni (1999) to the work of Beccaria (1764) but the former credited the application of modern economic tools to Allingham and Sandmo (1972). Earlier studies on tax compliance were found to be more of the classical economic view focusing on identifying deterrence factors that could prevent people from evading taxes, factors identified by this classical theory includes audit probability, tax rate, penalty etc, these also established its inadequacy in explaining taxpayers compliance, as actual level of tax compliance significantly exceeded predictions of the classical theory, this experiences made the subject of tax compliance remain a puzzle (Devos, 2014).

Attentions thus started to expand focusing on incorporating behavioural issues like sociological and psychological factors into tax compliance model, the issue of tax compliance have remain a difficult puzzle for the government to solved. Alm and Torgler (2011), Palil, MdAkir and Wan Ahmad (2013) as well as Torgler and Schneider (2007) claim that, understanding the concept of tax morale could unravels this puzzle of tax compliance. Finding what motivate taxpayers mind in paying their taxes voluntarily without coercion is very paramount to this study. The use of deterrence measures, enforcement strategies and policies to ensure compliance has been the front model in ensuring adequate compliance in the society , this model was first advocated by Alligham and Sandmo in 1972, this model is still being advocated by our contemporary tax authority today and most authors and scholars today still advocated this concept as a way of ensuring tax compliance in the society, new concept on the ideas of tax compliance is gradually paving way in order to ensure adequate compliance in the society.

The term "tax morale" was first coined by Schmölders a Geramn scholar back in 1960 who defined it as "the attitude of a group or the whole population of taxpayers regarding the question of accomplishment or neglect of their tax duties; it is anchored on citizens tax mentality and in their consciousness of being a citizens, which is the base of their inner acceptance of tax duties and acknowledgement of the sovereignty of the state (Schmölders 1960). Despite the definition given by Schmölders, tax morale is still a debated notion with different meanings, Schmolders argued that, instead of looking for reasons why people evade taxes; focus should be on reasons why people decide to pay taxes, tax morale was therefore considered to be the appropriate answer.Tax morale is the internalized obligation, the willingness, and the intrinsic motivation to pay tax (Alm & Torgler 2006b).

Palil.,MdAjir and Wan Ahmad (2013) see tax morale as a measure of attitude of taxpayers unlike tax evasion that measure their behaviour, it is related to civic duty and linked to ethics (Torgler& Murphy, 2005). Tax morale is the intrinsic motivation to comply, though not a legal but a moral obligation to contribute to the general welfare (Torgler& Schneider, 2009). Torgler and Schneider (2006) defined tax morale as the "moral obligation" or an "intrinsic motivation" to pay tax. Torgler (2002) and Frey (2003) stressed tax morale relevance to understanding the high level of tax compliance in the society. Luttmer and Singhal (2014) provide a survey and summarize the role of non-pecuniary motives and intrinsic motivations on actual compliance in details. Dwenger (2016) use the term intrinsic motivations for tax compliance while some other papers use tax ethics or tax honesty to describe what we label tax morale.

Tax morale encompasses an umbrella term capturing non pecuniary motivations, non economic motive for tax compliance as well as factors that fall outside of the standard of expected utility framework. It is now widely acknowledged that the decision to evade taxes is not only driven by extrinsic pecuniary factors such as economic gains, but also by intrinsic non-pecuniary motives. Following ,Luttmer and Singhal (2014), describe the term tax morale as an umbrella term for such intrinsic tax compliance motives. For example, individuals may have some intrinsic motivation to pay tax or feel guilt or shame for failure to comply. Organisation for Economic Co-operation and Development OECD (2013) examined the effects of socio-economic and institutional factors on tax morale, the socio-economic factors assessed include marital status, gender, economic status, employment status and economic problem, while the institutional factors were perception of how governments spend tax revenue, democracy, trust in government and preference for redistribution.

The works of Vythelingum, Soondram and Jugurnath (2017) found positive association between tax morale and each of fairness, trust (in government, tax authority and legal system), social norms, and fiscal exchange equity, their study however did not find significant relationship between tax morale and any of moral sentiment, civic duties, taxpayers' preference, complexity of tax system and respect for tax authority.

Preliminary research was conducted during the 1960s by the Cologne School of Psychology, they tried to narrow the bridge between economics and social psychology on tax compliance by emphasizes that tax compliance should not only be analyzed from the traditional neoclassical economic point of view, but also from social psychology perspective. They saw tax morale as a major determining factor that can leads to high level of tax compliance, this early work foreshadowed the emerging importance of behavioural economics as a concept in understanding individual and group behaviour, and it is reflected in a range of related approaches, which is roots in the psychology of taxation (Lewis, 1982 & Kirchler, 2007).

Trust in Government

Modugu, Eragbae, and Izedonmi (2012) stated that perception of government's accountability and transparency by the taxpayers enhances trust in government and this is instrumental factors to behavioural morals that lead to voluntary tax compliance. Torgler (2003b) opined that trust, perception of tax fairness and corruption have been seen as playing a vital role in tax compliance.

Kiow., Salleh, and Kassim (2017) reported that transparency in taxation is key to taxpayer's confidence, because, lack of confidence in the tax system and the government, might leads to tax evasion, dishonesty and fraud. Adekoya and Akintoye (2019) reported that trust in government has positive relationship with taxpayer's voluntary, tax behaviour and level of tax compliance. Trust in government is one of the key factors that influences tax compliance level of taxpayers (Siahaan, 2012).

Religion

Studies show that those who claim faith or religious identity have more positive attitudes towards paying taxes, because they believe so much that, it is a sin to their religion to evade tax. Empirical research on crime behaviour by Hull (2000) reveals that delinquent behaviour and religious beliefs are negatively correlated.

Torgler (2006) conducted an extensive investigation on this relationship and finds a strong causal relationship between different variables capturing religiosity and tax morale, the results are confirmed by Konrad and Qari (2009) for European countries and Torgler (2005) for Latin America. People who seem more religious in nature would always want to live a moral life to an extent, thereby seeing tax evasion would unethical against their religion and doctrine.

Education

Another factor spotted out on the issue of tax morale and tax compliance is education, which research have shown that, educated people tend to know better understand what the state provides and how it spends tax revenues collected, hence, tax morale amongst the educated is higher than the uneducated which can lead to high level of tax compliance.

Highly educated taxpayers are more aware and informed of possible government wastes and spending and besides they also understand of the opportunities of tax evasion and tax avoidance (Torgler and Schaltegger, 2005). Research done in Australia revealed that most educated taxpayers recorded high tax compliance that those with limited education. Education and tax compliance levels might positively correlate (Jackson &Milliron, 1986); (Dubin& Wilde, 1988), Richardson (2006) found a positive relationship between education and tax compliance levels.

Age

Studies have shown that elderly people are more conscious and more civil in their attitude when it come to social responsibility as a citizen. Older people seems more justified in the area of tax compliance than the younger ones, they seems more acquainted with the social and economic norms and sanctions of not paying their taxes on regular basis. Walerud (1982) and Wahlund (1992) postulate negative association between taxpayer compliance and age; indicating that older people are less compliant.

In contrast, Dubin, Graetz, and Wilde, (1987) argued that age was positively related with taxpayer compliance. Some studies however, have found no relationship between age and taxpayer compliance. Preager., Torgler (2007) and Mohani (2001) found that older people are more compliant than young people. Tittle (1980), for example, provides reasons for this, by arguing that old people are more experienced and thus more sensitive to societal sanction and pressure.

Employment

Part-time workers and the self-employed have lower tax morale than full-time employees. Full-time employees are more likely to have income tax deducted by their employer and this somehow have influence on their tax morale and tax compliance. When it comes to the occupational status, almost all findings indicate that the self-employed have lower tax morale than other full time occupational groups (Alm & Torgler 2006, Frey &Torgler 2007).

Culture

Culture refers to broad social norms that persist over long periods of time across generations. Such persistence is one of the primary characteristics that distinguishes culture from contemporaneous peer effects, though the two are obviously related. In many advanced countries, it is the culture of most countries for examples like the united kingdom citizens see tax as part of their culture, this tend to motivate the level of tax moralethey have towards paying their taxes.

Leading researchers have attributed part of the blame to a culture of noncompliance among citizens in developing countries (Bahl & Bird, 2008; Besley & Persson, 2014; Burgess & Stern, 1993). Culture influences or improves the level of tax morale and tax compliance as it is seen as a tradition or as a way of life of the people and this affect the behaviour of the people (Torgler& Schneider, 2007).

Theoretical Framework

The theoretical framework of this study is anchored on social-psychology theory of human behaviour. In the field of psychology, social psychology is the scientific study of how the thoughts, feelings, behaviours of individuals are influenced by the actual, imagined, and implied presence of others (Allport,1985). The terms thoughts, feelings, and behaviours refer to the psychological variables that can be measured in humans. Moreover, the notion that the presence of others may be imagined or implied suggests that humans are malleable to social influences even when alone, Social psychologists typically explain human behaviour as a result of the relation between mental state and social situation,

Social psychology theory explains the factors conditions under which certain behaviour, actions, and feelings occur. Traditionally, the emergence of this discipline bridged the gap between psychology and sociology. During the years immediately following World War II, there was frequent collaboration between psychologists and sociologists (Sewell, 1989). In tax related context it look at the mental state of the taxpayers, the feelings, the thought, imagination towards a sovereign authority and the system. Social psychology theory in relation to tax itprovide details of how individual or the citizen feelings , thinking about the government and what they see or feel influences their morale .

Methodology

This study used cross-sectional research survey design. The targeted population for this study comprises of a total numbers of 8690 core employees of the following listed companies under Nigeria stock exchange: Guinness Nigeria plc (780), Nigeria breweries plc (2983), Coca Cola Plc(2700), 7up Bottling companies (2227) as at December 2020.

In view of the researcher's inability to reach out to the entire population, and in order to gain the advantage of an in-depth study and effective coverage of the population under study, samples were drawn using random sampling techniques .Taro Yamani formula was used to determine the sample size as follows:

According to Yamani, (1964) $n = N/ [1 + (Ne^2)]$
Where n = is the sample size
N = is the population
e = is the error limit (0.05 on the basis of 95% confidence level)
Therefore, n = 8690/1 + 8690 (0.05)2
n = 8690/1+8690 (0.0025)
=8690/1+21.725
=8690/22.725
n = 382.398 , approximately 382 sample size

Using a population of approximately 8690 employees of the four listed firms (Coca-cola, 7UP, Guinness and Nigerian Breweries) quoted in Nigerian Stock market) with an error limit of 5%, a sample size of approximately 382 (three hundred and eighty two) was considered adequate as computed above. The survey of 382 (three hundred and eighty two) respondents where drawn as a sample size from the entire employees.

The study made use of primary source of data, collected through standardized questionnaire administered to respondents. The dependent variable in this study is represented by tax compliance while the independent variables are represented by determinants of tax morale which are measured by trust in government, age, religion, culture, education and nature of employment. Multiple regression analysis was conducted to assess the relative predictive power of the independent variables on the dependent variable. The Regression Model:

$$TC = \beta_O + \beta_1 TIG + \beta_2 EDU + \beta_3 CUL + \beta_4 REL + \beta_5 AGE + \beta_6 EMP + ut$$

Where: TC = Tax Compliance; TIG =Trust in Government; REL= Religion of the People; EDU= Level of Education; AGE = Age Group; CUL = Culture of the People; EMP = Nature of Employment; ut = Is the error term; a priori expectation : $\beta_1 - \beta_6 > 0$

Results and Discussions

Table 1: Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.716247	0.559334	3.068375	0.0025
TIG	0.199	0.4100	4.849	0.000
EDU	0.025611	0.012317	2.079340	0.0597
CUL	126501.3	213899.1	0.591407	0.5652
REL	13395373	5999331.	2.232811	0.0454
AGE	3051399.	1372685.	2.222942	0.0462
EMP	-16.61110	-16.61110	-2.498989	0.0280
R-squared	0.673638	Mean dependent var		2.336396
Adjusted R-squared	0.639126	S.D. dependent var		0.253620
S.E. of regression	0.248609	Akaike info criterion		0.084113
Sum squared resid	11.80504	Schwarz criterion		0.184109
Log likelihood	-2.285150	F-statistic		2.596185
Durbin-Watson stat	1.895293	Prob(F-statistic)		0.026818

Source: Researchers Computation, 2020

With the coefficient of the constant of 1.716247, it implies that when the independent variables Education, culture, religion, age and nature of employment are held constant, the tax compliance of Nigerians (TC) will be at a minimum level of 1.716247. The coefficient of trust in government (TIG) shows a positive value of 0.199, implying that one unit positive improvement in trust in government in Nigeria will bring about positive increase in tax compliance of Nigerians by 0.199 units and significant

The coefficient of education (EDU) shows a positive value of 0.026, implying that one unit positive improvement in education in Nigeria will bring about positive increase in tax compliance of Nigerians by 0.026 units and insignificant. Culture of the people (CUL) shows a positive value of 126501.3, implying that one unit improvement in Culture of the people towards paying tax in Nigeria will bring about positive tax compliance among Nigerians by 126501.3 and insignificant

The coefficient of religion (REL), shows a positive value of 13395373, implying that one unit improvement in religion will bring about a positive tax compliance by 13395373 and significant The coefficient of Age (AGE), shows a positive value of 3051399, implying that one unit change in Age in Nigeria will bring about a positive tax compliance by 3051399 units and significant in Nigeria. The coefficient of nature of employment (EMP) shows a negative value of 16.611, implying that one unit positive improvement in employment to public sector in Nigeria will bring about decrease in tax compliance of Nigerians by 16.611 units and significant in Nigeria.
Using the rule of thumb, which specifies that if the value of Durbin Watson (DW) is "2" it means that there is no positive autocorrelation in the residuals. This means that the model is not bias. With the DW statistic of '1.90', approximately '*2*', means that the equation has no autocorrelation, which means that equation is not biased.

This test was conducted to ascertain the individual significant status of each of the parameters or variables. In doing this, the researcher employed the rule of thumb which specifies that if the calculated *t-statistic* in absolute term is less than two (2) reject that alternative hypotheses, otherwise accept the alternative hypotheses.

Hypothesis
H_o: Bs = 0 (Individual parameter estimates are not significant) H_1: Bs ≠ 0 (Individual parameter estimates are significant)

Decision Rule: The researcher employed the rule of thumb which specifies that if the calculated (absolute) t- *statistic* in absolute term is less than two reject the alternative hypotheses, otherwise accept the alternative hypotheses

Table 2: t- statistic summary test

Variable	t – value calculated	Rule of thumb	Remark
TIG	4.894	2	Individually statistically significant (null hypothesis rejected)
EDU	2.079340	2	Individually statistically significant (null hypothesis rejected)
CUL	0.591407	2	Individually not statistically significant (Alternative hypothesis rejected)
REL	2.232811	2	Individually statistically significant (Alternative hypothesis accepted)
AGE	2.222942	2	Individually statistically significant (Alternative hypothesis accepted)
EMP	-2.498989	2	Individually statistically significant (Alternative hypothesis accepted)

From the result of the t- statistic,(table eleven) it is clear that all of the independent variables except culture (CUL) significantly determine tax morale in Nigerian. It means that the major determinants of tax morale in Nigeria are: Trust in government (TIG), age (AGE), religion (REL), education (EDU) and nature of employment (EMP).

F-test:

The F-test, which follows an F-distribution, measures the overall significance of the model.

Decision Rule

Reject Ho if f-cal> f-tab and accept Ho if f-cal< f-tab.

Table 3: F-test summary

Fcal	F_{tab}at 0.05 significant level	f-stat (prob) *p-value*	Decision
2.596	1.43	0.03	Reject H_0 and accept H_1

p-value< 0.05

From the f-test summary, the researcher tabulated f statistic is 1.43 which is less than f-cal of 2.596 ,and the f-statistic probability (0.03) is less than 0.05, the researcher reject H_o and accepts H_1 and conclude that the model is statistically significant and has a goodness of fit. This means that all the explanatory or at-least one of the explanatory variables explain good of the explained variable. This means that independent variables of, Trust in government (TIG), age (AGE), religion (REL), culture (CUL), education (EDU) and nature of employment (EMP) are all good instruments to

measure tax morale in Nigeria.

Using the rule of thumb, which specifies that if the value of Durbin Watson (DW) is "2" it means that there is no positive autocorrelation in the residuals. This means that the model is not bias. With the DW statistic of '1.90', approximately '*2*', means that the equation has no auto correlation, which means that equation is not biased.

The essence of paying tax is to enable the government raise adequate revenue to finance its economic activities, provide social economic services, roads, water, infrastructures, electricity etc, the problem that often occurs in Nigeria is that the government have been finding it difficult to realise the full potentials of tax. Related studies have shown that average Nigeria taxpayers feel reluctant in paying their taxes, questions that have been asked over time . Over the years the methods, strategies , models the relevant tax authorities have adopted in dealing with the issue of tax compliance in Nigeria hasn't really yielded much as expected in terms of tax revenue drive, hence this has created gap in Nigeria tax system with the issues persistence tax evasion, tax avoidance, low level of tax compliance.

From the study, the following were found as determinants of tax morale and good instruments to measure tax morale in Nigeria: trust in government, age, religion, nature of employment, education, culture. Trust in government (TIG), age (AGE), religion (REL), nature of employment (EMP), show a significant relationship of tax morale while education (EDU), culture (CUL) variables shows insignificant relationship of tax morale.

Conclusion and Recommendations

The study concludes that the economic model that have formed the basis for understanding the concept of tax compliance behaviour by relevant tax authority over the years have not yielded any positive results in tax related matters. Understanding the social psychology perspective of a taxpayer by looking at social demographic factors would help in ameliorating the issue of tax compliance in the society, strengthen government commitment towards economic development and ensure a better society.

The study therefore recommend base on the findings from the studies:

1. The government should ensure transparency and accountability in utilisation of taxpayers money,
2. The government should ensure better tax policy formulation and modernise tax administration procedures, as this would help reducing the issue of corrupt practises and improve the taxpayer ideology,
3. The taxpayers should try as much as possible to see the immediate society as their own by paying their taxes voluntarily without coercion,

4. The government is no doubt the sole administrator of taxes, they should ensure, they judiciously utilise generated tax revenue for the benefits of its people, so that the citizen can have more confidence in them and support their administration,
5. The tax authorities should try as much as possible to sought for cooperation between them and the taxpayers as this can reduce the cost of tax administration.
6. Solely relying on economic model to determine tax compliance matters should be limited in nature as it possess some element of threat and deterrence, understanding the social psychology of a taxpayers by looking at their social demographic factors will help in ameliorate the issue of tax compliance in the Nigeria, and
7. Human being are rational being and difficult to deal with in reality, the traditional neoclassic economic model that stresses deterrence factors, tax audit, reward, penalties and fines should not completely be eroded because tax compliance needs some element of enforcement, the economic model should be complemented with the idea of social psychological perspective for adequate tax compliance.

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IMPACT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF MANUFACTURING BUSINESS: EVIDENCE FROM NIGERIA

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Abstract
The study investigated the impact of Working Capital Management (WCM) on the profitability of business using Ashaka cement Plc. as a case study. The aim was to examine the importance of WCM to manufacturing firms. Data for the study were obtained from published financial statements of the company from 2015 – 2019. The explanatory variable of the study is WCM proxied by Inventory Conversion Period (ICP), Debtors' Collection Period (DCP), Creditors' Payment Period (CPP) and Cash Conversion Cycle (CCC) while the dependent variable is profitability proxied by Return on Assets (ROA). Results of regression analysis revealed that while ICP and CCC have a significant impact on ROA, DCP and CPP have a negative impact. The result of the multicollinearity test indicated that there exists a high/ severe and impairing correlation between all pair of the explanatory variables implying non-significance and inability of the variables (endogenous factors) to predict future likely changes in ROA. The study recommended in addition to the implementation of an effective Working Capital Cycle (WCC) by manufacturing firms particularly ICP and CCC, the government should aid the profitability of the sector through the creation of a business-friendly environment particularly improved security and infrastructure.
Keywords: Return on Total Assets, Working Capital Management, Inventory Conversion Period, Debtors' Collection Period, Creditors' Payment Period and Cash Conversion Cycle

Introduction

The amount of Working Capital (WC) available to an enterprise is one of the key indices to measure its success in business as the capital represents the total liquid asset available for operations. WC reflects a firm's ability to meet day–to–day operating expenses and is a good indicator of a firm short financial health and stability. Management decisions relating to its WC therefore, are decisions on short term financing aimed at ensuring that the firm has sufficient cash flow to meet its short term obligations and operating expenses (Pandey, 2004). A firm having the required cash to meet its obligations as they fall due is a good omen of ability to continue in business and achieving a proper tradeoff between profitability and liquidity necessary to maximize shareholders' wealth.

Working capital comprises four (4) statements of financial position items usually referred to as the short term areas of the statement of financial position (Delofta & Ann 2011) these are (i) Stock which includes raw material, work in progress and finished

goods (ii) Debtors and prepayments (iii) creditors and accruals and (iv) cash which includes physical cash balances available in the company, cash balances in the banks, short terms investments in form of bank deposits, quoted investments and other cash equivalents that could be turned into cash within the shortest possible time. Working Capital Management (WCM) deals with how to effectively manage each of these components of WC by managers of enterprises. The overall objective of WCM is to maximize profit and reducing the risk of not being able to satisfy maturing short term obligations (debt). A firm that is not able to effectively make its WC or is poorly managing its WC is an indication that such a business is either undercapitalized or doing over-trading. The ultimate negative effect of undercapitalization and over–trading is a decrease in Return on Capital Employed (ROCE) with large sums of funds tied up and a fall in profit margin.

The manufacturing industry is a key sector in any economy particularly the developing ones like Nigeria where the application of WCM is critical for profitability. The growth of the sector in Nigeria is of interest to the people and government for the tremendous contribution of the sector to the Gross Domestic Product (GDP), employment creation and poverty reduction in the society in the 1960s to the early part of the 80s. Unfortunately, the growth and profitability prospect of the sector started dwindling in the 1990s due to factors that are within and outside the control of the players in the industry. One of the major endogenous factors responsible for the falling performance and collapse of the manufacturing sector of the Nigerian economy is poor management of the WC by managers of these firms (Galis & Enemah, 2010, Edem & Ebaiai 2016).

Utsha (2019) remarked that the problem of WCM is so severe in the sector of the Nigerian economy that most manufacturing enterprises cannot measure with certainty, the period it takes for their investment in materials and merchandise will turnover into cash. The most worrisome disadvantage of poor and inadequate WCM is the ability of firms to keep abreast of technical improvements and the loss of opportunity to grow and make a profit (Utsha, 2020). The multiplier ugly effect of poor WCM in most manufacturing firms is a slim employment opportunity that has further worsen poverty in Nigerian society (Edem & Ebiai, 2016; Utsha, 2019).

Contrary to Edem & Ebiai (2016) and Utsha, (2019), Diyola and Oke (2020) and Lawal and Aduku (2020) asserted that profitability of manufacturing business in the Nigerian environment is an issue beyond the players in the industry as factors such as poor state of infrastructure, insecurity, the value of Nigerian currency, low purchasing power and demand for locally produced goods etcetera have all marred profitability vision of manufactures. Therefore, though effective WCM can trigger profitability of a manufacturing business in any environment, the existence of negative exogenous factors beyond the control of entrepreneurs can truncate any internal efforts and policies targeted towards profitability (Diyola & Oke, 2020; Lawal & Aduku, 2020). It is against this backdrop of the contradictory arguments that the study empirically

tests the impact or otherwise of WCM (endogenous managerial policy) on the profitability of manufacturing business in Nigeria.

Objectives of the Study

The objective of the study is to investigate the impact of WCM on the profitability of a firm. However, the specific purposes are as follows:

(i) To ascertain the impact of ICP on the profitability of the manufacturing business
(ii) To investigate the impact of DCP on the profitability of the manufacturing business.
(iii) To determine the impact of CPP on the profitability of manufacturing enterprise
(iv) To evaluate the impact of CCC on the profitability of the manufacturing business

Hypotheses of the Study

Drawing from the stated specific objectives, the following null hypotheses are formulated to guide the study:

Ho_1: ICP has no significant impact on the profitability of the manufacturing business
Ho_2: DCP has no significant impact on the profitability of the manufacturing business
Ho_3: CPP has no significant impact on the profitability of the manufacturing business.
Ho_4: CCC has no significant impact on the profitability of the manufacturing business

Literature Review

Conceptual Review

Working Capital Management

Mycithan and Kane (2002) defined WC as excess Current Assets (CA) over Current Liabilities (CL). Examples of current assets of a typical manufacturing enterprise include cash, account receivables (debtors) and inventories and its current liabilities (Obligations) include salaries, wages, creditors (accounts payable) and taxes owed to the government. For a manufacturing firm, WC represents the funds available to it to finance production, inventories and provide credit to customers (Kissitto, 2010; Ola & Mark: 2015). Shortage of WC in a firm or any organization is synonymous with a shortage of cash as such an entity will not be able to meet its obligations (debts) as they fall due. Thus, Rahman (2001) refers to WC as the quantum of funds required to run a business or defray the day-to-day operational expenses of an enterprise. To provide for WC in a business is the same as making provision for the availability of cash as it is the most liquid asset required for daily operational expenses. Thus, Ellen

(2012) summarized the WC of an enterprise as a total of a firm's short term obligations that require effective management.

Defining WCM Diallo and Obotto (2003) viewed that it as a concept involving an effective control mechanism put in place by the management of an enterprise or a firm to monitor the relationship between short term assets and short term liability to improve the liquidity position of the business. The liquidity of a business at all times is important especially to a manufacturing firm. It is a means to meet daily operational expenses also essential for financing of seasonal trade and repayment of loans or other capital projects where these have not been anticipated in loan term plans. The overall essence of WCM is profit maximization. Thus, Garrison (2004) asserted that WCM is a managerial policy of a firm implemented to attain an optimal level in each of the four (4) components of WC namely: stock including raw materials and Work-In-Progress (WIP), finished goods, debtors and cash necessary for profit maximization. It is with the intent of profit maximization that manufacturing enterprises hold cash (liquid) either for speculative motive to finance the purchase of items in advance of price increase expectation or reasonably defer payments to creditors.

Profitability

Profitability is the ability of a firm to sell goods and services above cost and earn a reasonable return (Adeniyi, 2004). It is the difference between the cost of providing goods and services by a firm and the price paid for those goods and services by consumers. Profit (P) will arise if the Selling Price (SP) of an item is higher than its Cost Price (CP) mathematically denoted as SP-CP=P (Fadipe, 2002; Barlaya & Dele, 2007). Profitability is a performance indicator that can be measured by Return on Assets (ROA), a component of Return on capital employed (ROCE) or return on investment (ROI) of a business (Ogonia & Clement 2015). ROA is a performance evaluation criteria using ratios that show the relationship between sales and ROCE. The relationship is a division between sales (numerator) and ROCE (denominator) that could be expressed in terms of percentage or number of times (Adeniyi 2004). The denominator, according to Faloyi and Osman (2005) could be defined in terms of (i) Total Assets of a firm that is Fixed Assets (FA) plus Current Assets (CA) (ii) Net Assets (NA) of a firm that is share capital plus reserves and (iii) Total Assets less current liabilities. Adeniyi (2004) opined that ROA is a measure that shows the efficiency and how profitable a manufacturing enterprise operates in the utilization of assets and investing its financial resources through paying for raw materials at the beginning of the production process, making/ producing the product and recovery at the end through sales and collection of cash (revenue) from debtors.

The WC of a typical manufacturing firm and profitability ratios are depicted in the table below.

Table 1: Working Capital and Profitability Ratios

Ratio	Calculation	Explanation
Inventory Conversion Period (ICP)	Average stock * 365 Cost of sales	ICP is a measure of time in days required to convert inventory into cash.
Debtors' Collection Period (DCP)	Average debtors * 365 Credit sales	DCP indicates the speed of collection. It measures the time in days required to collect cash from debtors.
Creditors' Payment Period (CPP)	Average creditors * 365 Credit purchases	CPP is a measure of the average number of days for which trade creditors remain unpaid.
Cash Conversion Cycle (CCC)	CCC = ICP + DCP – CPP	It is the measure of the length of time between investing in inventory, conversion to finished goods, sales and receipt of cash from debtors.
Return on Assets (ROA) (profitability Ratio)	Sales * 100 Total Assets	It is a measure of the relationship between the revenue of the firm generated through sales and total assets employed to generate the revenue.

Source: Faloyi & Osman (2005): Decision Theory in Business.

Theoretical Framework

The study is anchored on the prescriptive theory of WC propounded by Ans Mcinnes in 1937 (Diallo & Obotto 2003). The theory assumed that if WC is managed to the optimum then, it would be expected that businesses would invest in WC and monitor factors that would influence it. That the essence of a firm's analysing and measuring the influence of cash management, accounts receivables (debtors), inventory, accounts payables (creditors) and cash conversion cycle is for evaluation to ensure that assets are utilized effectively and efficiently for overall attainment of efficiency, profitability and shareholders' wealth maximization. Optimal management of WC for profitability is the key emphasis of the theory. The emphasis of the theory underscores its relevance to the study for the fact that effective WCM is one of the major endogenous policies needed in the Nigerian manufacturing environment for a profitable operation which other factors outside managerial policy (exogenous factor) have been negatively influencing the profitability objective of the firms (Diyola & Oke, 2020; Lawal & Aduku, 2020).

Empirical Review

Studies in Other Economies

Ishmael, Venancio, Isaac and Widin (2018) did a study on working capital management and financial performance in UK listed firms: A contingency approach. The aim was to investigate the effects of WCM on firms' financial performance. Specifically to establish a relationship between WCM and financial performance as affected by firms' environment, resources and management capabilities. Data for the study were collected from 302 firms listed on London Stock Exchange (LSE) from 2004 to 2014. The analysis was done using series of interactive models to estimate the relationship. Findings suggest that the impact of WCM on performance changes reflect several contingency variables such as environmental resources and capability of firms.

Rahimah, Farha, Syahrul and Noraisah (2018) did a study on WCM and its effects on profitability: Empirical evidence from Malaysia capital market. The aim was to examine the effects of WCM on the profitability of firms. Data for 803 listed companies on Bursa Malaysia collected from 2010 to 2014 were analyzed using regression. It was found that WCM determines the profitability of companies.

Farrah Noredi and Othman (2016) conducted a study on working capital management efficiency: A study of Small and Medium Enterprises (SMEs) in Malaysia. The aim was to analyse the efficiency of WCM in selected SMEs in Malaysia. Data for the study were obtained from a database of twenty-four (24) SMEs randomly selected from 2010 – 2013. The results of the analysis of the indexes of the companies namely: Performance Index of WCM (PLWCM), Utilization Index of WCM (ULWCM) and Efficiency Index of WCM (ELWCM) revealed that the SMEs were less efficient in managing their WC with negative effects on profitability of the enterprises.

Tan veer, Muhammad, Muhammed and Muhammed (2016) did a study on the impact of WCM on a firm's financial performance evidence from Pakistan. The aim was to empirically explore the impact of WCM on a firm's performance. Using purposive sampling, a random sample of 50 listed non-financial companies on the Pakistan Stock Exchange (PES) were selected. Data obtained from the financial statements of these firms were analyzed using multiple regression. The results indicated that financial performance (FP) proxied by ROA is influenced by WCM. Asghar and Syed (2012) examined Working capital Management and whether it affects the profitability of organizations in Pakistan. The study is exploratory research that investigated the impact of WCM decisions on the profitability of enterprises. It was found from studies that WCM has a positive impact on the profitability of Organizations.

Studies in Nigeria

Akindele and Odusina (2015) studied WCM and firms' profitability: Evidence from Nigeria quoted companies. Data for the study were obtained from audited financial statements of twenty-five (25) Nigerian companies from 2005-2011. The analysis of

the data was carried out using multiple regression. The results showed a negative relationship between WCM and the profitability of firms.

Olayinka (2012) investigated the effect of WCM on the profitability of selected quoted firms in Nigeria. The aim was to examine the relationship between WCM and the profitability of businesses. Data obtained from a sample of 68 Nigerian non-financial firms for the period 1997-2007 were analyzed. Results suggest that a firm's profitability is reduced by lengthening the number of days of account receivable while shortening the CCC improves profitability.

Oladele and Tasie (2011) conducted a study on the effects of WCM on the profitability of Nigerian manufacturing firms. The aim was to provide empirical evidence of the relationship between WCM and profitability of manufacturing firms. Data for the study were obtained from audited annual reports of randomly selected six (6) listed manufacturing firms in Nigeria. Results of the analysis using correlation statistical tool suggest a negative correlation between WCM and profitability of firms.

Methodology

Research Design

The study adopts the ex-post facto research design and made use of secondary data. The data for the study were obtained from the published financial statements of Ashaka Cement Plc. for 2015-2019. The figures of the variables of interest in the statement were empirically analyzed using regression statistically tool.

Model Estimation

The regression analysis revealed the degree of variation of dependent variable caused by the independent variables. The apriori expectation was that $\beta_1 > 0, \beta_2 > 0, \beta_3 > 0 \; and \; \beta_4 > 0$.

Model Specification

In the study, Y (the dependent variable) is presented as the profitability of the firm proxied by ROA. This is mathematically represented in equations as $Y = \; a + \beta_1 X_1 + \beta_2 X_2 + \; \beta_3 X_3 + \beta_4 X_4 + \; \varepsilon$ _ _eq. 1

While, X_1, X_2, X_3, X_4 represents the independent variables decomposed into ICP, DCP, CPP and CCC respectively substituting in equation 1 therefore;

ROA= $a + \; \beta_1 ICP \; + \beta_2 DCP + \beta_3 CCP + \beta_4 CCC + \varepsilon$ _ _ _ _ _ _ _ _ _ _ eq. 2

Where;

ROA = Return on Assets
ICP = Inventory Conversion Period
DCP = Debtors' Collection Period
CPP = Creditors' Payment Period
CCC = Cash Collection Cycle
ε = Error term

Analysis and Results

Table 1: Analysis of variance

Source of variation	DF	SS	MS	F-Test Value	Pr(>F)
ICP	1	6.8306	6.8306	13.870	0.03625
DCP	1	64.1354	64.1354	130.233	-0.0028
CPP	1	114.5109	114.5109	232.525	-0.0051
CCC	1	16. 1945	16. 1945	32.855	0.0064
Residual	1	0.536	0.536		

Source: Computation using R-statistical package

Table 2: Multiple Regression Model (MRM)

	Estimate	Standard Error	t- value	z- test (>/t/)
Intercept	-136.612	8.625	-11.087	0.0423
ICP	10.813	2.214	-0.056	0.0726
DCP	-46.37	3.970	-5.593	-0.0512
CPP	-94.5667	5.0477	-0.004	-0.3115
CCC	35.619	3.658	0.0463	0.007
R^2= 0.3943	Adjusted	R^2=0.2837		

Source: Computation using R-statistical package

Table 3: Multicolinearity Test (using predictor variables)

	ICP	DCP	CPP	CCC
ICP	1.00	0.741	0.934	0.867
DCP	0.741	1.00	0.6s84	0.785
CPP	0.824	0.934	1.00	0.689
CCC	0.867	0.785	0.689	1.00

Source: Computation using R-statistical package

Findings and Discussion

The result of ANOVA indicates that while ICP has a significant impact on ROA at 5% level of significance; that of CCC showed an impact at 1%. Therefore the first and fourth hypotheses of this study are rejected. This result is consistent with that of Olayinka (2012) that shortening CCC improves profitability. However, the DCP and CPP impact are negative and therefore the second and third hypotheses of the study are accepted.

Further, the result of regression analysis showed a similar pattern to that of ANOVA. The impact of ICP on ROA is significant at 5% level of significance as decrease of 5.6% in ICP accounts for 7.26% increase of ROA of the firm. The CCC variable also showed an impact. The variable has a positive coefficient of 35.19 and a P value of 0.007 implying the significance of the variable at 1% level. This further indicates that an increase in the number of days of CCC by 1 day accounts for a decline in ROA by 4.63%. The significance of this variable corroborates with the finding of Olayinka (2012).

Contrary to the impact of ICP and CCC on ROA, the values of -0.028 and -0.0051 for DCP and CPP respectively indicate the negative impact of the variables on ROA and therefore not significant. Further, the apriori expectation of $\beta_1 > 0, \beta_2 > 0, \beta_3 > 0 \; and \; \beta_4 > 0$ were not satisfied caused by the negative values of -46.37 and -94.5667 for DCP and CPP respectively confirming further that variables (DCP and CPP) have no significant impact on ROA.

In terms of the predictive ability of the explanatory variables of the likely changes in ROA caused by the predictors, the low value of the coefficient of determination (R^2) at 0.2943 showed that only 29.43 % of the variation in ROA can be explained by the predictors. This, therefore, implies that a small percentage of changes in ROA of the firm can be explained by the managerial policy of WCM (endogenous factor) while a greater percentage of 70.57% changes in ROA is explained by exogenous factors. This result is consistent with findings of Diyo and Oke (2018) and Lawal & Adeku (2019) that the impact of WCM on a firm's ROA can be limited as exogenous factors such as negative socio-economic business environment can erode any effective managerial policy like WCM in a manufacturing outfit.

The result of multicolinearity test showed that there exists a high correlation (multicolinearity) among the pairs of variables as all the pairs have between 0.6 to 1.00 with 1.00 or 100% being the maximum. Existence multicolinearity severe or impairs the predictive ability of the independent variable of the likely future changes in the dependent variable (Ogonia & Clement, 2015). The existence of multi co-linearity among the independent variables further confirms the limited extent to which effective WCM of enterprise can impact the profitability of firms (Diyo & Oke, 2018: Lawal & Aduku, 2019).

Conclusion and Recommendations

The role of the manufacturing sector in the growth of any economy cannot be overemphasized. In the 70s and early part of the 80s, the sector played key roles in Nigeria in her quest for industrialization, economic growth, expansion, employment generation and poverty reduction in the society. Unfortunately in the 2000s, the fortune of the sector started dwindling due to a myriad of factors beyond the control and imagination of the entrepreneurs and managers in the sector. Prominent among these exogenous negative factors that contributed to the misfortune of the manufacturing sector of the economy are insecurity, poor infrastructure, inflation, low purchasing power, low demand for the output, poverty etcetera. Though, firms in the sector tried to reposition the sector for growth and profitability through effective internal management policies such as WCM, but, the influence of a negative business environment has limited the profitability efforts of entrepreneurs in the sector.

The profitability of the manufacturing business in Nigeria is desirable attainment that requires deliberate efforts of both entrepreneurs, managers of the firms and

government through viable policies. Therefore the following recommendations are put forward:

1. Mangers of manufacturing enterprises in Nigeria should as much as possible manage their Working Capital Cycle (WCC) particularly through quality control necessary for quality output.
2. Deliberate implementation of practical fair pricing policy to induce sales, patronage and profitability (SPP). The three business elements (SPP) are critical to the survival of any enterprise especially manufacturing.
3. Government should create a conducive environment for manufacturers particularly with improved security and infrastructure.

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LESSONS AND POLICY IMPLICATIONS OF NIGERIA'S ECONOMIC RECESSION: 2016-2017

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Abstract
The paper considers and discusses Nigeria's economic recession as a market event because of its exogenous nature primarily driven by fall in global oil prices in 2016. This led to a fall in oil revenue and consequent reduction of total federally collected revenue within the period. This followed suit as the country was monolithic and highly dependent on oil revenue for the bulk of her revenue. Since the discovery of oil in the 70's, the revenue trajectory of the country has followed a similar pattern with oil price movements as successive governments stall in efforts for the economy's diversification. The lack of sustainable diversification of the economy stalled her recovery process during the period as cost of governance kept on rising. This caused a rise in the country's deficit as borrowings increased to meet financing of recurrent expenditure. The event is considered a recurring event as the COVID-19 pandemic which led to shut down of several sectors globally and in Nigeria, such as the aviation sector, etc. led to a fall in demand in oil globally and simultaneously decreased revenue in 2020. Despite policies instituted by present administration, growth and recovery has been slow which the author attributes to over dependence on oil and inconsistencies in policy implementation and recommends an expansion on the country's export base and three step pronged approach to reduce discontinuity.
Keywords: Economic recession, Oil revenue, Economic diversification, Recurrent expenditure, Policy implementation.

Introduction

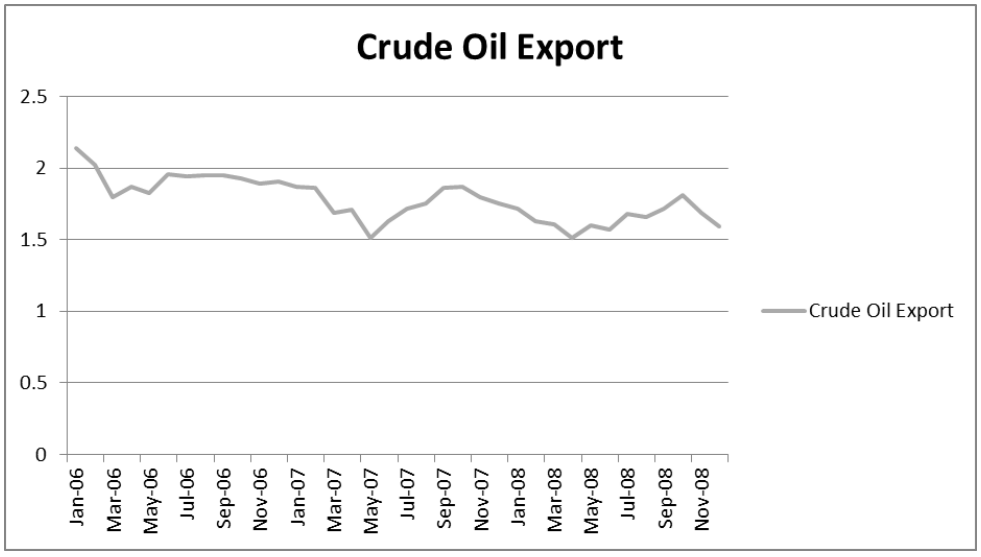
The most important sector in Nigeria is the oil sector, and the revenue from this sector is the reason for the growth of the Nigerian economy. This is the source from which the country funds almost all its capital expenditures. The financial sector is relatively linked with the oil sector because it has to do with import and export. The financial sector is the engine that moves the economy in any given country and it is the backbone that sustains economic activity and guarantees the sovereignty of the country. The fall in oil price became disastrous on the economic system of the country. The recovery rate of the country has been on a very slow pace making it difficult to know if we are out of recession or just suffering its effects. The effects and features of recession still seem to be in play in the country. It is against this background that this conceptual research seeks to review the lessons and policy implications of Nigerians economic recession of 2016-2017, which is as a result of the decline in oil revenue, to further look at the economy

before, during and after the recession, the consequences and global implication of the recession.

Macroeconomic Environment Prior to the Recession

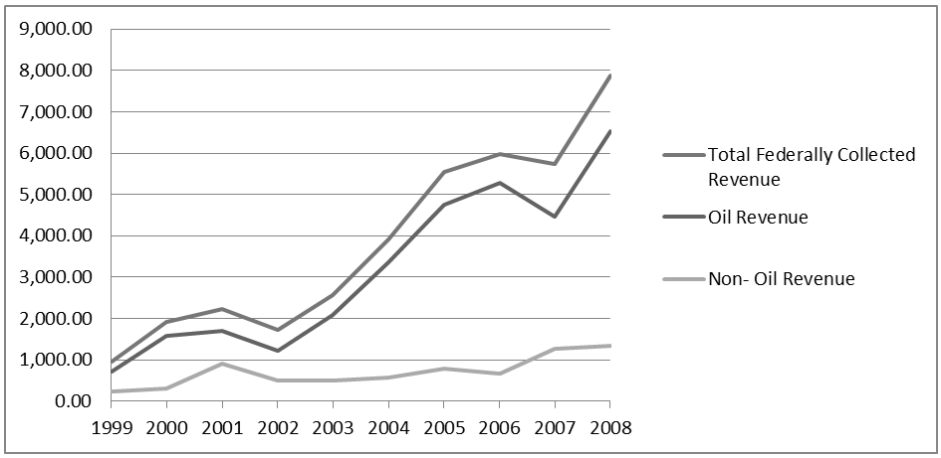
The inception of democracy commenced with President Olusegun Obasanjoin 1999 after a peaceful transition. His administration instituted the National Economic Empowerment and Development Strategy (NEEDS) policy. The policy placed emphasis on macro-economic, structural and social policies that will promote growth and reduce poverty (Awojobi, 2015, p1). Oil remained the main stay of the economy since its discovery in the 70's and accounts for the bulk of the country's export earnings (Paki and Ebienfa, 2011). The period witnessed stable crude oil export from 2006 to 2008, averaging 1.5 million barrels per day.

Figure 1: Crude Oil Export (mbd) from January 2006 to December 2008



Source: MS Excel; Central Bank of Nigeria [CBN] Statistical Bulletin (2019).

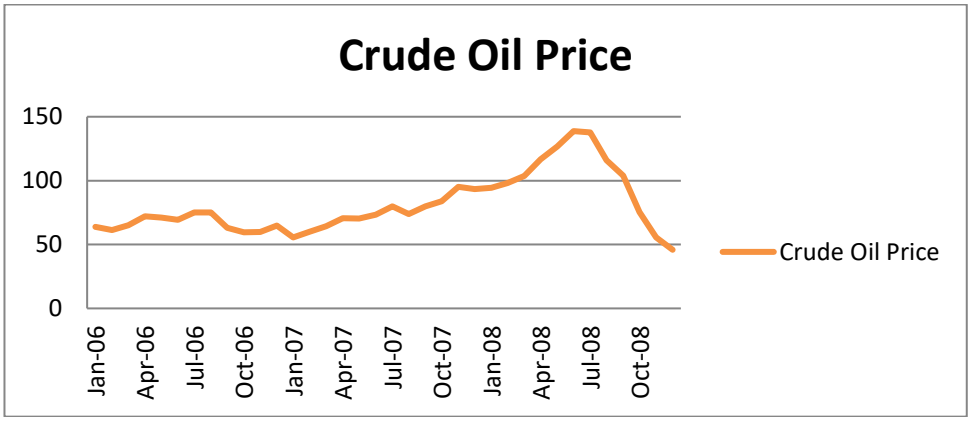
Figure 2: Oil and Non-Oil Revenue from 1999 to 2008



Source: MS Excel; Central Bank of Nigeria [CBN] Statistical Bulletin (2019).

Oil contributed immensely to the country's revenue and external reserve from 1999 to 2008. The Figure above showed a steady increase in oil revenue from 1999, while non-oil revenue remained fairly stable. The wide margin confirms its bulk contribution to government revenue. The total federally collected revenue line graph follow a similar pattern with oil revenue line graph. During the period, oil price (US$/barrel) remained fairly stable revolving around US$60 and US$80between 2006 and 2007; but, rose in 2008 toUS$140 per barrel. Inflation rate had a wavering behavior; gradually rising in 2003 and early 2004 before peaking in mid-2005 and declining in Q1 2006. The inflation rate remained fairly stable all through 2007 before rising again in 2008. The movements are depicted in the line graphs below.

Figure 3: Crude Oil Price from 2006 to 2008



Source: MS Excel; Central Bank of Nigeria [CBN] Statistical Bulletin (2019).

Figure 4: Inflation Rate from 2003 to 2008

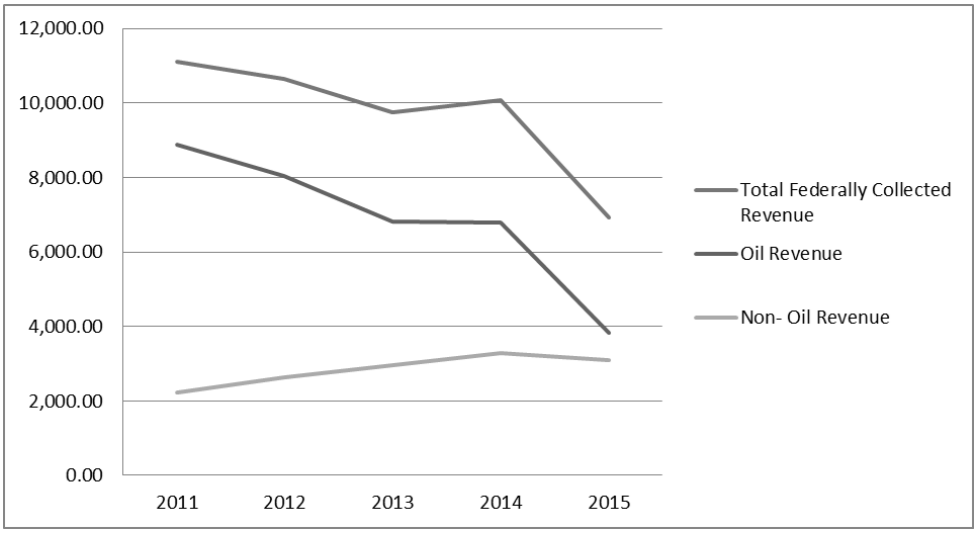
Source: MS Excel; Central Bank of Nigeria [CBN] Statistical Bulletin (2019).

President Umaru Musa YarAdua later succeeded Obasanjoin 2007, after winning the general elections. His administration developed a Seven-Point Agenda. The agenda focused on: Critical Infrastructure; Food Security; Niger Delta Development; Human Capital Development; Land Tenure and Home Ownership; National Security and Wealth Creation. However, his policy was short-lived after he suffered a protracted illness and demise in 2010; subsequently, his vice Dr. Goodluck Ebele Jonathan was sworn in as President. President Jonathan came up with his 'Transformation Agenda', after winning the general elections in 2011. He is widely acclaimed with electoral reforms, and enactment of Freedom of Information Act. His administration also attempted a systematic expansion of the non-oil sector. Despite the increase in oil price averaging US$ 100/barrel between 2011 and 2014; production and export remained fairly stable. This accounted for a fall in oil revenue; and, consequent shortfall in total revenue during same period.

Figure 5: Oil Price, Production and Export under President Jonathan

Source: MS Excel; Central Bank of Nigeria [CBN] Statistical Bulletin (2019).

Figure 6: Oil and Non-Oil Revenue from 2011 to 2015



Source: MS Excel; Central Bank of Nigeria [CBN] Statistical Bulletin (2019).

The 'Transformation Agenda' involved a synergy of both private and public sector and the budgeted contributions from both sectors are shown below.

Table 1: Investment for the 5-Year Period of the Transformation Agenda (₦' Trillions)

Sector	2011	2012	2013	2014	2015	Total
Private	1, 755.49	2, 158.50	2, 953.83	3, 708.59	4, 657.16	15, 233.57
Public	2, 633.23	3, 237.76	3, 759.42	4, 720.02	5, 927.29	20, 277.72
Total	4, 388.72	5, 396.26	6, 713.25	8,428.61	10, 584.45	35, 511.29

Source: Awojobi (2015)

His administration as part of economic strategies approved the rebasing of GDP in 2013. The GDP was rebased from approximately USD$270 billion to USD$510 billion. The increase was attributed to the introduction of new sectors and under reporting of some sectors (PwC, 2013). Thereafter the country was ranked largest in Africa and 26th in global economy. The rebased GDP growth rates were estimated at 17%, 13% and 13% for 2011, 2012, and 2013. The country's public external debt outstanding grew steadily from 15% in 2012 to 35% in 2013 and 29% in 2015; while, the country's foreign reserves fell steadily in 2014 with a negative growth rate of 18% and 20% in 2015.

The performance of alternative revenue sources were abysmal, Nigeria had a 6.1% tax to GDP ratio, when compared to other African countries such Tanzania 12% and Burkina Faso 11.5% (PwC, 2013). The depletion of foreign reserves and rising debt profile were attributed to hike in cost of governance, as annual recurrent expenditures exceeded capital expenditures (Awojobi, 2015).

Table 2: Selected Real and External Sector Statistics under President Jonathan

Year	Nigeria's Public External Debt Outstanding (₦' Billion)	External Reserves (US$' Million)	Gross Domestic Product at Current Basic Prices - Annual (₦' Billion)	Gross Domestic Product at Current Basic Prices - Annual (₦' Billion)
2011	896.85	390963.4	62,980.40	57,511.04
2012	1,026.90	457105.9	71,713.94	59,929.89
2013	1,387.33	547355.4	80,092.56	63,218.72
2014	1,631.50	446644	89,043.62	67,152.79
2015	2,111.51	357665.8	94,144.96	69,023.93

Source: National Bureau of Statistics; Central Bank of Nigeria [CBN] Statistical Bulletin (2019).

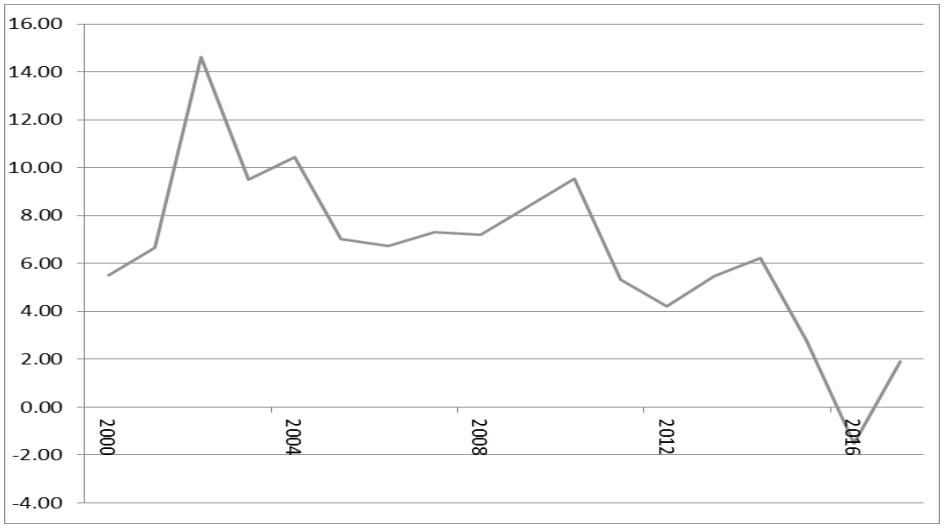
The Government in a bid to tackle the perennial unemployment problem introduced the SURE-P (Community Service and Graduate Internship Schemes) and YOUWIN programmes for the massive unemployed youths. The Federal Executive Council (FEC) also approved the mandatory adoption of International Financial Reporting Standards (IFRS) from 2012 financial year for publicly quoted companies as part of the moves to strengthen corporate governance in corporations. During his tenure, the country was bedevilled with numerous problems paramount of which was the menace of Boko Haram insurgency in the north eastern states. It was estimated that from 2009 to 2014

over 12,000 Nigerians have been killed (Awojobi, 2015). The problem in the power sector despite huge expenditure also led to withdrawal of some key players in the manufacturing sector. Last, is the problem of corruption whichmanifests in several forms such as political, electoral, and the bureaucratic process, etc. (Egwaikhide, 2009).

The Economic Recession (2016-2017)

The economy slid into a recession in 2016, under President Muhammadu Buhari who defeated his predecessor Goodluck Jonathan in the 2015 general elections. The economy after three consecutive quarters experienced a contraction. The graph shows the real GDP growth for periods prior to and during the recession, a sharp fall below zero to the negative zone is witnessed Q1 2016.

Figure 7: Real GDP growth rate from 2000 to 2016

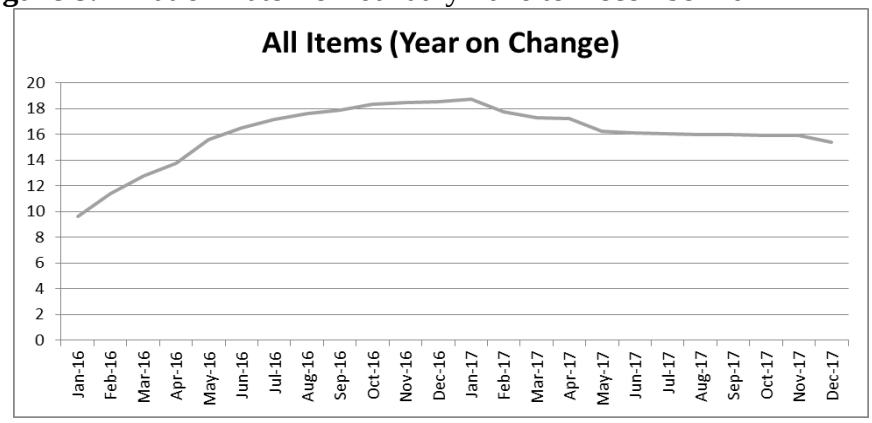


Source: MS Excel; National Bureau of Statistics [NBS] (2018).

In the first quarter, GDP growth had a negative value of -0.36%; and, in Q2 a further contraction of -2.06%. The downward trend also continued in the Q3, contracting by 2.24 percent. Noko (2016) opined that the three major causes of the recession in Nigeria were poor economic policies, fall in oil prices and the militancy in the Niger Delta region. Also, recession is associated with high unemployment and inflation rates (Adeniranand Sidiq, 2018; Mbah, Chijioke and Nebechi, 2018). The unemployment and underemployment rates stood at 13.3% and 19.3% at Q2 2016 (NBS, 2016; Vetiva Research, 2016).

The inflation rate steadily rose from January 2016 peaking in late 2016; while, stabilising at 16% from mid-2017 through November 2017. The Figure below depicts movement in inflation rate during the period.

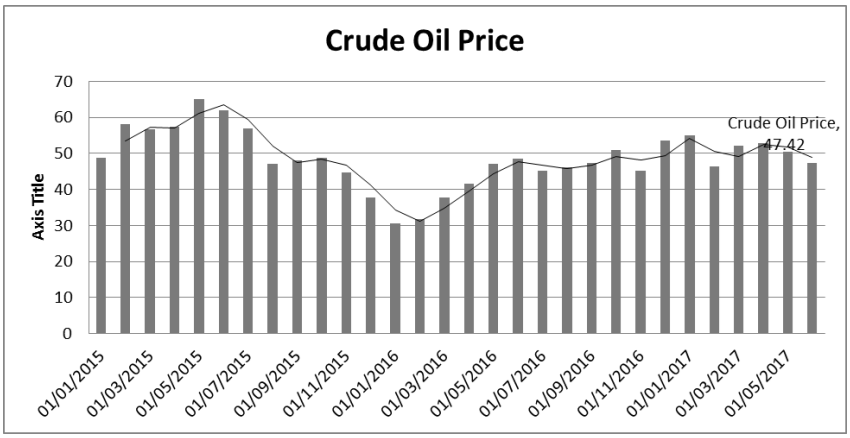
Figure 8: Inflation Rate from January 2016 to December 2017



Source: MS Excel; Central Bank of Nigeria [CBN] Statistical Bulletin (2019).

The Central Bank of Nigeria [CBN] (2012), observed that a *monoeconomy* may suffer recession as a result of international price shock of its product, thus, the over dependence on oil revenue became the major cause of the recession. Figure 9 shows the crude oil price from early 2015 to mid-2017. The line graph shows that crude oil price which sold for about $140 per barrel in 2013 increased in mid-2015; but, gradually declined steadily in latter parts of the year and further in Q1 and Q2 of 2016 as low as US$30 per barrel. The 60% drop in global oil prices was attributed to the growing supply glut. This exogenous shock caused a rapid decline in the country's revenue which accounted for bulk of her revenue.

Figure 9: Crude Oil Price from 2015 to mid-2017



Source: MS Excel; Central Bank of Nigeria Statistical Bulletin [CBN] (2019).

The plunging oil revenue was a result of plummeting oil prices. Bonny light, fell from about US$115 per barrel in June 2014 to US$31 by January 2016; and, this coupled with a dwindling demand of oil in international market as many developed

countries, sought for alternative sources (Ukoko, 2015). This was mainly driven by supply factors, such as the boom in U.S. oil production, rising geopolitical tensions, and dynamic OPEC policies (Stocker, Baffes and Vorisek, 2018). The drop in oil price in 2016 led to a reduced revenue in 2016; however, recurrent expenditure grew from the 2015 figure with an additional ₦' billion 328.16. The country's domestic debt also grew by 25%; while, the revenue from the non-oil sector declined at -0.05%. This became the first major market event to impact the economy; following the global financial crisis of 2008 with its indirect effect.

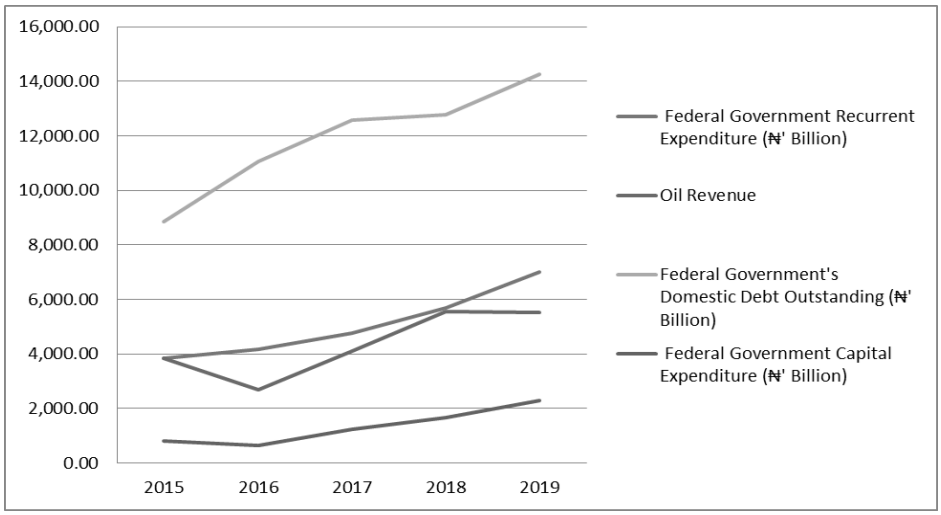
Table 3: Selected macroeconomic indicators from 2015 to 2019

Year	FG Recurrent Expenditure (₦' Billion)	FG Capital Expenditure (₦' Billion)	% of GDP	Oil Revenue	Non-Oil Revenue	Total Federally Collected Revenue	FG Domestic Debt Outstanding (₦' Billion)
2015	3,831.95	818.35	0.87	3,830.10	3,082.41	6,912.50	8,837.00
2016	4,160.11	653.61	0.64	2,693.90	2,922.50	5,616.40	11,058.20
2017	4,779.99	1,242.30	1.09	4,109.80	3,335.20	7,445.00	12,589.49
2018	5,675.20	1,682.10	1.32	5,545.80	4,006.00	9,551.80	12,774.40
2019	6,997.39	2,289.00	1.59	5,536.66	4,725.60	10,262.30	14,272.64

Sources: Federal Ministry of Finance, Office of the Accountant-General of the Federation, and Central Bank of Nigeria.

The oil sector contracted at 17.48%; while, the non-oil sector at 0.38%.. To boost local production regulators placed a restriction of Foreign Exchange (FX) on importation of goods that can be sourced locally. This however had ripple effect on other sectors. The exchange rate depreciation caused a significant upsurge on cost of importation. The divergence in rates between official and parallel markets reinforced inflation and undermined industrial development. This culminated in a significant depreciation of the exchange rate, reaching ₦520 to US$1 in February 2017, from as low as N155/US$1 in June 2014 (Nwokoji, 2017).

Figure 10: Recurrent, Capital Expenditure, Oil Revenue and Domestic Debt Outstanding from 2015 to 2019



Source: MS Excel; Central Bank of Nigeria Statistical Bulletin [CBN] (2019).

The capital expenditure skyrocketed at a rate of 0.90% in 2017; and, domestic debt grew slightly from previous figure. The Consumer Price Index recorded an increase in price level of goods and services, to a 20-year high of approximately 19 (year-on-year) in December 2016 (Klynveld Peat Marwick Goerdeler [KPMG], 2017). The increase was largely due to the devaluation of the Naira, hike in electricity tariffs and the "modulation" of the prices of petroleum products (KPMG, 2017).

Consequences of the Economic Recession

The economy suffered major setbacks, as inflation rate, foreign exchange scarcity, and several Multinational Corporations exited causing a decline in Foreign Direct Investment, among others. Capital importation declined to an all-time low of $647.1million in Q2 2016. Thus, a sharp decline in the 'Ease of Doing Business Index', which ranked Nigeria 169th out of 190; and, in Sub-Saharan Africa, 36th out of 47 countries in 2016 (World Bank, 2017). The recession also had a 'ripple effect' on the manufacturing sector (Chukwu et al., 2015). As at January 2017, the manufacturing index stood at 48.2 index points (CBN, 2017); while, the Manufacturers Association of Nigeria (MAN) estimated that the total number of companies shut down due to the recession at 272 (Atuma, 2017).

Nigeria Post Economic Recession (2018-2019)

The Federal Government of Nigeria (FGN) enacted policies and initiated plans aimed at sustaining industrialization in the country. The most recent was the recent Economic Recovery and Growth Plan (ERGP)" under President Buhari, which set out a specific

objective of achieving economic growth of 7% by 2020 (Bank of Industry, 2018). The CBN Governor Godwin Emefiele (2019) in 2017 introduced an Investors and Exporters foreign exchange, allowing investors and exporters to purchase and sell foreign exchange at prevailing market rate. In addition, exchange rate management was further liberalized following the approval of the "Revised Guidelines for the Operation of the Nigerian Inter-bank Foreign Exchange Market"; the commencement of which introduced the Naira Settled Foreign Exchange Futures Market.

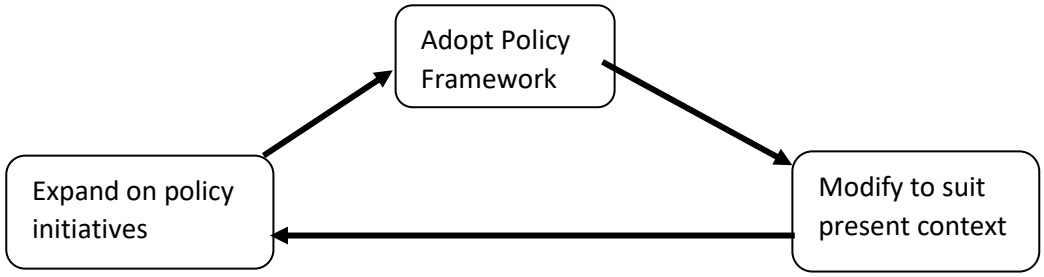
Global Implications of the Recession

The recession was attributed partly to the aftermath of global economic recession and other country-specific factors such as, plunging oil revenue, low investment inflows, hegemonic politics etc. (Akpan, 2017; Eneji, Dimis and Umejiaku, 2017; Isumonah, 2005). Globally oil exporters have lowest levels of export diversification compared to any other group (Stocker, Baffes and Vorisek, 2018), and a shock in price often drastically affects such an economy.

Findings and Recommendations

There is over dependence on oil revenue which was the major cause of the recession because the managers of the country's resources paid little or no attention to the non – oil sector of the economy. There is also this factor of that contributed to the country been in a state of recession was its nature of borrowing to finance recurrent expenditures. A major cause of economic destabilization and macro-shocks in the Nigerian economy is rate of variability witnessed in policies as incumbent Governments do not follow past policy regimes. This inconsistency by several successive governments creates a clog in the wheel of economic growth and development. The authors hence suggest that there is need to intensify the diversity of the export base of the country which will result in other source of revenue and reduce dependency on the oil sector. Furthermore there is need to reprioritize public spending to protect critical development expenditures and stimulate economic activity. The Figure below as well present the authors recommended economic policy framework for transition from one government to another.

Figure 11: Suggested Policy Framework



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EFFECT OF CORPORATE SOCIAL RESPONSIBILITY REPORTING ON PERFORMANCE OF OIL AND GAS COMPANIES IN NIGERIA

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Abstract
The study examined the effect of corporate social responsibility reporting on oil and gas businesses' return on assets in Nigeria. It has been presumed that much budget in corporate social responsibility by oil and gas firms would negatively affect their returns. Could this be true in Nigeria? A sample of ten (10) oil and gas businesses was chosen, and data was taken from the sampled companies' annual reports and accounts. The "ex-post facto" research design and content analysis were used in the study. The hypothesis was investigated using E-view and linear regression analysis. According to the study, corporate social responsibility reporting has a negative impact on return on assets, however this impact is not considerable. The study recommends among others that appropriate regulatory agencies should encourage Nigerian enterprises to report on sustainability by lessening total cost and disposing some investments or cease from procuring more assets in the company.
Keyword: Corporate Social Responsibility, Responsibility, Performance, Reporting, Return on Assets

Introduction

Corporate Citizenship, Corporate Social Opportunity (CSR), Responsible Business, and Corporate Responsibility are all terms used to describe corporate social responsibility. It has the ability to contribute positively to societal and business development (Khan, 2009) and (Sharma, 2020).

Nigeria, being one of Africa's fastest-growing economies, offers a plethora of fresh options for businesses to expand their goodwill. The continuing agitation of stakeholders for environmental friendly production and competition in market for market shares have made CSR a veritable tool for improved goodwill. Of course, CSR is becoming increasingly crucial for growing businesses, and corporations have known that they cannot be successful unless they safeguard and promote the interests of all stakeholders. Good reporting of these will add value to the firms.

CSR reporting is currently voluntary in the United States. A legislative framework for it does not exist, and sustainability reporting on CSR is not required, despite many voluntary initiatives by businesses, industries, and local governments to assess environmental, social, and governance issues (Sharma, 2017). Traditional production

and promotional operations were favoured by European countries (Forte, 2013). Despite this, in the United States, corporations have been investing time and money to a variety of charitable causes. The emphasis on certain social efforts varies among companies.

Wang and Tuttle (2014) argue that the benefits of high corporate social activities are stronger for managers seeking long-term credibility than for managers seeking short-term results. This is also due to the fact that long-term management may afford to pay higher costs associated with CSR efforts since they expect future revenues. Thus, corporate social responsibility has no direct impact on financial performance. It has a direct impact on an investors' impression of the company (Marly, 2016).

The scenario is quite different in India. India's economic sector is confronted with major societal concerns such as poverty, inequality, population increase, and environmental damage, among others. As a result, it is critical for Indian enterprises to be honest in announcing their CSR operations in order to foster an environment of true engagement between business and society. This link has been the subject of numerous investigations.

Related studies have yielded contradictory outcomes, owing in part to the inconsistency of CSR and financial performance indicators. Perhaps, the methodologies used in different studies differ. Therefore, many distinct research investigations have shown varying degrees of positivity, negativity, and neutrality in this link. Using the reports of oil and gas firms in Nigeria on CSR, this study seeks to analyze the relationship between corporate social responsibility (CSR) and financial success. This study examined the effect of corporate social responsibility reporting on return on assets of oil and gas companies quoted on the Nigerian Stock Exchange. The study hypothesized that corporate social responsibility reporting has no significant effect on return on assets of Oil and Gas Companies listed on the Nigerian Stock Exchange.

Literature Review

Conceptual review and Theoretical Framework:

The study discussed CSR and Return of Assets to show the link of the investigation.

Corporate Social Responsibility and financial performance:

CSR consist of deliberate decisions taken by companies to integrate social and environmental concerns in their business activities in response to stakeholders' expectations. The primary purpose being to identify with the societal causes aimed at positive social values; and somehow building a positive brand for the company. The increasing relevance of CSR for businesses has resulted from the pressure that many stakeholders have placed on these businesses to increase their CSR investments

over time (McWilliams & Siegel, 2000). Managers from various companies, on the other hand, do not have the same views on these CSR concerns.

Many research studies on corporate social responsibility and financial performance have been undertaken. For instance, Maqbool and Zameer (2018) investigated the link between corporate social responsibility and Indian bank financial performance and discovered that CSR has a favorable impact on bank financial performance. Krishana (2018), concluded that CSR spending contributes to the environment in such a way that it affects the environment in some way at the operational stage. As a result, CSR spending in manufacturing is higher than in service.

A study conducted in Bangladesh, on the impact of CSR on the financial success of Bangladeshi agribusiness. According to the findings, ROE and net income have a considerable impact on financial performance, favoring companies that engage in corporate social responsibility (Belal, 2001). In their research focusing on the influence of corporate social responsibility on financial performance in TWC, Islam, Begum, and Hassan (2018) found that ROA and earnings per share have no significant impact on financial performance. Financial statements, websites, publications, and annual reports were used to gather data for the study. At TWC, it was discovered that CSR and CFP have a favourable association. It was shown that CSR is vital for increasing financial performance firm. Shimin, (2017) has emphasized the CSR practices followed by SBI and ICICI banks in India in their study: "A Comparative Study of CSR Practices of Selected Banks in India". Along with it, the proportion of net profit donated to CSR activities was discovered, as well as whether the banks had reached the legal criterion of 2% profit on CSR. In their study "Corporate Social Responsibility of Indian IT Organizations - A Study on CSR Activities of Select Companies," Ramana and Reddy (2017) using ten IT companies, discovered that all of the companies chosen prioritized the adoption of a variety of environmental initiatives, with community development receiving the least attention.

There is no consensus on the best financial performance assessment instrument to use, just as there is no consensus on CSR measurements. Accounting measurements such as Return on Equity (ROE), Return on Assets (ROA), Return on Sales (ROS), Return on Capital Employed (ROCE), and Earnings per Share (EPS) are commonly used by researchers (Waddock & Graves, 1997). Others, like Vance (1975), utilize market-based financial performance indicators like investor returns, while others, like Balabanis *et al.* (1998) and Choi *et al.* (2010), use a blend of accounting and market-based measurements. Accounting and market-based metrics offer distinct viewpoints on financial performance.

Return on Assets (ROA):

The return on assets (ROA) indicates the profitability of a company's assets after all expenses and taxes have been paid. It calculates the firm's profit after taxes for every dollar invested in assets (Horne & Wachowicz, 2005). It is a measure of a manager's effectiveness. When evaluating a company's financial health, it is critical to know how well it converts what it already has into new income for its owners and shareholders. The ROA formula is a simple computation using components that may be found easily on a company's financial accounts. As a result, a greater ratio value indicates superior managerial success (Ross, Westerfield & Jaffe, 2005). Increased profit margins or asset value can boost ROA. The return on assets (ROA) is one of the proxies used in this study to quantify financial performance. The return on assets (ROA) is computed by dividing net profit by total assets. This result indicates what the company can do with what it has, i.e. how much more money they can make from each dollar of assets they own. It indicates the company's capital intensity, which varies by industry; enterprises that require substantial initial investments will typically have lesser return. ROAs over 5% are generally considered good.

Another related indicator of financial performance is return on investment. The return on investment (ROI) is a basic measure of business success in the corporate sustainability literature, as well as in the majority of strategy research (Barnett & Salomon, 2012).

Empirical Studies

Evidence from a variety of empirical studies concludes that developed and developing economies demonstrate mixed results on the relationship between CSR and Corporate Financial Performance (CFP).

The influence of CSR on the financial performance of selected manufacturing and service sector enterprises in India was investigated by Raj, Asha, Sajid, and Jyoti (2021). The research used financial data from the manufacturing and service industries in India from 2008 to 2017. The research found a link between CSR score and ROE, ROA, and ROCE. The association between the CSR score and the financial metrics was investigated using the correlation technique. The findings demonstrate that ROE, ROA, and ROCE have a negative relationship with Manufacturing Sector Companies' CSR Score.

Amidu Liu and Sesay (2017) examined the influence of CSR disclosure (CSRdisc) on African enterprises' financial performance in the short and long term. They used accounting to assess a company's financial success: return on assets [ROA] for short-term, and return on equity [ROE] for long-term. A sample of panel data for a period of 11 years was used in a multiple linear regression analysis (2005-2015). Their empirical findings revealed that, unlike in the sales and manufacturing, health and pharmacy, and other businesses, CSRdisc had a negative short-run (ROA) impact on the mining, investing, and transportation companies. Marly's study is unique in that

it examines both accounting and market-based financial performance measurements. The dataset comprises the majority of the S&P 500 companies and spans the years 2005 to 2014. Cross-sector/panel data time-series regressions are used to test the relationships. CSR and financial performance accounting measurements were positively associated. CSR and market-based financial performance assessments have a negative relationship. This shows that CSR has a beneficial impact on profitability while having a negative impact on future stock returns. This result can be interpreted as implying that socially responsible equities have lower necessary rates of return.

Grigoris, George, Eleni, and Xanthi (2016) studied if Corporate Social Responsibility (CSR) has an impact on US company financial performance. The influence of CSR on financial performance is studied in terms of participation in socially responsible activities rather than the end result. The findings revealed that participating in socially responsible activities has a considerable positive impact on financial performance. Furthermore, control variables such as total compensation for directors, CEO duality, and the presence of women on the board of directors are statistically significant in terms of financial performance.

Nor (2016) created a CSD index for significant firms operating in Malaysia based on 20 disclosure items. The outcomes of the environmental disclosure index and financial performance were mixed. Companies that disclose environmental information, on the other hand, acquire a competitive advantage and the opportunity to profit from investments.

Nigerian Liquefied Natural Gas Company (NLNG), according to Ajayi and Ovwarhe (2016), employs CSR as a fundamental approach in establishing an enabling environment that fosters support from all of the company's stakeholders, resulting in high performance and growth. The NLNG's CSR operations in Nigeria is a role model for CSR in the Nigeria. An exploratory research design was adopted in order to gain a deeper grasp of the research issue and to collect detailed information on the research aims. The study shows that the Nigerian Liquefied Natural Gas Company's Corporate Social Responsibility has a major impact on the Nigerian economy and employee organizational cohesion.

Nze, Okoh, and Ojeogwu (2016) investigated the impact of corporate social responsibility on earnings of Nigerian publicly traded companies. The study's secondary data came from financial statements of companies and the Nigerian Stock Exchange's fact book. Using a simple random sample technique, the two companies analyzed were selected from Nigeria's oil and gas business. The research was conducted over a ten-year period. Ordinary regression analysis was used to analyze the data. The findings revealed that corporate social responsibility has a favorable and considerable impact on the earnings of the companies analyzed.

Chen, Feldmann, and Tang (2015) used a content analysis technique to investigate the Global Reporting Initiative G3 standards as a proxy for environmental performance and discovered that companies with higher GRI levels perform better financially across Europe, America, and Asia.

Using multiple-linear regression analysis, Yahya and Ghodratollah (2014) evaluated the impact of corporate social responsibility disclosure (CSRD) on the financial performance of companies listed on the Tehran stock exchange. The CSRD was the independent variable, as measured by economic, social, and environmental factors, while financial performance was measured using Return on Assets, Return on Equity, and Price Earnings Ratio.

Juhmani (2014) investigated Corporate Social and Environmental Disclosure. The focus of this research was on reviewing and disclosing information about companies and websites. The study employed a historical research design and relied on secondary data. According to the data, 57.57 percent of the sampled corporations included social and environmental information in their annual reports and websites in 2012. Businesses in the hotel and tourism industries and the industrial sector made the least disclosure of social and environmental accounting, while commercial banks and insurance companies made the most.

Becchetti (2012) studied the Domini 400 Social Index, and conducted their research in the United States, using the 1990 to 2004 sample period. They discovered a strong negative effect on anomalous returns after exit announcements from the Domini 400 Social Index. When financial crisis shocks and stock market seasonality were taken into account, this association still existed. The above are only a few of the mixed results that have been obtained in this field. Because not all SRI indexes publish why corporations are added or removed from their Index, the share price may not be a clear measure of the relationship between CSR activities and CFP.

The evidence from these previous studies shows that the link between corporate sustainability and firm performance has been based on empirical and theoretical arguments ranging from those claiming that sustainability practice reduces organizational profits to those claiming that it can be used to gain a competitive advantage. This observed lack of convergence, which leads to mixed results, indicates that this topic of study has yet to be empirically settled, necessitating more research. The majority of prior studies were conducted in industrialized countries, with developing countries such as Nigerien receiving significantly less attention.

Methodology

The structure for answering research questions or testing study hypotheses is known as research design (Avwokeni, 2016). For this study, an *ex-post facto* research design was used. The researcher's decision to use this design was based on the nature of the

study, which looked at the effect of corporate sustainability reporting on business financial performance.

The population of this study consisted of the entire oil and gas firms listed on the Nigerian Stock Exchange (NSE) as at 31st December, 2019. As at year ended 31st December 2020, there are a total of fifteen (15) oil and gas firms listed in the Nigeria Stock Exchange (NSE). The list of these companies are attached in appendix 1.

The study utilized purposive sampling techniques. In this method, the sample is chosen based on what the researcher thinks is appropriate for the study. A total of five (5) out of the fifteen (15) companies were inevitably excluded during the data collection process due to incomplete data.

The study used secondary sources of data. Historical data was gathered from the Nigerian Stock Exchange's library, as well as annual financial reports and accounts of individual companies retrieved from the companies' websites. The study used descriptive statistics and regression analysis techniques to conduct the empirical analysis.

Model Specification:
This study model is shown as:

$$ROA = f(SOCP) \quad \text{(i)}$$

$$ROA_{it} = \beta_0 + \beta_1 SOCP_{it} + e_{it} \quad \text{(ii)}$$

Where:

ROA_{it} = Return on Asset of company *i* in year *t*
$SOCP_{it}$ = Social Performance disclosure of company *i* in year *t*
β_0 = represents the constant or intercept
β_1 = represents estimated parameters
e_{it}= represents the error term

Data Analyses:
The processed data are attached in appendix 2. The descriptive statistics was shown in Table 1 and the regression output parameters were displayed in Table 2.

Table 1: Descriptive Statistics

	ROA	CSRR
Mean	-0.073410	0.158600
Median	-0.031300	0.167000
Maximum	0.018300	0.188000
Minimum	-0.260400	0.125000
Std. Dev.	0.095491	0.019344
Skewness	-1.296553	-0.685828
Kurtosis	2.983889	2.442177
Jarque-Bera	28.01858	9.135854
Probability	0.000001	0.010379
Sum	-7.341000	15.86000
Sum Sq. Dev.	0.902740	0.037044
Observations	100	100

Sources: E-view output data

The descriptive statistics indicated that the maximum ROA was 0.018 and the minium was -0.26; and for CSRR 0.188000 and 0.125000 respectively); the Jarque-Bera value of 28.01855 and 9.135854 respectively were of high scores and probability were significant (ROA: 0.000001 and CSRR: 0.010379). We conclude that the distribution is normal and can used to run regression model.

The hypothesis was tested using p-value at 5 % level of significance. **The decision rule** is if the probability value is less than 0.05, the null hypothesis is rejected and alternate hypothesis accepted.

Table 2: Regression analysis between CSRR and ROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.059735	0.057998	1.029945	0.3057
CSRR	-0.235093	0.246729	-0.952838	0.3431

R-squared	0.121609	Mean dependent var	0.020184
Adjusted R-squared	0.084625	S.D. dependent var	0.125952
S.E. of regression	0.120504	Akaike info criterion	-1.344161
Sum squared resid	1.379527	Schwarz criterion	-1.213902
Log likelihood	72.20803	Hannan-Quinn criter.	-1.291443
F-statistic	3.288085	Durbin-Watson stat	2.042636
Prob(F-statistic)	0.014327		

Source: E-view version 8 output data

The R-squared value of 0.121609 (and adjusted R-squared value of 0.08625) indicate that only 12.16% (and adjusted shocks of only 8.62%) variations in the dependent variable (ROA) were explained by the CSRR. Thus, other factors explained about 88% of the variations on ROA of the Oil and Gas Firms in Nigeria.

The Durbin Watson Statistic of 2.04 is within the benchmark 0f 2.0; and the Prob (F-statistic) of 0; 014327 is less than 0.05 level of significance benchmark. We conclude that the model is useful for testing the hypothesis.

The study hypothesized that corporate social responsibility reporting has no significant effect on return on assets of Oil and Gas Companies listed on the Nigerian Stock Exchange.

The coefficient of CSRR was -0.235093 indicating negative relationship with ROA. The p-value of 0.3431 > 0.05. We have no reason reject the null hypothesis. Thus, corporate social responsibility reporting has negative and no significant effect on return on assets of Oil and Gas Companies listed on the Nigerian Stock Exchange.

Conclusion

The results demonstrated that the influence of social and environmental sustainability on return on assets is not significant. As a result, the first null hypotheses (Ho) were accepted.

The hypothesis of the CSRR tends to support most existing schools of thought (such as Ezejiofor *et al*, (2016) that argue that engaging in sustainability practices has a high negative fiscal effect on the organization's resources. However, our result in terms of return on assets (ROA) contradicts the findings of most foreign authors such as Amacha & Dastane (2017) and Maletic *et al* (2015) who found that both social and environmental sustainability have a high negative fiscal effect on the organization The non-significant character of our conclusion can be attributed to the sampled companies' generally weak sustainability disclosures (at 13 percent on average), compared to most advanced countries (such as the United States), which has a rate of above 25%, (Ameer & Othman, 2012).

Recommendations

Based on the findings, it is recommended that oil and gas companies must ensure the lessening of their total cost by aggressively aggregate turnover whilst cutting cost and without having to escalate total cost and also dispose some investments or cease from procuring more assets in the company.

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EFFECT OF ADVANCED MANUFACTURING TECHNOLOGIES ON SUSTAINABILITY REPORTING OF QUOTED CONSUMER GOODS MANUFACTURING FIRMS IN NIGERIA

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Abstract

In recent times, advanced manufacturing technologies and sustainability reporting have been the focus of academic and business discuss. To this end, this study seeks to examine the effect of advanced manufacturing technologies on sustainability reporting of quoted consumer goods companies on the floor of the Nigerian Exchange Group. The study was anchored on the legitimacy theory and the ex-post facto research design was employed. The population of the study includes all consumer goods companies as at 31st December, 2019. Data of sustainability reporting (measured by scoring index on the basis of the performance indicators in the global reporting initiative guidelines G4, global reporting initiative and sustainability guidelines on economic, environmental and social performance) and advanced manufacturing technologies (measured by costs of plant and equipment plus information technology costs) were obtained from the annual reports and accounts of the selected consumer goods companies in Nigeria. Data obtained were analyzed using regression estimation technique and the study found a significant relationship between usage of advanced manufacturing technologies and the provision of sustainability disclosures. More so, advanced manufacturing technologies were found to have a significant effect on economic and environmental disclosures but not on social disclosures. Based on the findings, it was recommended among others that the government and the society at large should pay attention to advanced manufacturing technologies used by consumer goods firms to ensure that they promote sustainable development.

Keywords: Advanced manufacturing technology; Social disclosure; Environmental disclosure; Economic disclosure; Sustainability reporting.

Introduction

Sustainability reporting and advanced manufacturing technologies (AMT) have been ongoing discussions in the business world for some time now. Manufacturing is an important activity in any economy not just because it results in the creation of goods and services that satisfy human wants but also because of the role it plays in the growth and development of any economy in the world (Nath & Sarkar, 2017; and National Agency for Science and Engineering Infrastructure (NASENI), 2019). Over the years, the increase in population has resulted to increase in demand for

manufactured products. The need to supply better quality products at lowest cost to beat competition resulted in the development of AMT.

AMT is the use of computer and machines in the manufacturing process; this new set of technologies ensured precision at a faster rate than ever before, (Dean & Snell, 1996 in Ismail & Isa, 2011; and Isa & Foong, 2015). However, manufacturing activities have been widely believed to be the major cause of the adverse climatic conditions that are experienced in the world today like the depletion of the ozone layer, pollution of the air and water, deforestation and even more worrisome, is the fact that it imposes some health conditions experienced in the world today (Joseph, Tarbo & Ikya, 2017; Ejoh, Orok & Sackey, 2014; and Mastrandrea & Schneider, 2008 in Onyali, Okafor & Egolum, 2014). In order to show commitment towards creating a safer environment, organizations produce sustainability reports to show the impact of their activities on the economy, society and environment, and how such impacts are managed by them.

One question that lingers is that since AMT facilitate production, does it improve sustainable operations? Impliedly, does it improve sustainability report of manufacturing firms? Remarkably, current researches on the subject like those of Bag, Gupta and Kumar (2021), and Machado et al. (2020) suggested that the adoption of AMT can contributes to sustainability in manufacturing. Notwithstanding the viewpoints of prior studies in developed nations, to the researchers' knowledge, there are scanty empirical evidences in this area in Nigeria. Thus, there is the need to ascertain if this assertion is true in sub-Saharan African and Nigerian in particular.

In light of the above, this study was carried out to examine the effect of AMT on sustainability reporting of quoted consumer goods companies on the floor of the Nigerian Exchange Group. Given that sustainability reporting is made up of three (3) dimensions of disclosures - economic, environmental and social disclosures, the specific objectives of the study are:

1. To determine the effect of advanced manufacturing technologies on economic disclosures of consumer goods companies in Nigeria;
2. To ascertain the effect of advanced manufacturing technologies on environmental disclosures of consumer goods companies in Nigeria; and
3. To evaluate the effect of advanced manufacturing technologies on social disclosures of consumer goods companies in Nigeria

Predicated on the above specific objectives, the researchers made the following hypotheses to guide the investigation:

H_{o1} AMT does not have any effect on economic disclosure practices of consumer goods companies in Nigeria

H_{o2}: AMT does not have any impact on environmental disclosure practices of consumer goods companies in Nigeria.

H_{o3} AMT does not have any impact on social disclosure practice of consumer goods companies in Nigeria.

Review of Related Literature and Theoretical Framework

Advanced Manufacturing Technologies (AMT)

AMT is an umbrella term that covers all manufacturing technologies that involve high automation and computerization in product design, planning and processes. According to Lewis and Boyer (2002) in Haruna, Gakure and Orwa(2015), AMT is the technique that uses computer, machines and electronics in the operation and regulation of the manufacturing process. This includes a variety of machines that facilitate the management of the production process. It involves the use of applications such as Computer Integrated Manufacturing (CIM), Computer-Aided Design (CAD),Computer-Aided Engineering (CAE), Flexible Manufacturing Systems (FMS), Material Requirements Planning (MRP 1), Manufacturing Resource Planning (MRP II), Enterprise Resource Planning (ERP) Robotics and the like in manufacturing of goods and services, (Isa & Foong, 2005; and Ugwuanyi & Ojeh, 2013).

AMT has resulted to improvement in design of products and has also facilitated dissemination of relevant information to improve the manufacturing process and the products (Okay, 2010 in Haruna et al 2015). It has reduced production costs by reducing material wastes. This is achieved by improving the ability to foresee problems and defects of products at the design stage before actual manufacturing takes place. It has also reduced the number of prototypes required, and the time from product conception to sale (Khan et al., 2011 in Haruna et al, 2015). Furthermore, AMT enables manufacturing organization to produce customized products for its customers by facilitating the production of different variations of a product at a very short period of time.

The improvements in production processes brought about by AMT can lead to increased profit and business growth (Koc & Bozdag, 2009); and fast-track the economic development of firms (Haruna et al, 2015). Machado et al. (2020) asserted that AMT facilitates the new industry system also known as Industry 4.0. Empirical researches have shown that AMT improves sustainability among manufacturing concerns. Sustainability in manufacturing referred to sustainable manufacturing practices aimed at enhancing production of goods and services that are economically viable in a socially and environmentally responsible manner (Machado et al., 2020) see sustainable manufacturing as the combination of production processes and systems in such a way as to achieve efficiency in production via the use of sustainable resources to produce high quality products and services that ensure the safety of the stakeholders and preservation of the society and environment throughout its lifecycle.

The advantages of AMT include reduction of material waste, its ability to save energy and reduce emission and the substitution of humans with robots in some risky manufacturing processes. AMT may also have an indirect improvement on workers' health and safety by decrease of exposure to harmful production steps. It offers a lot of opportunities for sustainable manufacturing in business due to its ability to produce goods and services digitally (Machado et al., 2019). In the views of Machado et al. (2019), AMT needs to be supported by strategy that considers the sustainability impacts of the product throughout its lifecycle.

Sustainability Reporting

Sustainability reporting involves disclosure on company's sustainability performance viewed from three (3) dimensions, namely economic, environmental, and social. According to the Global Reporting Initiative (2013), the economic dimension of sustainability has to do with the effect of the organization on the local, national, and global economy. The environmental dimension looks at the effect of an organization on living and non-living natural systems, including land, air, water and ecosystems and the social dimension of sustainability is concerned with the impact the organization has on the society within which it operates. Sustainability reporting is an instrument of collecting and presenting, in a systematic manner, sustainability information for management process; and to stakeholders (Saji, 2014 in Eneh & Amakor, 2019). In this study, the three (3) dimensions of sustainability reporting (economic, environmental and social) were employed.

In sustainability reporting, information is presented in a methodical way so as to enable comparison and measurement of impact over time and it entails both financial and non-financial information. Financial information is linked to the financial accounting system and is expressed in monetary terms while the non-financial information can be qualitative, such as the reputation of an organization and organizational policies or quantitative, such as number of accidents and tons (units) of greenhouse gas (NIVRA, 2009 as cited in INTOSAI WGEA, 2013). Sustainability reporting is a recognized way of engaging and involving stakeholders in corporate practice to improve long term success of the organization (Corporate Citizenship, 2012).

Sustainability reporting can also improve organizations' ability to understand and manage sustainability related risks and help them better anticipate changing societal expectations (Saridewi & Koesrindartot, 2014; and Uwuigbe, 2011). This can be used to inform and stimulate future practice (Corporate Citizenship, 2012) and as an effective tool to manage organization's reputation. Thus, it is no surprise that the majority of the reporters are large companies and firms having severe environmental impacts. (INTOSAI WGEA, 2013). Sustainability reporting can be used as a medium

to show compliance, demonstrate corporate point of view and promote corporate image (Corporate Citizenship, 2012).

Sustainability reporting creates information resource by helping to gather and organize information to improve management systems and the quality of management information. This enables organizations to find out weaknesses, opportunities and set new goals. Paying attention to sustainability can help to drive innovation, develop new market offerings and safeguard sustainable growth in the long run (INTOSAI WGEA, 2013; Corporate Citizenship, 2012; and Uwuigbe, 2011). Furthermore, sustainability reporting can act as a tool for leadership, increase employee satisfaction and make organizations attractive to new employees (Aggarwal, 2013). Sustainability reporting can also be a tool to attain cost savings; this is because, it facilitates efficiency in the use of resources by providing a framework for measurement and target setting of organizational goals (Saridewi & Koesrindartot, 2014; Corporate Citizenship, 2012; and Uwuigbe, 2011). Thus, sustainability reporting help companies to find out the weaknesses in their systems and opportunities in their environment (Buniamin et al., 2011).

Theoretical Framework

This study is anchored on the theory of legitimacy. The theory states that the organization tries to make sure that they are seen as operating within the boundaries of normal activities of their respective societies, that is, they want stakeholders to see their activities as being "legitimate". The societal perception is not static but changes over time, which requires organizations to be receptive to the environment in which they operate (Deegan & Unerman, 2011 as cited in Ismail & Haddaw, 2014). Long-term survival of an organization is dependent on how well the organization meets the expectations of stakeholders in its environment; as such, companies that are socially and environmentally responsible have lesser risk of sanctions and product boycotts and have increased license to operate in their environment (Aggarwal, 2013).

With the current challenges facing the world today coupled with the changing consumer tastes, business organizations strive to present their companies as providers of smart products and services to their customers and as solution providers to the economic, environmental and social issues in our world. Companies that are perceived as smart and sustainable enjoy a certain level of goodwill from stakeholders like customers, employees, investors, government and society. This goodwill ultimately translates to better workforce, increased market value, increased access to finance, government support, improved returns and so on.

Methodology

The study employed the *ex-post facto* research design. The researchers also made use of content analysis for data collection. The decision to use content analysis was to enable the researchers to extract both qualitative and quantitative information from the annual reports and accounts of the selected companies. The population of study

includes all consumer goods companies listed on the floor of the Nigerian Exchange Group as at 31st December, 2019; this is made up of twenty (20) consumer goods companies. The sample size, however, includes companies that were not delisted in the process of restructuring or had compliance issues with the Nigerian Exchange Group as contained in the exchange's website between 31st December 2015 and 31st December 2019.

These criteria were used to ensure that the selected companies were relatively stable and also to ensure the availability of their annual reports and accounts. Using the judgmental sampling technique, a total of ten (10) quoted firms were selected for this study; based on their market capitalization status and availability of 2015-2019 annual reports and accounts. This means that the companies that made up the sample were listed in the Nigerian Exchange Group as at 2015 and were still listed as at 31st December 2019. Judgmental sampling technique was chosen to enable the researchers derive the desired data for the study.

Secondary data were collected from the annual reports and accounts of the selected sampled companies. Annual reports and accounts were chosen because it is the most important document a company uses to communicate with its shareholders and other stakeholders. Data obtained were analyzed using both descriptive (mean, standard deviation, minimum and maximum values) and inferential (regression) statistical tools. The empirical model of the study is estimated as follows:

$$SREP = f(AMT) \qquad \text{eq. 1}$$

Equation 1 is the implicit form of the regression model; however, equations 2-4 were expressed in their explicit forms to enable the researchers decompose the three dimensions of sustainability reporting and to validate the research hypotheses of the study:

$$ECDISC_{it} = ß_0 + ß_1AMT_{it} + €_{it} \qquad \text{eq. 2}$$
$$ENDISC_{it} = ß_0 + ß_1AMT_{it} + €_{it} \qquad \text{eq. 3}$$
$$SODISC_{it} = ß_0 + ß_1AMT_{it} + €_{it} \qquad \text{eq. 4}$$

Where: SREP = Sustainability reporting; ECDISC = Environmental disclosure; ENDISC = Economic disclosure; SODISC = Social disclosure; AMT =Advanced manufacturing technology; $ß_0$-$ß_1$ = Regression coefficients; € = Error term; i = individual consumer goods companies; t = time period

Definition of Operational Variables

The dependent variable is sustainability reporting and it was measured by scoring index based on performance indicators provided in Global Reporting Initiative Guidelines G4 (GRIG4) Specific Standard Disclosures. Global Reporting Initiative (GRI) Sustainability Guidelines on Economic, Environmental and Social

Performance is currently the most prominent reporting guidelines used by companies and researchers (Molla et al., 2019 in Paula- Carmen & Dorin-Paul, 2019; and Morhardt et al, 2002 as cited in Burhan & Rahmanti, 2012). The index scores for economic, environmental and social disclosures based on GRI4 guidelines were used as proxies for economic, environmental and social disclosures. A score of one(1) was awarded if an item was reported and if otherwise, zero (0). The formula used to calculate the index score is:

$$Index = \frac{n}{k}.$$

Where n = number of items reported by the entity; k is the total score possible. The independent variable is the advanced manufacturing technologies (AMT). Data for AMT was obtained from annual reports and accounts of selected companies; this is supported by the works of Machado et al. (2019); Ford and Despeisse (2016) and Egbunike et al. (2015) who obtained AMT data from company reports. Since AMT has to do with the use of smart machines and computer systems, this study used the cost of plant and equipment plus IT cost as stated in the annual reports of selected companies as proxy for AMT.

Results and Discussions

Table 2a shows a coefficient of correlation (R) of 0.559. This means that the value of coefficient correlation between the independent variables and the dependent variable is 0.559. It implies that the relationship between advanced manufacturing technology and sustainability reporting is 55.9%. The coefficient of determination (R-square) is .313. This implies that 31.3% of the variation in sustainability reporting is explained by variation in advanced manufacturing technology, the rest is explained by other factors.

Table 2a: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.559[a]	.313	.298	.41501

a. Predictors: (Constant), AMT

Source: SPSS 20 Output

Table 2b: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.680	1	3.680	21.368	.000[b]
	Residual	8.095	47	.172		
	Total	11.775	48			

a. Dependent Variable: sustainability
b. Predictors: (Constant), AMT
Source: SPSS 20 Output

Table 2c: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.089	.093		11.679	.000
	AMT	1.128E-008	.000	.559	4.623	.000

a. Dependent Variable: sustainability
Source: SPSS 20 Output

Test of Hypothesis I

H_{o1} AMT does not have any impact on economic disclosure practices of consumer goods companies in Nigeria.

Table 3a: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.402[a]	.162	.144	.21288	1.936

a. Predictors: (Constant), AMT
b. Dependent Variable: economic
Source: SPSS Output

Table 3b: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.420	1	.420	9.263	.004[b]
	Residual	2.175	48	.045		
	Total	2.595	49			

a. Dependent Variable: economic
b. Predictors: (Constant), AMT
Source: SPSS Output

Table 3c: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.730	.047		15.554	.000
	AMT	3.778E-009	.000	.402	3.043	.004

a. Dependent Variable: economic

Source: SPSS Output

From Table 3a-3c, the coefficient of correlation (R) is 0.402. It implies that the relationship between advanced manufacturing technology and economic disclosures is 40.2%. The coefficient of determination (R-square) is 0.162. This implies that 16.2% of the variation in economic disclosures is explained by variation in advanced manufacturing technology, the rest is explained by other factors.

From table 3c, it can be seen that the coefficient of variable social is 3.778E-009. The probability is .004. Since the tabulated t-value which is 2.011 is less than the calculated t value 3.043 at 5% significance level. The null hypothesis which states that AMT does not have a significant impact on economic disclosures among consumer goods companies in Nigeria is rejected while the alternative hypothesis is accepted.

Test of Hypothesis II

H_{o2} AMT does not have any impact on environmental disclosure practices of consumer goods companies in Nigeria.

Table 4a: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.657[a]	.432	.420	.18949	2.253

a. Predictors: (Constant), AMT

b. Dependent Variable: environment

Source: SPSS Output

Table 4b: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.312	1	1.312	36.542	.000[b]
	Residual	1.724	48	.036		
	Total	3.036	49			

a. Dependent Variable: environment

b. Predictors: (Constant), AMT

Source: SPSS Output

Table 4c: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.023	.042		.545	.588
	AMT	6.679E-009	.000	.657	6.045	.000

a. Dependent Variable: environment
Source: SPSS Output

From Table 4a, the coefficient of correlation (R) is 0.657. It implies that the relationship between advanced manufacturing technology and environmental disclosure is 65.7%. The coefficient of determination (R-square) is 0.432. This implies that 43.2% of the variation in environmental disclosure is explained by variation in advanced manufacturing technology, the rest is explained by other factors.

From table 4c, it can be seen that the coefficient of variable social is 6.679E-009. The probability is .000. Since the tabulated t value which is 2.011 is less than the calculated t value 6.045 at 5% significance level. The null hypothesis which states that AMT does not have a significant impact on environmental disclosures among consumer goods companies in Nigeria is rejected while the alternative hypothesis is accepted.

Test of Hypothesis III

H_{o3} AMT does not have any impact on social disclosure practice of consumer goods companies in Nigeria.

Table 5a: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.109[a]	.012	-.009	.14082	1.836

a. Predictors: (Constant), AMT
b. Dependent Variable: social
Source: SPSS Output

Table 5c: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.011	1	.011	.568	.455[b]
	Residual	.932	47	.020		
	Total	.943	48			

a. Dependent Variable: social
b. Predictors: (Constant), AMT
Source: SPSS Output

Table 5d: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.347	.032		10.966	.000
	AMT	6.243E-010	.000	.109	.754	.455

a. Dependent Variable: social
Source: SPSS Output

From Table 5a, the coefficient of correlation (R) is 0.109. It implies that the relationship between advanced manufacturing technology and social disclosures is 10.9%. The coefficient of determination (R-square) is 0.012. This implies that 1.2% of the variation in sustainability reporting is explained by variation in advanced manufacturing technology, the rest is explained by other factors. From table 5d, it can be seen that the coefficient of variable social is 6.243E-010. The probability is 0.455. Since the tabulated t value which is 2.011 is greater than the calculated t value .754 at 5% significance level. The null hypothesis which states that AMT does not have a significant impact on social disclosures among consumer goods companies in Nigeria is accepted while the alternative hypothesis is rejected.

The findings show that AMT has significant effect on economic and environmental disclosures but not on social disclosure of consumer goods companies in Nigeria. This findings agrees with those of Machado et al. (2020), and Machado et al. (2019) who found out that AMT impact on sustainability in manufacturing which reflects in the sustainability reports issued by manufacturing organizations. The findings of Machado et al. (2019) suggests and indirect impact of AMT on social sustainability parameters like workers health and safety which also agrees with this work.

Conclusion and Recommendation

From the analysis above, it can be concluded that there is a relationship between usage of advanced manufacturing technology by organizations and the quality of sustainability reporting. Further analysis shows that of the three aspects of sustainability reporting, environmental disclosure has the highest correlation with AMT, followed by economic disclosures; social disclosures shows the least correlation with AMT. Furthermore, AMT has significant effect on economic and environmental disclosures but not on social disclosure of consumer goods companies in Nigeria.

Based on the conclusion above, it is recommended that urgent attention should be paid to the type of AMT employed by consumer goods companies in Nigeria. There is need to use technology that will ensure the sustainable development of the society. Technologist, engineers, managers and all those involved in the design and use of AMT should study the peculiarities of Nigeria economy, environment and society before adopting the use of any AMT. furthermore, government at all levels should

ensure that policies and incentives in place to provide enabling environment for manufacturing companies. This will encourage investments in AMT which will invariably lead improved manufacturing activity, improved economy and sustainable society. Again, there is an urgent need for an overhaul of the educational system in Nigeria so that graduates are equipped with the relevant skills needed in AMT environment.

Previous works on AMT by other researchers already mentioned in this work have shown that AMT affect sustainability. However, an organization's sustainability efforts are usually communicated to its various stakeholders through sustainability reports. This work contributes to existing knowledge by examining how the use of AMT affect sustainability reports available to stakeholders for decision making in emerging economies like Nigeria. The work only used data from quoted consumer goods manufacturing companies in Nigeria. Further studies could study other sectors of quoted companies to determine the impact of AMT on sustainability reporting in those sectors. Furthermore, it would be imperative to carry out a survey study to obtain more information on the relationship between AMT and sustainability reporting from decision makers.

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EFFECT OF GOVERNMENT POLICIES ON THE LENDING ABILITY OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

The study evaluated the effect of government policies on the lending ability of deposit money banks in Nigeria. The study was anchored on the Keynesian theory of monetary policy and the quantitative analysis via the ex-post facto research design was adopted. Data of bank credit to private sector, total domestic debt (proxy for economic growth) and broad money supply were obtained from the Central Bank of Nigeria statistical bulletin and National Bureau of Statistics from 1999-2019. Data obtained was analyzed using the Ordinary Least Square estimation technique. The findings showed that money supply has a significant and positive effect on the lending ability of deposit money banks in Nigeria. In addition, it was found that monetary policy rates have significant and positive effect on the lending ability of deposit money banks in Nigeria. More so, government borrowings have significant and negative effect on the lending ability of deposit money banks in Nigeria. On the basis of the findings, it was recommended among others that the monetary authority in Nigeria should manage the monetary policy rate properly for it to be attractive and affordable for investors to borrow money from the bank. Again, the government should employ other measures such as budgetary control to support and strengthen the monetary policy in order to control the credit creation of deposit money banks in the country.

Keywords: Lending; Money supply; Monetary policy; Government policy; Domestic debt

Introduction

Government policy is a rule or principle that guides decisions, resulting in positive outcomes that enhance the economy. These policies come in different ways, which includes monetary, fiscal and supply-side policies. However, this study focused on monetary and fiscal policies of the Nigerian government. According to Uremadu (2012), a financial system of any economy is made of institutional arrangements designed to transform savings into investments. While there is widespread agreement that banks play a key role in the transmission of monetary policy actions, there is considerable controversy over the precise role banks play.

The Nigerian banking system can be said to be the one that does the essential role of aiding government policy implementation and facilitating the role of financial intermediations in the economy (Omankhanlen, 2014). Extant studies have been inconclusive as to how government policies affect the lending ability of the banks.

The study by Olweny and Chiluwe (2012); and Udeh (2015) found an insignificant relationship between monetary policy instruments and bank lending ability.
Remarkably, the review of existing studies on government policy and lending ability revealed that almost (if not all) all the studies were centered on monetary policy alone, without due attention to the fiscal aspect of government policy. Consequently, this present study found a gap in that respect, hence the inclusion of fiscal policy variable in its empirical model in assessing the effect of the government policy (monetary and fiscal policies) on the lending ability of the deposit money banks in Nigeria. Given this gap in the literature, the following specific objectives were derived:

1. To determine the effect of money supply (M_2) on the lending ability of deposit money banks in Nigeria.
2. To ascertain the effect of monetary policy rates on the lending ability of deposit money banks in Nigeria.
3. To examine the effect of government borrowings on the lending ability of deposit money banks in Nigeria.

Furthermore, three (3) research hypotheses were developed and tested at 0.05% significance level. The hypotheses of the study were expressed in their null form as follows:

H_{O1}: Money supply has no significant effect on the lending ability of deposit money banks.
H_{O2}: Monetary policy rates have no significant effect on the lending ability of deposit money banks.
H_{O3}: Government borrowings have no significant effect on the lending ability of deposit money banks.

Literature Review and Theoretical Framework

Monetary Policy

The monetary paradigm, monetary policy manipulates the money supply and rates of interests in such a way to achieve the goals of the manifestation of the ruling party (Shoaib, 2010). It is concerned with discretionary control of money supply by the monetary authority (Central Bank of Nigeria) in order to achieve the desired economic goals of the government. Monetary policy consists of the government's formal efforts to manage the money in its economy in order to realize specific economic goals. Three basic kinds of monetary policy decisions can be made, namely, the amount of money in circulation, the level of interest rates and the functions of credit markets and the banking system (Ogunjimi, 2017).

The combination of these measures is designed to regulate the value, supply and cost of money in an economy, in line with the level of economic activity. Excess supply of money will result in an excess demand for goods and services, prices will rise and balance of payments will deteriorate. Nigeria's monetary policy is anchored on the monetary targeting framework and price stability, which represents the overriding objectives of monetary policies. It is a combination of the measure designed to regulate the value, supply and cost of money in the economy in consonance with the expected level of economic activities (Central Bank of Nigeria, 2015).

Monetary policy may be inflationary or deflationary depending upon the economic condition of the country. Contractionary policy is enforced to squeeze down the money supply to curb inflation while expansionary policy is to stimulate economic activities to combat unemployment in periods of economic recessions.

There are several selected instruments of monetary policies which include cash ratio, liquidity ratio, monetary policy rates, money supply and bank credits among others. First, *cash ratio* is the proportion of total deposit liabilities which deposit money banks and other financial institutions are expected to keep as cash with the CBN (Udeh, 2015). It is the statutory cash reserves that banks are to keep with the CBN and this cash ratio was designed to help rescue the liquidity of the banks and hence control the volume of banks credit that can be extended by deposit money banks.

Second, *liquidity ratio*: The liquidity ratio is the proportion of total deposits to be kept in specified liquid assets mainly to safeguard the ability of the banks to meet depositors' cash withdrawals and ensure confidence in the banking system (Olweny & Chiluwe, 2012). It is generally accepted that liquidity ratio is used to increase or decrease cash availability of commercial banks, however, researchers have argued that the major use of the statutory reserve ratio of banks is to float government securities, it therefore intends to direct commercial bank credit towards the public sector.

Third, *monetary policy rate* is the minimum lending rate of the CBN at which it rediscounts bill of exchange and government securities held by the deposit money bank (Morgan, 2012). When the CBN notice an inflationary pressure in the economy, it raises the bank rate. In this period, borrowing from the CBN becomes difficult and deposit money banks borrow less from it. Also the deposit money banks borrowers such as the individual and industries borrow less from it due to an increase in its lending rate. On the contrary in a depressed economy, the Central Bank lowers its bank rate making it cheaper to borrow from them. The deposit money banks also lower their lending rate making it easy for businessmen to borrow money.

Fourth, *money supply* is the total currency outside the banks, demand deposits at deposit money banks, domestic deposits at the CBN, less Federal and State governments deposits with deposit money banks. This mainly involves buying government bonds "expanding the money supply" or selling them "contracting the

money supply". When the CBN disburses or collects payment for these bonds, it alters the amount of money in the economy while simultaneously affecting the price of short-term government bonds. The change in the amount of money in the economy in turn affects interbank interest rates.

Furthermore, *bank credit to private sector* is the total loans and advances given by the banks to economic agents (CBN, 2009). It is the extension of money from the lender to the borrower (Ebi & Emmanuel, 2014). Bank credit is a core business of financial institutions or banks because banks mobilized deposits from the surplus units of the economy and channeled it to the deficit units who need funds for productive uses. Therefore, the relationship between Banks and customers is that of debtors and creditors.

Kahn (2010) observed that monetary policy objectives are concerned with the management of multiple monetary targets among which are price stability, promotion of growth, achieving full employment, smoothing the business cycle, preventing financial crises, stabilizing long-term interest rates and the real exchange rate. Through the control of monetary policy targets such as the price of money (interest rate - both short term and long term), the quantity of money and reserve money amongst others; monetary authorities directly and indirectly control the demand for money, money supply, or the availability of money (overall liquidity), and hence affect output and private sector investment.

Concept of Fiscal Policy

Fiscal policy is the use of the central authorities of government revenue and expenditure in an effort to influence the circular flow of income. By fiscal policy, we mean the process of shaping taxation and public expenditure in order to help to damped the savings of the business cycle and to contribute toward the maintenance of a growing high employment free from volatile inflation. Umoh (2013) was of the view that the government of any nation has the economic policies among which is the fiscal policy and this policy relates to the variability in the revenue and expenditure items of the nation financial statement.

Fiscal policy is aimed at increasing employment opportunities or to attain full employment, achieving price stability, promote economic growth and development, achieving equity in income redistribution and achieving favorable balance of payment. Although particular tax and expenditure measures affect the economy in so many ways and may be designed to serve a variety of purposes, several or less distinct policy objectives may be set forth which now rank as the functions of fiscal policy.

Broadly, the objectives of fiscal policy are geared towards the *allocation function* which refers to the provision of social goods or process by which total resources used is divided between private and social goods and by which the mix of social goods is

chosen; *distribution function* which is concerned with the redistribution of income; and *stability function,* which provides a reasonable degree of price level stability, slowness of foreign account, an acceptable rate of economic growth and development without the economic trends to be subjected to substantial fluctuations.

Fiscal policy instruments are broadly classified into two namely, automatically fiscal stabilizers and discretional fiscal policy measures. The *automatically fiscal stabilizers* are ingenious devices that help to bring the economy back to an even level without a deliberate action on the part of anyone. They are designed to function in a countercyclical fashion to improve the performance of the economy. On the other hand, the *discretional fiscal policies* are policies which have been designed by a legislative or executive action in order to deal with the problem at hand. These measures require speed of decision and can be successful in temporal and reversible fiscal changes for stabilization purposes. Discretionary fiscal policy includes: Tax transfer scheme, tax on goods for instance value added tax (VAT), annual budget, as well as policies regulating the banking sector in Nigeria

Theoretical Framework

This study hinges on the Keynesian Theory of 1936 postulated by John Maynard Keynes which he published in his book "general theory of employment, interest and money". The Keynesian theory initiated the Keynesian revolution; the theory suggests that monetary policy influences investment decisions of financial institutions such as deposit money banks and the public via multiplies processes.

The Keynesian monetary theory posits that government had the responsibility to undertake actions to stabilize the economy and maintain full employment and economic growth, using fiscal and monetary policies. This theory is in tandem with our study which examined how the monetary and fiscal policies of the CBN could impact on the lending ability of deposit money banks.

Empirical Review

Quite a number of studies have been done on the effect of government policy on the lending ability in Nigeria; however, most of these studies were based on one aspect of government policy – monetary policy. For instance, a study on the dynamics of monetary policy and inflation in Nigeria was carried out by Okotori (2016). Variables of money supply, exchange rate, monetary policy rate, treasury bills rate, reserve requirement and liquidity ratio were employed. The study adopted the Augmented Dickey-Fuller (ADF) unit root, Johansen Co integration and Error Correction model (ECM) for analyses of data. The study found that money supply, exchange rate, monetary policy rate, treasury bills rate, reserve requirement and liquidity ratio have significant and effective impact on the inflation rate.

Uwazie and Aina (2015) examined the causes and effects of monetary policy on commercial banks credit in Nigeria. The study variables were bank credit, broad

money supply (LM2), monetary policy rate (MPR), liquidity ratio (LR), inflation rate (IFR) and exchange rate (EXR). The regression results revealed that there was a causal effect between monetary policy and commercial banks credit in Nigeria.

Examining the effect of monetary policy instruments on banking sector credits in Nigeria, Osakwe (2015) obtained secondary data on bank reserve ratio (CRR), liquidity ratio (LR), and monetary policy rate (MPR). Analysis was carried out using Augmented Dicker-Fuller (ADF) unit roots, Johansson co-integration, vector error correction model and the impulse response function (IRF). Finding from the ECM showed that monetary policy in Nigeria is a reliable short term mechanism for controlling the banks in Nigeria vis-à-vis financial intermediation functions.

Similar to the study of Okotori, 2016, Yusuf (2016) assessed the impact of monetary policy in Nigeria on inflation, exchange rate and economic growth. The Johanssen co-integration results indicated that a negative relationship between monetary policy and inflation in Nigeria. While Okwori and Abu (2016) who assessed monetary policy and inflation targeting in Nigeria, using VECM, concluded that monetary policy is significant in curbing inflation threshold in Nigeria; however, the study found the effect of monetary policy variables to be weak in controlling inflation in Nigeria.

Ajayi and Atanda (2012) evaluated the impact of monetary policy instruments on Nigerian banks' performance by deployed Engle-granger two-step co-integration approach. Time series data on bank rate, inflation rate, exchange rate, liquidity ratio and cash reserves ratio were obtained from the CBN statistical bulletin and National Bureau of statistics. Findings indicated that bank rate, inflation rate and exchange rate are credit enhancing variables, while liquidity ratio and cash reserves ratio exert negative impact on banks total credit.

Olweny and Chiluwe (2012) examined the relationship between monetary policy and private sector investment. Time series data on lending rates, cash reserve ratio and private sector investment was obtained from the CBN statistical bulletin. Analysis of data was done using VECM and findings revealed that government domestic debt and treasury bill rate have negative relationship with private sector investment.

Udeh (2015) examined the impact of monetary policy instruments on profitability of Zenith Bank Plc. in Nigeria. Data on cash reserve ratio, lending rate, interest rate and profit before tax was obtained from the CBN statistical bulletin and annual financial statements of Zenith Bank Plc. The study deployed Pearson product moment correlation technique to analyze the data and the study revealed that cash reserve ratio, liquidity ratio and interest rate did not have significant impact on the profit before tax of Zenith Bank Plc.

Methodology

This study applied the quantitative analysis based on the *ex-post facto* research design to study the effect of government policies on the lending ability of deposit money banks in Nigeria. Also, the ex-post facto research design was adopted because the study involved the use of data on variables which the researcher cannot change or manipulate.

The data for this study include broad money supply, lending rate, and bank credit to private sectors, which were sourced from the CBN statistical bulletins, and National Bureau of Statistics from 1999-2019. The study adapted the model by Abubakar (2016), which studied the long-run relationship between government policy and lending ability of banks. The model is as specified below:

$$TBCR = f(MPR, LR) \quad -----------3.1$$

Where: TBCR = Total Bank Credit; MPR = Monetary Policy rate; LR = Lending Rate

However, the researchers modified this model using bank credit to private sectors alone as the dependent variable and including broad money supply, monetary policy rates and government borrowings as the explanatory variables. Also, natural logarithm was introduced to bring the variables of the model to a single unit of measurement, since the values of other variables were expressed in different units. The modified models are as shown below:

Model 1:

$$BCR = f(M2,) \quad -----------3.2$$

$$logBCR = \beta_0 + log\,\beta_1 M2 + \varepsilon \quad ------3.3$$

Model 2:

$$BCR = f(MPR) \quad -----------3.4$$

$$logBCR = \beta_0 + log\,\beta_1 MPR + \varepsilon \quad ------3.5$$

Model 3:

$$logBCR = f(TDD) \quad -----------3.6$$

$$logBCR = \beta_0 + log\,\beta_1 TDD + \varepsilon \quad ------3.7$$

Where: *BCR* =Bank credit to private sector; TDD= Total Domestic Debt (proxy for Government Borrowings); M2= Broad money supply; β_0 = constant parameter; β_1- β_5 = Slope of the regression line; ε = error term.

Data obtained in the study were analysed using the Ordinary Least Square (OLS) method. The OLS was chosen because alternative econometric techniques such as Two Stage Least Squares (2SLS) give limited information. The statistical analysis was carried out via computer software application E-Views 8.0.

The criteria for interpretation of result were all based on three statistical criteria, adjusted R-squared, F-statistic and Durbin Watson (DW) test of autocorrelation. *Coefficient of determination (R^2)* measures the proportion of the total variation in the dependent variable that is jointly explained by the linear influence of the explanatory

variable. The value of R^2 lies between zero and one, i.e., $0<R^2<1$ with values close to 1 indicating a good degree of fit.

The F-statistics was used to test whether or not there is a significant relationship between the dependent and independent variable in the estimated models. If the probability at which the F- values significant is less than the chosen level of significance, then we accept that there is a significant relationship between the dependent and independent variables in the regression equation.

The DW test for autocorrelation compared the calculated d* value from the regression residuals with the dL and du in the DW tables and with their transforms (4-dL) and (4-du). The result of the serial correlation LM test overrides the DW test of autocorrelation. The serial correlation LM test is superior and preferred to DW in testing autocorrelation in any stated model. The decision rule for testing the formulated hypotheses is that if the calculated significance value is higher than 0.05, accept the null hypothesis and reject the alternate. However, when the significance value is less than 0.05, reject the null hypothesis, and accept the alternate.

Apriori Expectations

This refers to the supposed relationship between and or among the dependent or independent variables of the model on the premises of the neoclassical theory. The parameter estimates of the models were interpreted on the basis of the supposed signs established by neoclassical theory. Put differently, the parameter estimates of the model were checked to find out whether they conform to the postulations of neoclassical theory.

Table 3.1: A Priori Expectation

Symbol	Variable	Expected Signs
MPR	Monetary Policy Rate	-
GOVB	Government Borrowings	-
M2	Money supply	-

Source: Keynesian Fiscal Public Theory

RESULTS AND DISCUSSIONS

Table 4.1: Data on selected variables from 1999 to 2019

Year	MPR (%)	M_2 (Billion)	BCR(Billion)	GOVB(Billion)
1999	14.00	10,354.69	8.169	66.8
2000	15.00	9,457.90	6.174	95.4
2001	11.60	8,237.09	9.881	220.4
2002	8.20	8,931.48	8.084	302.6
2003	12.9	9,239.80	8.909	278.7
2004	14.0	9,600.45	8.462	256.9
2005	15.0	10,349.74	8.435	294.1
2006	11.6	10,652.88	8.120	466.1
2007	8.2	9,238.09	13.797	648.4
2008	6.6	10,864.00	18.633	748.7
2009	15.1	11,094.42	19.626	1,324.80
2010	11.0	10,780.63	13.491	1,926.00
2011	11.0	11,525.53	11.044	2,523.50
2012	12.0	13,303.49	10.605	4,227.10
2013	11.0	15,483.83	11.533	10,180.30
2014	12.0	15,688.96	13.297	6,957.50
2015	11.0	18,913.02	13.079	4,989.40
2016	14.0	19,349.83	14.608	7,913.80
2017	14.0	23,465.83	12.852	6,532.60
2018	12.55	28,391.54	10.247	8,974.40
2019	13.19	29,456.00	11.158	13,226.00

Source: CBN Annual report for various years and World bank Publications

Key: Monetary policy rate (MPR), Broad money supply (M_2), government Borrowings (GOVB) and Bank Credit (BCR).

Table 4.1 showed that domestic credit was very low in 2000 but increased in 2001. Domestic credit remained relatively stable between 2003 to 2006 before it had a sharp increase in 2007. It was at its peak in 2009 after it witnessed sharp decrease in 2010, which could be an effect of the global financial crisis. From 2011 to 2019, domestic credit had a topsy-turvy movement. Money supply showed a decline in 2001 and 2002 and remained relatively constant in 2005 and 2006. However, there was huge increase in money supply in 2012 and 2013 till 2019. Monetary policy rate was increasing and decreasing randomly in no particular order. It witnessed an all time high of 15% and all time low of 11%.

Table 4.2: ADF Test Result

Variables	ADF Test Statistic	Test Critical Value at 1%	Test Critical Value at 5%	Order of Integration/Connotation
BCR	-6.404592 (0.00)*	-2.653401	-1.953858	1(1)/Stationary
M2	-4.590698 (0.00)*	-2.653401	-1.953858	1(1)/Stationary
MPR	-8.977234 (0.00)*	-2.653401	-1.953858	1(1)/Stationary
GOVB	-2.235668 (0.02)**	-2.679735	-1.958088	1(1)/Stationary

Source: Computer analysis using E-views8.0

Augmented Dickey-Fuller (ADF) test was used to check for stationarity of data to ensure that the variables are from stationarity defect linked with most time series data. The ADF Table 4.3a show that all the variables are stationary at first difference as such, inferences made from analysis will not be spurious.

H_0: Money supply has no significant effect on the lending ability of deposit money banks in Nigeria.

Table 4.3a: Ordinary Least Square Regression Result for Model 1
Dependent Variable: BCR
Method: Least Squares
Date: 12/06/21 Time: 04:13
Sample: 1999 2019
Included Observation: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.01105	1091.252	-1.384659	0.1789
M_2	0.517156	11.39116	-0.892934	0.3808
R-squared	0.997440	Mean dependent variable		34043.52
Adjusted R-squared	0.447013	S.D. dependent variable		17236.97
S.E. of regression	942.0178	Akaike info criterion		16.68951
Sum squared residual	21297542	Schwarz criterion		16.92525
Log likelihood	-236.9979	Hannan-Quinn criteria		16.76334
F-statistic	2337.698	Durbin-Watson stat		2.567555
Prob (F-statistic)	0.000000			

Source: Computer output data using E-views8.0

Table 4.3a shows broad money supply has positive and significant relationship with bank credit as shown by the coefficient of 0.517156. This signifies that a percentage increase in money supply will also increase bank lending ability by 52%, while if money supply remains constant, bank lending ability will grow by 11%. The R-squared coefficient of 0.447440 showed that the regression line is well fitted. That is to say that about 44% variation in the real bank credit is caused by money supply alone and no other variable.

The Durbin Watson statistic of 2.56 above 2.0, therefore, it unveils that the variables in the model are not serially correlated. The F-statistics value of 0.00000 is less than the significance value of 0.05, therefore we reject the null hypothesis and accept the alternate that Money supply has a significant effect on the lending ability of the banks in Nigeria.

H_0: Monetary policy rate has no significant effect on the lending ability of deposit money banks in Nigeria.

Table 4.3b: Ordinary Least Square Regression Result for Model 2

Dependent Variable: RGDP
Method: Least Squares
Date: 12/06/21 Time: 04:26
Sample: 1999 2019
Included Observation: 20

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0.602444	5.453550	2.027302	0.0004
MPR	-0.476800	0.168933	0.198643	0.0011
R-squared	0. 628855	Mean dependent variable		4.400000
Adjusted R-squared	0. 608723	S.D. dependent variable		7.595234
S.E. of regression	7.089562	Akaike info criterion		6.878690
Sum squared residual	1306.809	Schwarz criterion		7.065516
Log likelihood	-99.18035	Hannan-Quinn criteria.		11.53058
F-statistic	7.428155	Durbin-Watson stat		2.042124
Prob(F-statistic)	0.005032			

Source: Computer output data using E-views8.0

Monetary policy rate coefficient of -0.476800 suggests that a percentage increase in Monetary policy rate resulted in 47% decrease in bank credit, a proxy for bank lending ability within the period covered by the study and this is statistically Significant. The multiple coefficient of determination (R^2) is approximately 0.61, that is, the explanatory variables explained about 61% of the total variation in the dependent variable. We can say that the model is fitted. Also, Durbin Watson Coefficient showed no autocorrelation Problem.

The P-value of 0.005032 is less than the significance value of 0.05; hence we reject the null hypothesis and conclude that monetary policy rate has no significant effect on the lending ability of the banks in Nigeria.

H_0: Government borrowings have no significant effect on the lending ability of deposit money banks in Nigeria.

Table 4.3c: Ordinary Least Square Regression Result for Model 3
Dependent Variable: BCR
Method: Least Squares
Date: 12/06/21 Time: 04:30
Sample: 1999 2019
Included Observation: 20

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0.671063	4.979631	2.562036	0.0041
GOVB	-0.491213	0.090560	-2.580891	0.0310
R-squared	0.554216	Mean dependent variable		4.400000
Adjusted R-squared	0.523347	S.D. dependent variable		7.595234
S.E. of regression	7.051416	Akaike info criterion		6. 867900
Sum squared residual	1292.784	Schwarz criterion		7. 054726
Log likelihood	-99.01849	Hannan-Quinn criteria		9.463370
F-statistic	8. 548519	Durbin-Watson stat		2.079460
Prob(F-statistic)	0.000232			

Source: Computer output data using E-views8.0

The government borrowing coefficient of -0.491213suggests that a percentage increase in government borrowing will result to 49 percent decrease in bank credit, a proxy for bank lending ability within the period covered by the study and this is statistically significant. The multiple coefficient of determination (R^2) is approximately 0.52, that is, the explanatory variables explained about 52% of the total variation in the dependent variable. We can say that the model is well fitted. Also, the Durbin Watson Coefficient is above 2.0, showing no autocorrelation problem.

The P-value of 0.000232is less than the significance value of 0.05; hence we reject the null hypothesis and conclude that government borrowings have a significant effect on the lending ability of the banks in Nigeria.

The test result from table 4.2a showed that money supply has a significant and positive relationship with bank lending ability. This signifies that when there is increase in money supply, people will increase their level of savings and this will aid the deposit money banks to have adequate loanable funds after maintaining the statutory reserve. The results also showed a positive and significant relationship

between banks' lending ability. This finding is somehow perplexing as one would have thought that an increase in lending rate would negatively affect the lending of deposit money banks as people would not be interested in borrowing.

The finding also disagrees with the a-priori expectations of the study. Finally, the last test result showed that increasing government borrowings will shrink aggregate savings in the economy. Reduced aggregate savings will leave the deposit money banks with limited cash to create credit. This is shown by the negative relationship between government borrowing and bank lending ability proxied by bank credit.

Conclusion and Recommendations

This study was set out to examine the effects of government policies on the lending ability of the deposit money banks in Nigeria. From the result of the analysis, the study found that money supply and monetary policy rates have significant and positive effects on the lending ability of deposit money banks in Nigeria. On the other hand, government borrowings have a significant and negative effect on the lending ability of deposit money banks in Nigeria.

Impliedly, fiscal policy requires more significant improvement in efficient and effective management than monetary policy in order to improve the bank lending ability in Nigeria. The study reveals that, bank lending ability can only be improved when the combination of monetary and fiscal policies are effectively and efficiently managed. Following the findings of this study, the following recommendations were proffered:

- Monetary authority should manage the monetary policy rate properly for it to be attractive and affordable for investors to borrow money from the bank.
- The government should employ other measures such as budgetary control to support the monetary policy to control the credit creation of deposit money banks.
- The government should put in place stringent rules and measures for M2 to increase lending through open market operations (OMO) by purchasing of government securities such as treasury bill, treasury bonds etc. so there will be money available for lending and this will reduce the lending interest rate so that it will be easier for customers to assess loans from the bank for investment purposes.

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OWNERSHIP STRUCTURE AND CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE OF LISTED BANKS IN NIGERIA

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Abstract
This study examined the relationship between ownership structure and corporate social responsibility disclosure of Nigerian banks listed on the floor of the Nigeria Exchange Group. The study focused on three ownership structure attributes (managerial, institutional, and concentration of ownerships) and United Nations Global Compact Standard indicator for corporate social responsibility. Data for the study was collected from the annual reports and accounts of banks listed on the floor of the Nigerian Exchange Group from 2009 to 2018 (a 10year period). Data obtained was analysed using descriptive (mean, median, maximum and minimum values, standard, skewness, kurtosis, and Karl Pearson correlation) and inferential (fixed and random effects regression) statistical tools. Findings revealed that ownership concentration had positive and significant effect on corporate social responsibility disclosure; however, managerial and institutional ownerships had negative relationship with corporate social responsibility disclosure. The study therefore recommends among others that management and institutional shareholders should not be allowed to own large amount of equity shares in order to increase corporate social responsibility disclosure in Nigeria banks.
Keywords: Corporate social responsibility; Nigerian banks; Ownership concentration; Managerial ownership; Institutional ownership

Introduction

Over the years, corporate social responsibility (CSR) had gained series of attention from scholars and researchers around the world and Nigeria in particular, due to the remarkable economic and social changes. These changes can be attributed to the complex and demanding nature of the business environment. According to Salisu, Saidu and Lawan (2018), the negative effect of corporate organisation on the environment and society via issues like improper waste disposal mechanisms, resources depletion, pollution and the likes, have prompted the need for corporate organisation to accept their corporate actions on the society and the environment. The acceptance of such actions by organisations has prompted the need for corporations to carry out CSR. Qa'dan and Suwaidan (2019) added that organisations should not only be judged based on their financial or economic performance but also on their social responsibility activities.

Profit-seeking organisations should ensure that they expend their goals and objectives beyond just maximizing shareholders' wealth but rather balancing their financial and

non-financial goals, to be able to act in the interests of their natural environment, customers, employees and the host society. Alkababji (2014) defined CSR as that commitment made by business organisations that is voluntary and contributes greatly to environment and social development. Therefore, CSR can be attributed to corporate operations that enhance contributions to the society and environment at large. Petkoski and Twose (2003) see CSR as "the commitment of business to contribute to sustainable economic development, working with employees, their families, local community and society at large to improve quality of life, in ways that are both good for business and good for development". John, De-Masi and Paci (2016) posited that banks due to their direct and indirect impacts on the wider society are subject to great public interest. These interests have led to more pronounced expectations concerning their transparency and visibility in comparison to other business. Laugel and Laszlo (2009) argued that the attention on banks corporate social responsibility disclosure (CSRD) has increased after banks' failure during the 2008 financial crisis.

In Nigeria the need for CRSD have increased due to the complexity and demanding nature of business environment as a result of factors such as better information, communication technology and increased competition among business. Different studies have been carried out on CRSD in Nigeria to determine its nature, extent and the influence diverse corporate attributes have on CSRD (Uwuigbe & Egbide, 2012). For instance, several studies (Uwuigbe & Egbide, 2012; Adeyemi & Ayanlola, 2015 Umoren, Isiavwe-Ogbari & Atolagbe, 2016; Mohammed, 2018; Ode-Ichakpa, Cleeve, Amadi & Osemeke, 2020) have examined the impact of CSRD on financial and non-financial performance in Nigeria, leading to conflicting findings. However, most of the studies did not pay attention on banking industry.

The exclusion of banking industry from CSRD studies in Nigeria may be attributed to the supposed indirect impact banks have on environmental issues including waste, pollution, energy consumption. The main reason most studies exclude banking industry from their sample is based on the fact that the industry has strict regulation about reporting. The banking industry has an important role to play in environment and social issues because they are the creditors to organisations which may create waste or pollute the environment as such they are needed in CRSD. In addition, banks play vital role in the social and economic development of any given nation.

To the researchers' knowledge, there is scanty empirical study that had focused entirely on investigating ownership structure and CRSD in banking sector in Nigeria, hence this study examined ownership structure and CRSD of listed banks in Nigeria. In the light of the above, the following specific objectives were developed, which are to:

i. examine the impact of managerial ownership on CSRD of banks in Nigeria;
ii. determine the effect of institutional ownership on CSRD of banks in Nigeria; and

iii. investigate the impact of ownership concentration on CSRD of banks in Nigeria.

Literature Review and Theoretical Framework

Corporate Social Responsibility Disclosure (CSRD)

Corporate social responsibility (CSR) can be traced back to 1950s when Howard Bowen published his book, "social responsibility of the business" (Siregar & Bachtiar; and Musdiana & Nabsiah, 2012). According to Bowen (1953), social responsibility of the business is "the obligation of businessman to pursue those policies, to make those definition as, or to follow those lines of action which are desirable in terms of the objectives and values of the society". Several definitions have followed soon after especially those given by Carroll (1979) and Gray, Owen and Adams (1996). CSR according to Carroll (1979) is the "economic, legal, ethical and discretionary expectations that society has on organisations at a given point in time"

Similarly, Gray et al. (1996) defined CSR as "the process of communicating the social and environmental effects of organisations' economic actions to particular interest groups within the society and society at large". Alkababji (2014) sees CSR as the voluntary commitment made by business organisations that contributes to social environmental development. CRS should be able to promote and protect the fundamental rights and dignity of mankind and also ensure protection of nature and the environment while maintaining accountability to the entire society and ensuring transparency in corporate actions. The above definitions point out that every society have some expectations in respect to the activities of entities and CSR create this communication between these parties.

Corporate social responsibility disclosures (CSRD) according to Gray et al. (1996) includes the information that has to do with an organisations's activities, aspirations and public image about the environmental, community, employees, and consumers. Also Ahmed et al. (2016) defined CSRD as the medium in which corporate organisations provide stakeholders with useful information on the happenings of their corporate actions on the society. In the accountancy literature, several measures of CSRD have been employed; however, in this study, the United Nations Global Compact Standard (NGCS) for CSRD indicator was used. In the NGCS indicator for CSRD, a company is scored one (1) if an item in the standard is disclosed and zero (0) if the item in the standard is not disclosed. The total score for each company is then divided by the maximum score of ten (10) which is the total number of items in the standard.

Ownership Structure

Ownership structure according to Jaya, Bambang and Endang (2017), is the mechanism used by corporate governance (that includes corporate policies, control system and guidelines) required for the proper management of corporations and for reducing inefficiencies in companies. Ownership structure can be seen as how equity

shares of organisations are owned, held and distributed among various equity shareholders in the organisation. Uwuigbe, et al. (2017) sees ownership structure as the total number of equity shares owned by shareholders. In this study, three ownership structure was used - managerial, institutional and concentration of ownerships.

Managerial Ownership and CSRD

Managerial ownership of shares can be seen as a means of reducing conflicts of interest between managers' and shareholders. Ba(2017) opined that mangers might be given equity shares in order to increase their stake in the company which help in reducing conflict of interest between the managers and the stakeholders. The relationship that exists between managerial ownership and CSRD can be found in the work of Chang and Zhang (2015). The study argued that mangers are likely to behave in conflicting ways when allowed to have significant numbers of shares in an organisation. On one hand, Chang and Zhang (2015) contended that when management owned significant numbers of shares in an organisation, they are likely to make decisions on corporate matters that will maximize shareholders value.

On the other hand, managers when allowed to own significant number of shares may take short-term decisions which will increase the firms' profit and also increase managements' power in making decision in their own interest. Ba (2017) asserted that when managers own a larger number of equity shares, it might likely lead to situation making the managers gain more control thereafter becoming more difficult to monitor and control their activities. Sadiq and Mohammed (2017) investigated the impact of corporate ownership structure on voluntary disclosure of financial service corporations list on the Nigerian Stock Exchange (NSE), for a period of 2006 to 2015. The Karl Pearson correlation result revealed that managerial ownership has negative relationship with CSRD.

Institutional Ownership and CSRD

Institutional ownership relates to investment in shares of corporations by institutional investors like banks and pension fund (Chang & Zhang, 2015). Mahamed and Faouzi (2014) contended that institutional investors are very influential in corporations since they can either significantly change a firm's management or organize the interest of various shareholders' groups. Usually, institutional investors have large amount of fund from various individuals who bring their money together into a pool. These large amounts of funds which are invested give institutional investors significant power and influence in companies. This power and influence is exercised through their voting power and asymmetric information advantages over other shareholders (Chang & Zhang, 2015).

The voting power is used to ensure that individuals who will work in their favour are elected as directors and asymmetric information advantages are gained through their ability to influence the disclosure of the information they need through these elected

directors. Studies like Chang and Zhang (2015), Mohamed and Faouzi (2014), found that institutional ownership is positively related to CSRD. Yusuf, Fodio and Nwala (2018) and Ghabayen et al. (2016) however, found institutional ownership has a negative association with CSRD. Thus, conflicting relationship exists between institutional ownership and CSRD in Nigeria, the world over.

Ownership Concentration and CSRD

Ownership concentration according to Ba (2017) can be described as the number of equity shares owned by the largest shareholders or simply put block equity holders. Fathi, (2013) posited that in this scenario, corporate information that is disclosed might likely reflect the interest of the larger shareholders rather than the interest of all the shareholders and also the presence of larger shareholders might limit CSRD. But in a situation where ownership concentration is low and ownership are more dispersed are more likely concerned with an organisations CSRD.

Sufian and Zahan (2013) examined ownership structure and CSRD in Bangladesh using 70 non-financial companies listed in the Dhaka Stock Exchange in Bangladesh. The study revealed that ownership structure had a positive relationship with CSRD. Similarly, Chang and Zhnag (2015) found a positive relationship between ownership concentration and CSRD. Their study used OLS estimation technique with a limited sample size of 139 where there are heavily polluted companies in China.

Theoretical Framework

The theoretical framework of this study is underpinned in the agency theory proposed by Jensen and Meckling in 1976. Alsaadi (2021:3) stated that a number of theoretical frameworks attempt to explain how and why ownership structure can have an influence on reporting corporate strategic decisions and actions, such as CRD. According to Jesen and Meckling (1976) agency theory, the separation that exists between investor and manager create self-interest or opportunistic behavior or assumptions.

The separation of ownership from control in organisations has resulted to many conflicts of interests between the managers (agents) and owners (principal). This study is anchored on the agency theory for investigating the relationship that exists between ownership structure and CRSD. Agency theory was selected for this study based on the fact that it best shows the relationship that exists between owners of wealth (principal) and managers (agents) in a firm and the interplay of power between them.

Methodology

The research design adopted in this study was the longitudinal design. This design was adopted since it enables the study of the effect of selected ownership structure (managerial, institutional and concentration of ownerships) attributes on the CSRD of 13 banks listed on the floor of the Nigerian Exchange Group (NEG) over a period of ten (10) years (2009-2018). The sample size of the study comprised of the total banks listed on the NEG because of its small nature. The study used secondary sources of

data for its analysis. The data was obtained from the corporate website and annual reports and accounts of the various sampled banks listed on the floor of the NEG as at 31st December 2018.

Corporate Social Responsibility Disclosure (CSRD) (the dependent variable) was obtained from the sustainability disclosure of the directors' report of various sampled firms; data for the independent variable (institutional and concentration of ownership) was sourced from the shareholding profile of the banks in their annual financial report, while data for managerial ownership was soured from the directors' shareholding profile in the director' report. The model for this study was adapted from the work of Yusuf, et al.(2018); which is expressed as:

$$VID_{it} = \alpha_0 + \beta_1 INO_{it} + \beta_2 MNO_{it} + \beta_3 BLO_{it} + \beta_4 AGE_{it} + \beta_5 SIZEi_t + \varepsilon_{it}$$

Where: VID= Voluntary information disclosure; INO= Institutional ownership; MNO= Managerial ownership; BLO= Block ownership; AGE= Number of years passed after listing on the Nigerian Exchange Group; SIZE= Size of deposit money bank; α0= constant or intercept; $\beta_1 - \beta_5$= regression coefficients; ε= error term; i= Cross section (1…44); t= Time frame (1…10). The model for this study therefore is started thus in functional form as:

$$CSRD = (MANOWN, INSTOWN, OWNCON)$$

$$CSRD_{it} = \beta_0 + \beta_1 MANOWN_{it} + \beta_2 INSTOWN_{it} + \beta_3 OWNCON_{it} + U_{it}$$

Where: CSRD= Corporate social responsibility disclosures; MANNOW= Managerial ownership;

INSTOWN= Institutional ownership; OWNCON= Ownership concentration; B_0, $\beta_1 \ldots \beta_3$= Constant term and regression coefficients; Uit= Error term; i= Cross section; t= Time frame. Data obtained was analyzed via descriptive (mean, median, maximum and minimum values, standard, skewness, kurtosis, and Karl Pearson correlation) and inferential (fixed and random effects regression) statistical tools.

Table 1: Operationalisation of Variables

Variables	Code	Measurements
Corporate Social Responsibility Disclosures	CSRD	United Nations Global Compact standard for CSRD. A company is scored one (1) if an item in the standard is disclosed and zero (0) if the item in the standard is not disclosed. The total score for each company is then divided by the maximum score of ten (10) which is the total number of items in the standard
Managerial Ownership	MANNOW	Percentage of equity shares held by directors of the company to the total number of equity shares issued (Yusuf *et al*., 2018). The apriori expectation is $\beta_1 > 0$.
Institutional Ownership	INSTOWN	Percentage of equity shares of the company held by institutional investors to the total number of equity shares issued (Yusuf *et al*., 2018). The apriori expectation is $\beta_2 > 0$.
Ownership Concentration	OWNCON	Percentage of equity shares owned by shareholders who own atleast 5% of total equity shares (Ba, 2017). The apriori expectation is $\beta_4 > 0$.

Source: Researcher's Compilation (2021)

Results and Discussion

Table 2: Descriptive Statistics

	CSRD	MANOWN	INSTOWN	OWNCON
Mean	0.611538	0.025125	0.604573	0.412652
Median	0.600000	0.007200	0.621800	0.374500
Maximum	1.000000	0.460900	0.941000	0.893200
Minimum	0.200000	0.000000	0.022700	0.000000
Std. Dev.	0.266657	0.068048	0.230456	0.232935
Skewness	0.089998	4.984628	-0.720271	0.130200
Kurtosis	1.952434	29.59187	3.290042	2.393926
Jarque-Bera	6.119713	4368.615	11.69615	2.356977
Probability	0.046894	0.000000	0.002885	0.307744
Sum	79.50000	3.266300	78.59450	53.64480
Sum Sq. Dev.	9.172692	0.597339	6.851160	6.999348
Observations	130	130	130	130

Source: Researchers' Compilation (2021)

In Table 2, CSRD has a mean of approximately 61.2% and standard deviation of 0.267. The relatively large value of the standard deviation suggests some variability in the disclosures of samples companies while the mean presuppose that the disclosure by sampled companies is above average. The mean (0.025) and standard deviation

(0.068) of MANOWN suggest that ownership by the managerial class is very low (2%), thus, the likelihood for aligned interest of the managerial class and the shareholders is slim. In addition, the very small standard deviation suggests little disparity in managerial ownership across the respective companies.

The statistics for institutional ownership (M= 0.605, SD= 0.230) reveals that the ownership structure of sampled companies is tilted toward corporate owners. However, the relatively large standard deviation suggests that the disparity in institutional ownership across the respective companies may not be small. Lastly, the mean and standard deviation of OWNCON suggest a below average concentration of ownership (41.3%). Furthermore, the large standard deviation suggests wide disparity in the ownership concentration across the respective companies.

Table 3: Correlation Matrix

	CSRD	MANOWN	INSTOWN	OWNCON
CSRD	1.000			
MANOWN	-0.042	1.000		
INSTOWN	-0.197	0.023	1.000	
OWNCON	0.196	-0.058	0.457	1.000

Source: Researchers' Compilation (2021)

The correlation matrix is an analysis tool used to examine the strength of the association between variables. The correlation coefficient between CSRD and MANOWN is -0.042 suggesting a very weak inverse association between these two. The correlation coefficient between CSRD and INSTOWN is -0.197 and significant. This reveals that a weak indirect association exists between the variables. The opposite goes for CSRD and OWNCON with a significant correlation coefficient of 0.196. The associations mentioned above are not causal as the correlation matrix is a univariate analysis tool. Thus, to determine the true relationship among the variables, it is expedient to carry out a multivariate analysis. This is present subsequently.

Table 4: Fixed and Random Effects

	Pooled		Random		Fixed	
Variable	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
MANOWN	-0.051	-0.158	-0.051	-0.163	-0.301	-0.924
INSTOWN	-0.417*	-3.882	-0.417*	-3.996	-0.433*	-4.121
OWNCON	0.412*	3.869	0.412*	3.982	0.382*	3.634
C	0.695*	10.886	0.695*	11.204	0.723*	11.569
Adjusted R2	0.122		0.122		0.171	
F-statistic	6.951*		6.951*		3.215*	
LM Test (p-value)	0.000					
Hausman Test (p-value)			0.003			
Obs	130		130		130	

Source: Researchers' Compilation (2021) *p ≤ .01, **p ≤ .05, ***p ≤ .10

Table 4 shows the results from three regression techniques. First, the data was pooled and the model estimated using the OLS. The results show that the relationship between MANOWN and CSRD is negative and statistically insignificant at 5% significance level. INSTOWN and OWNCON were found to have statistically significant relationships with CSRD. However, the relationship was negative between INSTOWN and CSRD but positive between OWNCON and CSRD. The result from the Lagrange Multiplier test for effects suggests that either the fixed or the random effect is more appropriate since the p-value was significant at 5%.

The panel least squares was then used to estimate the model. The results of the random effect as shown in Table 2 are not statistically different from the results from the OLS technique. The Hausman test was run to determine which effect is more appropriate. The result therefore favoured the fixed effects model as observed from the significant value of 0.003.From the results of fixed effect it is observed that INSTOWN and MANOWN both have a negative relationship with CSRD while OWNCON has a positive relationship. However, in terms of significance, INSTOWN and OWNCON are significantly related to CSRD while MANOWN is not significantly related to CSRD at the 5% significance level. This led to the rejection of the null hypotheses that institutional ownership and ownership concentration are not significantly related to corporate social responsibility disclosures; but acceptance of the null hypothesis that managerial ownership is not significantly related to CSRD.

This study empirically investigated the relationship between ownership structure (managerial, institutional and concentration of ownerships) and CSRD. The descriptive statistics revealed that CSR information disclosure by banks listed in above average with a disclosure rate of 61.2% of sampled banks. This is a clear indication

that the listed banks have the tendency in achieving the 2030 UN SDGs. From the fixed and random effect regression result, it was found that managerial ownership had a negative and insignificant impact on CSRD when tested at 5% level of significance. This study is consistent with the study of Sadiq and Mohammed (2017) who found a negative relationship. The insignificant negative impact of managerial ownership and CSRD implies that, the more equity shares owned by managers the less CSRD. This may be as a result of the fact that corporate managers in banks listed in NSE may take advantage of their position and promote their personal interest such as higher remuneration and executive bonus, above those of the shareholders, thus neglecting long term shareholders' values of CSR and CSRD.

From institutional ownership, the result revealed that institutional ownership had negative and significant relationship effect on CSRD with tested at 5% significance level. This finding is in line with the study of Yusuf et al. (2018) and Ghabayen et al. (2016). This result therefore suggests that the higher the shares held by institutions such as pension funds, the lower CSRD. Ownership concentration was found to have positive and significant impact on CSRD when tested at 5% significance level. The result is in agreement with the study of Sufian and Zahan (2013) and Chang and Zhnag (2015) who found a positive relationship and in disagreement with the study of Mohamed and Faouzi (2014), who found negative relationship. This result therefore suggests that when shares of banks are concentrated that tend to increase CSRD.

Conclusion And Recommendations

This study examined the relationship that exits between ownership structure and CSRD of banks listed on the floor of the Nigerian Exchange Group, and focused on three ownership structure attributes namely managerial, institutional, and concentration of ownerships. Data for the study were analysed using descriptive and inferential statistics and the result revealed that among the variables examined only ownership structure had positive and significant effect on CSRD, the remaining two variables (managerial and institutional ownerships) had negative relationship with CSRD.

On the basis of the findings of the study, it was recommended that management should not be allowed to own large amount of equity shares in order to increase CSRD in Nigeria banks. Again, institutional shareholders should not be allowed to own large number of equity in other to increase CSRD in Nigeria banks. Furthermore, ownership concentration should be encouraged in banks listed in Nigerian Exchange Group because such concentration will lead to increase in CSRD. Finally, voluntary disclosure of CSR should be enhanced in Nigeria through enactment of compulsory regulations on CSRD as this will aid increase in disclosure.

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RESEARCH AND DEVELOPMENT EXPENDITURES AND FIRM VALUE OF SELECTED INDUSTRIAL GOODS COMPANIES IN NIGERIA

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Abstract
This study examined the effect of research and development expenditures on firm value of industrial goods companies listed on the floor of the Nigerian Stock Exchange over a ten-year period that spanned from 2010 to 2019. The study specifically determined the effect of research and development expenditures on Tobin's Q, earnings per share, market price per share of selected quoted industrial goods in Nigeria. Ex-post facto research design was adopted and the study population consists of all twelve industrial goods companies listed on the floor of the Nigerian Stock Exchange as at 31st December, 2020, however seven companies were purposively selected on the basis of availability of data. Data was sourced from the annual reports and accounts of the selected companies and the descriptive (mean, maximum, minimum values and standard deviation) and inferential (multiple regression) statistical techniques were employed in analyzing the data. The regression results revealed that research and development expenditures do not significantly affect firm value. Hence, it was concluded that, though research and development expenditures insignificantly contribute to firm value, however effective investments in research and development would help in the improvement of existing products, creation of new products and innovation of the production processes of industrial goods companies thereby improving firm value. Based on the findings, the study therefore recommended among others that innovation be encouraged among firms most especially high technology firms such as industrial goods companies in order to increase their core competitiveness, thus giving it a competitive advantage over other firms.
Keywords: Research and development; Tobin's Q, Earnings per share, Market price per share

Introduction

Technology and innovation seem to be synergistic and a great deal of attention has been given to the importance of assessing the contribution of research and development investment to firm value. Research and development is an essential function for many businesses and launching new offerings or improving existing ones is a way for a business to remain competitive and make profit. Also, new product design and development is more often than not a crucial factor in the survival of a company and in an industry that is changing fast. Thus, firms must continually

revise their design and range of products as this is necessary due to continuous technological change and development as well as other competitors and changing preference of customers. A firm that can innovate and adopt new technologies as well as improve existing processes is more likely to succeed in the long-run.

It is well-documented that research and development (R&D) investments play a crucial role in enhancing firm value. R&D is required by almost each and every firm in one way or the other. During the last few decades, emphasis has been on the importance of R&D in the industrial goods sector as a key instrument in increasing its value. However, in recent times, companies have become motivated to carry out R&D as a result of exposure to competition as well as the fact that most of the world's economies have embarked policies reforms on market-oriented liberalization aimed at promoting economic performance. High-growth firms such as Huawei, Apple, Google, and Samsung Electronics, have continued to increase R&D investments so as to improve the quality and attractiveness of their products. Price Waterhouse Coopers report in 2020 showed that over $80.75 billion was spent on innovation and improvements by Amazon, Apple Inc. and Microsoft Corporation in 2020. Thus, while R&D projects are typically associated with high uncertainty and no immediate payoff, these investments have shown to create future opportunities that are both profitable and capable of providing the firms with distinct competitive advantage.

The major aim of enterprise management is to maximize future returns of stockholders. This indicates that a firm is considered to have fulfilled its aim if it successfully maximizes its market capitalization. The expected future value of a company's stock reflects its firm value and this value mostly depend on R&D activities of the firm. R&D expenditures made by enterprises can be considered as an investment instrument that will increase the value of the firm in the long-term. In financial terms, R&D expenditures will enhance future sales, profits and cash flows of the firm. Similarly, the positive effect of R&D on intangible assets like patents, goodwill, etc. can also grant a competitive advantage to the firm in financial terms. In other words, R&D investment of a firm is expected to add value to the firm by generating some intangible assets which in turn enables it accelerate future cash flows and therefore increasing the market value of firm.

Firm value is seen as the forward-looking measure that expresses the stock market expectation about the firm's future performance. Several reasons have been advanced for emphasis on R&D in improving the market value of the firm. One of such emphasis on R&D according to Ouru, Kibet and Kalio (2017), is that it creates new or improved technology that in turn can be converted into a competitive advantage for the business, corporate, and national level. While the process of technological innovation is complex and risky, the reward can be very high. If technology can be safeguarded as proprietary and protected by patents, trade secrets,

non-disclosure agreements, etc., the technology becomes the exclusive property of the company and the value is much higher (Shaari, Abdullah, Nur & Adnan, 2016).

Generally, in an era of global competition, technological competitiveness is vital for the economic well-being of any company. The decisions made by management regarding expending on R&D can influence the viability, growth, and competitiveness of an organization in the future. This study is motivated by the proposition that the expenditures incurred by the firm in respect to its R&D activities could have effects on the firms' value. It is this relationship that guarantees the firm's ability to compete with other similar firms within the same industry locally and globally. The need to examine the effect of R&D on firm value of quoted industrial good company is therefore paramount and it is against this backdrop that this study was carried out.

Statement of Problem

Due to the increasing competition and the ever-changing preferences of customers, firms are systematically compelled to search for growth opportunities in the market in order to outperform their competitors. This invariably implies that firms should innovate at an extraordinary pace by developing and generating ideas expressly intended to become a commercially viable and profitable business venture. The answer to all the challenges seems to be reliance on innovation, a by-product of R&D investment. Notably, this implies that R&D investments create value for the firm because it provides competitive advantage through differentiation strategies. This is clearly evidenced in the development of science and technology in today's society, consumers' demands which are gradually becoming diversified; shortness of the life cycle of new products; and the increasing risk of loss of customers' loyalty because of failure to innovate products or services.

Regardless of the numerous advantages R&D brings to the firm, over 50% of them still shy away from engaging in R&D activities. Most firms avoid R&D as a result of the high level of cost associated with it as well as the complexity of its accounting treatments. Due to the nature of R&D expenditures, firms as well as managers do have a faceoff as to whether such expenses are to be expensed or capitalized. Furthermore, lack of investing in R&D results in poor technology usage which hampers a firm's sustainability, growth and could even facilitate business failure in the long-run.

Given the newly industrialized and globalized economy and the increasing emphasis on the technology and in-house R&D in a developing country like Nigeria, whether R&D activities of firms significantly affect the firm valuation remains an empirical question yet unanswered. To the researchers' knowledge, most of the studies in this area have concentrated on developed countries such as the United States of America (USA) and Japan and the studies from developing countries are rare. In Nigeria,

there are a few empirical studies that have focused on the impact of R&D investment on the market value of firms; particularly as it concerns quoted industrial goods firms.

Hypotheses

The study seeks to examine the effect of R&D on the firm value of selected quoted industrial goods firm in Nigeria. Consequent upon the objectives of the study, three research hypotheses were formulated:

Ho1: Research and development does not have significant effect on the Tobin's Q of quoted industrial goods firms

Ho2: Research and development does not have significant effect on the earnings per share of quoted industrial goods firms

Ho3: Research and development does not significantly affect the market value per share of quoted industrial goods firms.

Literature Review and Theoretical Framework

Overview of Research and Development (R&D)

Several professional bodies as well as scholars have made attempt to define the concept of R&D; however till date, several definitions have evolved for the concept. Broadly speaking, R&D is seen as a main driver of societal and business innovation. According to the Organization for Economic Cooperation and Development (OECD, 2008); and Abdullah and Afshar (2019), R&D is a creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications. Similarly, the International Accounting Standards (IAS) 38 paragraph 8 issued by the International Accounting Standard Board (IASB) sees research as an 'original and planned investigation undertaken with the prospects of gaining new scientific or technical knowledge and understanding'. The standard also sees development as the application of research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products, processes, systems or services before the start of commercial production or use (IASB, 2012).

Expenses made by a firm in respect to R&D activities are termed R&D costs. R&D expenditure made by a firm can also be considered as an investment instrument that will increase the value of the firm in the long-run. In financial terms, R&D enhances future sales, profits and also the cash flows. Decisions about R&D projects can be made in different ways. For example, a firm in the can conduct its R&D simply by using in house facilities or in collaboration with other firms. Notwithstanding this, R&D can be conducted for the benefit of other firms under contractual agreements or it can simply be purchased from other firms. Moreover, not all costs incurred during R&D activities are considered R&D expenditures (Rufus, 2012).

Table 1: Some Examples of R&D and Non-R&D Costs.

Some R&D Costs	Non-R&D Costs
A pharmaceutical company spending hundreds of millions of dollars trying to discover a breakthrough drug to fight COVID 19 would record the expense under R&D.	Actual cost of small prototypes or models made outside the statistical unit and materials for laboratories e.g. chemicals etc.
Technology company directing time and talent into developing a new piece of software, this cost can be identified as R&D costs.	Cost of royalties or licenses for the use of patents and intellectual property right, the cost of leasing capital goods (machinery and equipment).
Cost of laboratory research aimed at discovering new knowledge.	Cost for computer software that is used in the performance of R&D for one year or less.
Cost incurred in designing, constructing and operating pilot plant that is not a scale economically feasible to the entity for commercial production.	Cost of trouble shooting in connection with breakdown during commercial production.

Source: Research and Development Survey Compiled by the Authors (2021).

Effect of Research and Development on Firm Value

Research and Development (R&D) plays significant roles in assisting firms maintain or improve on its already existing products as well as in the creation of new products. R&D is a critical element used in determining the firm value and competitive advantage of any business. When a firm effectively accomplish its project of R&D earlier than other competitive firms, it would more likely to get the whole market share with respect to that innovative product thus having the market value which is way higher than that of its competitors. It is more clearly that the performance of a firm will outweigh the costs of R&D; this in turn could affect the value of a firm negatively or positively. After reaching equilibrium, costs on R&D will be compensated by the benefits received. The authors explained that innovative ideas do not have tremendous effects but eventually they prove to be firm specific assets.

In the same way, R&D activities will result in a better performance of the firm which invariably affects the market value of a firm. Prior studies have linked the relationship of R&D with firm value. More so, due to the strong dependence on R&D indicators in industrial structures, R&D intensity has become a key factor in explaining companies' technical efficiency.

Following the findings of the studies *inter-alia*, companies with greater R&D intensity are likely to have a more stable return ratio and earn higher risk-adjusted excess returns. The accountancy literature also suggests that R&D R intensity is an important determinant of firm profitability. High investment in R&D is generally a high-risk return strategy that is attractive to shareholders in anticipation of improved financial performance, indicating that R&D may increase firms' innovative

capability and hence may enhance the ability of the firm to reap better performance in the market place.

Theoretical Framework

This study is anchored on the resource-based theory (RBT) propounded by Wernerfelt in 1984. The RBT recognizes the importance of intangible resources, making it ideal to study such variables as R&D (Branco & Rodrigues, 2006). Barney (1991) formalized the RBT of strategic management. However, scholar such as Barney (1991), examined resources and capabilities of firms, which enables them to obtain a competitive advantage and above average rates of return. According to the RBT, firms with assets that are valuable and rare possess a competitive advantage and may expect to earn superior returns, and those firms whose assets are also difficult to replicate may have a sustained superior financial performance (Barney 1991; and Roberts & Dowling, 2002).

The RBT do not only focus on the internal competencies of the firm but also examines how it's resources is affected by external factors. R&D investment has been regarded as an important factor for an organization to gain competitive advantages and improve organizational performance as advanced by the RBT. This theory holds the view that the strategic capability of an organization is in the shape of its intangible assets.

A number of experts argued that key to a firm's success is based on establishing a set of core capabilities i.e., a bundle of people, process and systems that distinguishes an organization from its competitors and delivers value to its customers. Though core capabilities tend to be limited in number but they provide long-term basis for technology, innovation, product development and service delivery. In many cases, R&D investment can be referred to as the 'key resources' that underlies a firm's core capabilities particularly in the knowledge/technology-based industries like software and information as well as industrial goods industries; success in these industries depends on investment in R&D. The relevance of RBT to this current study is predicated on the postulation that long-term competitiveness of a firm depends upon the resources that not only differentiate it from its competitors but are also durable and difficult to imitate and substitute.

Empirical Review

Empirical researches have been carried out empirically on the subject of how R&D costs affect the valuation of firms, both locally and globally. For instance, Ploypailin and Pongsutti (2020) examined the moderating effect of firm size in the relationship between innovation and firm performance of small and medium enterprises in 29 countries in Eastern European and Central Asia. The partial least square structural equation modeling results indicated that firm size and the financial capital both

moderate and moderate the impact of innovation on firm performance, positively or negatively.

Similarly, Erdogan and Adilya (2019) determined the effect of R&D expenditures on financial performance of 62 production companies listed in Borsa Istanbul for the period of 2008-2017 by using panel data methods. The study used return on assets (ROA), return on equity (ROE) as a proxy to measure company performance and to measure R&D intensity; R&D expenditures were considered over total sales as explanatory variables. Findings proved the existence of inverted-U shape nonlinear relationship between R&D expenditures and financial performance. However, the effect of R&D expenditures was found to be higher in ROE than ROA. It was also found that while firm size increases overall profitability, leverage reduces its profitability thus indicating that there is a positive interaction between R&D expenditures and financial performance.

Nabaz and Parvin (2019) investigated the effects of market share, R&D and advertising expenditures on Iranian industries profitability's over the period of 2016 using rank regression method. Findings revealed that all variables have positive and significant effects on the profitability of Iranian industries. Moreover, the results indicated that the effect of market share on profitability of industries is more than of other explanatory variables.

Negin and Jafar (2018) evaluated the effects of a firm R&D performance using the best-worst-method. This study examined 50 high tech SMEs in Netherlands and data were sourced from a survey by R&D experts and on SME's. Using a multi-criteria decision-making method(best worst method to identify the weights or importance) of R&D R measures and also the measuring of the firm's R&D performance, the study showed that assigning different weights to different R&D measures (in contrast to simple mean) results in a different ranking of firms and allows R&D managers to formulate more effective strategies and improve their firm R&D performance by applying knowledge regarding the importance of differencing R&D measures.

Methodology

This study adopted the *ex-post facto* research design. The population of the study included all the thirteen (13) industrial goods companies that were listed on the floors of the Nigerian Stock Exchange as at 31st December 2020. Purposive sampling technique was used in arriving at the sample size of the study on the basis of availability of complete financial statements (for the period under review) as at the time this study was carried. In view of this, seven (7) companies were selected (Berger Paints Plc., Beta Glass Plc., CAP Plc., Cutix Plc., Dangote Cement Plc., Greif Nigeria Plc., and Lafarge Africa Plc).

Secondary data were obtained from the audited annual reports and financial statements of the selected industrial goods companies from 2010 to 2019. Data obtained were analyzed using both
descriptive (mean, maximum, minimum values and standard deviation) and inferential (multiple regression) statistical techniques. Specifically, the study was designed to determine the effect of R&D expenditures on Tobin's Q, earnings per share, market price per share of selected quoted industrial goods in Nigeria. In this regards, three (3) research hypotheses were formulated and tested at 0.05% level of significance; given the above, the following empirical models were estimated:

$$FV = f(R\&D, PRO)$$

Where: FV = Firm Value, R&D= Research & Development, PRO = Firm Profitability. The econometric form of the equation when all the proxies are included is given as:

$$Y = \beta_0 + \beta_1 X_{it} + \varepsilon_{it} \quad \text{.....eqn (i)}$$

Where, β_0 = Constant (intercept), β_1 = Coefficient of the independent variables; Y = Dependent Variable, X = Independent Variables, ε = Error term; i = the firm in question, t = the time in question; Equation i can now be transformed to get three models for the three hypotheses that shall be tested:

$$TQ_{it} = \beta_0 + \beta_1 R\&D_{it} + \beta_2 PRO_{it} + \varepsilon_{it} \text{.....eqn (ii)}$$

$$EPS_{it} = \beta_0 + \beta_1 R\&D_{it} + \beta_2 PRO_{it} + \varepsilon_{it} \text{.....eqn (iii)}$$

$$MPS_{it} = \beta_0 + \beta_1 R\&D_{it} + \beta_2 PRO_{it} + \varepsilon_{it} \text{.....eqn (iv)}$$

Where, $R\&D_{it}$ = Research and Development cost of company i in period t; TQ_{it} = Tobin's Q for company i in period t; EPS_{it} = Earnings Per Share for company i in period t; MPS = Market Price Per Share for company i in period t; PRO_{it}= Firm Profitability for company i in period t. Notably PRO is a control variable in the relationship between R&D and firm value. The statistical analysis was carried out with the aid of the Statistical Package for Social Sciences (SPSS 22.).

Results and Discussions

Table 2: Regression Result of Hypothesis I

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.138	2.300		.495	.622
	Research and Development	2.871	2.432	.144	1.180	.242
	Firm Profitability	-1.917E-10	.000	-.005	-.042	.966

a. Dependent Variable: Tobin's Q

Source: SPSS Version 22 Output, 2021.

According to the decision rule of the study, if the *p-value* is greater than 5%, the null hypothesis is accepted and vice versa. The *p*-value of the test for the effect of Research and Development (R&D) is 0.242 > 0.05. Therefore, the researchers accepted the null hypothesis and confirmed indeed that research and development does not have a significant effect on the Tobin's q of selected quoted industrial goods firm in Nigeria at 5% level of significance.

Table 3: Regression Result of Hypothesis II

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.155	1.337		1.613	.112
	Research and Development	-.781	1.413	-.041	-.552	.583
	Firm Profitability	2.899E-8	.000	.808	10.989	.000

a. Dependent Variable: EPS

Source: SPSS Version 22 Output, 2021

According to the decision rule of the study, if the *p-value* is greater than 5%, the null hypothesis is accepted and vice versa. The *p*-value of the test for the effect of Research and Development (R&D) is 0.583 > 0.05. Therefore, the researchers accepted the null hypothesis and confirmed indeed that research and development does not have a significant effect on the earnings per share of selected quoted industrial goods firm in Nigeria at 5% level of significance.

Table 4: Regression Result of Hypothesis III

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.601	10.084		1.547	.127
	Research and Development	3.173	10.664	.013	.298	.767
	Firm Profitability	4.108E-7	.000	.929	20.636	.000

a. Dependent Variable: Market Value Per Share

Source: SPSS Version 22 Output, 2021

According to the decision rule of the study, if the *p-value* is greater than 5%, the null hypothesis is accepted and vice versa. The *p*-value of the test for the effect of R&D is 0.767 > 0.05. Therefore, the researchers accepted the null hypothesis and confirmed indeed that research and development does not significantly affect the market value per share of selected quoted industrial goods firms in Nigeria at 5% level of significance.

The findings of the study agreed with those of Yew *et al* (2019); and Rufus (2012), however, do not agree with the results of Nabaz and Parvin (2019). More so, the findings of the study followed the theoretical postulations of the resource-based theory, which is the theoretical underpinning of the study, which maintains that long-term competitiveness of a firm depends upon the resources that not only differentiate it from its competitors but were also durable and difficult to imitate and substitute.

Conclusion and Recommendations

This study was carried out with the view of assessing the effect of research and development (R&D) on firm value of quoted industrial goods companies on the floor of the Nigerian Stock Exchange. Given the regression results, findings indicated that disclosure of R&D expenditures do not contribute significantly to earnings per share, Tobin's Q and market value per share of the quoted industrial goods firms in Nigeria, notwithstanding the vital role played by R&D in assisting firms gain competitive advantage over its current and potential competitors. Though the findings of the study do not show that R&D expenditures significantly improve firm value, effective investments in R&D is encouraged to help in the maintenance or improvement of existing products, creation of new products and innovation of production processes of companies thereby improving the firm value.

Given the findings of the study, the study recommended that managers of industrial goods firms should maintain R&D expenditures especially in high-technology sectors like industrial goods sector due to the high level of rapid change in

technology. Again, firm managers should create R&D expenditure in the annual budget for effective implementation of quality production of their goods and policy makers should encourage innovation and make deeper research on technical innovation in order to improve the core competitiveness of the firm. More so, most of the studies in this issue have concentrated on developed countries and studies from developing countries are rare. In Nigeria, the local studies that were conducted to uncover the empirical nexus between R&D expenditure and firm value are characterized by divergent views; thus leading to inconsistencies in the findings.

Furthermore, the few of the study failed to utilize R&D expenditures as predictors of Tobin's Q (which is a forward-looking measure of corporate value) of the quoted industrial goods sector in Nigeria. Hence there is a justifiable need that this study is conducted to determine the effect of R&D investment on firm value of quoted industrial goods companies in Nigeria. By carrying out this research, this study has contributed to the body of knowledge by filling the gap in the literature in this area.

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WORKING CAPITAL MANAGEMENT AND FINANCIAL PERFORMANCE: EVIDENCE FROM SELECTED NIGERIAN MANUFACTURING FIRMS

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Abstract
The aim of this study was to determine the relationship between components of working capital and financial performance of selected Nigerian manufacturing firms. The ex-post facto research design was adopted and six companies were purposively selected for the period 2013-2020. Data was collected from the annual reports and accounts of the sampled companies and tested by means of fixed and random effects panel data estimation tool. Findings indicated that average payment period had a significant positive relationship with return on investments, while inventory turnover period had a significant negative relationship with return on investments. Also, average collection period had a significant negative relationship with return on investments. Given the findings, it was concluded that working capital management significantly influence financial performance of manufacturing companies. The study therefore recommends that manufacturing companies should ensure optimal mix of working capital proxies in order to optimize financial performance.
Keywords: Working capital management; Financial performance; Return on investments; Average payment period; Average collection period; Inventory turnover period

Introduction

Working capital is as old as business itself and is considered an everyday affair in the scheme of business. It is an ingredient that a business cannot do without, particularly in an era of economic downturn. Working capital is a financial metric which shows the operating liquidity available to a business and governmental entities. Alongside with fixed assets, such as plant and equipment, working capital is considered a part of operating capital. Adeniji (2008) sees working capital as the capital available for conducting the day-to-day operations of organizations represented by its net current assets.

The working capital is the life blood and nerve center of a business firm. It refers to firms' investment in short-term assets or current assets. Current assets are assets that can be converted into cash within an accounting year. Similarly, Akinsulire (2008)

refers to working capital as the items that are required for the day-to-day production of goods to be sold by a company. Thus, working capital is the life-line of the business and requires deliberateness on the management to manage their working capital if the business must thrive and survive.

The management of working capital involves the management of current assets of the business which involves cash, stocks and the like. Current assets are managed so that the firm does not come to debt with its current liabilities exceeding its current assets. This debt could occur when a firm takes more risk by investing, but it is a known fact as seen in the risk and return theory that the more is the risk the more the return. This means that, the business will make more profits if it takes more risk by investing but will also exercise caution so that it does not come to debts, neither have to go borrowing to carry out its day-to-day activities, thus the need for management of working capital.

Working capital management requires maintaining optimum balance of receivables, inventories and payables, with the resultant effects on the day-to-day operations of the business (Kolapo, Oke & Ajayi, 2015). Eljelly (2004) stated that working capital management involved planning and controlling current assets and current liabilities in a manner that eliminates risk of inability to meet short-term obligations on one hand and avoid excessive investments in these assets on the other hand. This therefore underscores that efficient management of working capital is very important because it impacts on firms' profitability (Saptarshi, 2018).

It has been well established that return on investment is one of the most predominant profitability ratio (Encyclopedia 2019). However, its use in literature, particularly in area of working capital management and financial performance researches has been scarce Nzewi (2007) referred to the return on investments as earning power which provides an index for determining how the management has utilized the assets of the company to generate profits.

Prior studies have shown that a relationship exists between working capital management and financial performance (Lawrence, 2015; Taghizadeh, Ghanavati, Akbari & Ebrati, 2012; Hiram & Willy, 2017; Erin, Okoye, Modebe, Achugamonu & Ado, 2016; Rathiranee & Sankeetha, 2010; and Aloy, 2012). Most studies attempt to view working capital management from a perspective and not in isolation, but as it relates to firm performance or financial performance as the case may b (Ironkwe & Wokoma, 2017; Samuel & Fidelis, 2015;, Ogodor & Mukolu, 2015; Micheal, 2012; and Yusuf, 2014).
Again, most studies on the relationship between working capital management and financial performance provides mixed findings and were carried out in other sectors of the Nigerian economy. This therefore necessitated the researchers to study the consumer goods manufacturing sector, stratifying the companies into groups, to

ensure full representation of each. Furthermore, the use of return on investment to proxy financial performance in this sector was used as this will add to literature, being that it was scarcely used for the previous empirical works reviewed. Consequent upon the above, the following specific objectives were derived:

1. To determine the relationship between average receivable periods and return on investments of selected Nigerian manufacturing firms.
2. To assess the relationship between average payment periods and return on investments of selected Nigerian manufacturing firms.
3. To ascertain the relationship between inventory turnover periods and return on investments of selected Nigerian manufacturing firms.

Literature Review

Working Capital Management

Working capital management has to do with the workings, inter-relations, interactions of the current assets and current liabilities of the firm, in order to make maximum use of the both to achieve the desired goal of the organization, which is geared towards liquidity and profitability. Eljelly (2004) described effective working capital management as the capacity to manage current assets and current liabilities in a way and the firm must be in the position to easily pay of all the uncertain obligations whenever it urgently required. According to Napompech (2012), working capital management refers to the planning and controlling of current assets and current liabilities in a manner that eliminates the risk of inability to meet short-term obligations on one hand and exclude excessive investments in current assets on the other.

Working capital management is an accounting strategy focusing on maintaining efficient levels of current assets and current liabilities in respect to each other. Vineet and Sukhdev (2013) see working capital management from efficiency perspective and that can be measured and achieved through the cash conversion efficiency, days operating cycle and days working capital. Working capital management is very instrumental to the liquidity and profitability of any organization, which suggest the reason for their being the objectives of working capital management and the two variables are vital in checking the performance and ultimately deciding the survival of the organization.

The place of working capital is an everyday life of the business. Little wonder, it cannot be overemphasized in the literature, as several researchers looked at the concept from different perspectives. The management of working capital embraces inventory turnover, cash conversion cycle, average collection periods, average payment periods, inventory conversion periods, account receivables, net trading cycle, account payables.

Importance of Working Capital Management to the Firm

Working capital management plays a vital role in the operations of the firm. Sen and Oruc (2009) argued that working capital management is consequential to a firm and that it is usually explained in the context of the relationship to the firms; profitability. Currently, the novel COVID 19 pandemic which brought lockdowns and disruptions to business activities also brought to play, the importance of working capital management to the firm. Some myths in working capital management were faced with the reality of the COVID 19 experience. The myths about cash and working capital have been explicitly outlined by KPMG as follows:

Table 2.1: The Myths about Cash and Working Capital

Myth	COVID 19 Reality
"Is solely a finance issue"	…the disruptions of your demand, supply chain and workforce, are the biggest impacts and opportunities
"It only takes only some tweaks to our systems"	… must have cash management processes, governance and tools to create transparency to and manage the drivers of the ins and outs of cash
"Harms customer's service"	… if your company can not manage cash obligations, then your customer loses
"It is easy to improve"	… without creating the visibility and analytics for individual transactions surrounding the sources and uses of cash, it will be nearly impossible to manage
"It is not a strategic priority"	… it is now!

Source: *Compiled by the Research from KPMG Website*

Furthermore, working capital management deals with determination of levels of current assets and ensuring that right sources of funds are tapped to finance current assets as well as make sure that current liabilities are paid in due time. Working capital management entails short-term decisions generally relating to the next one-year period which are reversible. These decisions are not taken on the same basis as capital investment decisions; rather, they are based on liquidity and profitability.

Van-Horne (2005) sees working capital management as the administration of current assets in the form of cash, marketable securities, receivables, staff advances, and inventories. Good working capital management must ensure an acceptable relationship between the different components of a firm's working capital so as to make an efficient mix which will guarantee capital adequacy. Therefore, working capital management should make sure that the desirable quantities of each component of the working capital are available for management. More so, if performance criteria like liquidity, solvency/bankruptcy, efficiency, profitability and economic value are considered, it will be clearly apparent that the business must hold and manage the

different levels of working capital which are appropriate to its performance criteria.

Ajao and Nkechinyere (2012) asserted that working capital management seeks to maintain an optimum balance of each working capital component thereby ensuring that firms operate with sufficient fund that will service their long-term debt and satisfy both maturing short-term obligations and upcoming operational expenses. This therefore makes it more glaring that working capital management has a vital role to play in a firm's drive to achieve improved profitability. Working capital management is concerned with the problem that arises in attempting to manage the current assets, the current liabilities and the inter relationship that exist between them.

Working capital management involves both setting working capital policy and carrying out that policy in the day-to-day operations of the firm. Uremadu, Egbide and Enyi (2012) further explained that working capital management revolves around two basic issues: (a) The appropriate amount of current assets firm will hold and (b) How the current assets should be financed. The first issue is that the consideration of the level of investment in current assets should avoid two danger points; excessive and inadequate investment in current assets. Investment in current assets should be just adequate, not more, not less to the needs of the firm.

Notably, excessive investment in current assets impairs profitability while inadequate investment in current assets threatens the liquidity or solvency of the firm because of its inability to meet its current obligations, hence, the risk-return theory. Managers must therefore endeavor to monitor and appropriately manage the in-balances. The second issue on the other hand, covers the question of judicious mix of long-term and short term funds for financing current assets (Egbide & Enyi, 2012).

From the above propositions, it is clear that working capital management is aimed achieving "an optimum balance between the twin objectives of profitability and liquidity by maintaining an appropriate level, volume, mixture, composition and combination of various components of working capital to ensure that firms have sufficient funds to meet their short-term financial requirements" (Egbide & Enyi, 2012).

Return on Investment

Return on investment is reflected in the efficient management of the company's assets and therefore this makes return on investment as the ultimate test of business success. To obtain return on investment, the total investment is divided by the operating income. The higher the ratio the more returns that accrue to the investors. Companies desire to earn a high return on investment than industrial average, however limited by the fact that in a competitive environment no one firm can significantly influence the product price or industry cost structure.

According to Nzewi (2007), return on investment is an excellent measure of the ability of a firm in successfully husbanding all the resources available to it in generating income for the benefit of all classes of investment in the firm. To proxy performance, the use of return on assets, return on equity, gross profit, net profit have been used by several studies (Soyemi & Olawale, 2014; Owolabi & Alayemi, 2010; and Osundina & Osundina, 2014).

Furthermore, the use of several industries and sectors of the economy also strengthen the fact that the study of working capital management is ongoing, as evidenced in the studies of Ajibolade and Sankay (2013); Onodje (2014); Azeez (2015); Joseph and Amah (2016); and Salman, Folajin and Oriowo (2014) who studies manufacturing firms; Osuma, Ikpefan, Romanus, Ndigwe and Nkwodimmah (2018); Adamu and Hussaini (2015); Serge (2016); and Samuel and Benjamin (2011); who studied banks while Tanveer, Muhammed, Muhammed, Muhammed and Sadaf (2016); Emmanuel (2018); and Naeem, Malik, Muhammed and Mehboob (2014), studied non-financial firms listed on the stock exchange.

Theoretical Framework

The theoretical framework of this study is anchored on the trade-off model. Trade-off model demonstrates that firms decide their optimal level of cash holding by comparing the marginal cost and benefits of holding cash. Large investment in current assets under certainty would mean low rate of return on assets (ROA) of the firm, as excess investments in current assets will not earn enough return. A smaller investment in current assets, on the other hand, would mean interrupted production and sales, because of frequent stock-outs and inability to pay to its creditors in time due to restrictive policy.

Various studies attempted to examine the relationship between working capital management and financial performance which embodied liquidity and profitability as components (Deloof, 2003). The ultimate objective of any firm is to maximize profit. At the same time, preserving liquidity of the firm is an important objective too. The problem is that increasing profits at the cost of liquidity can bring serious problems to the firm (Shin & Soenen, 1998).

The trade-off theory emphasizes that there must be a trade-off between these two objectives of firms. One objective should not be fulfilled at the cost of the other since both are important. If we do not care about profit, we cannot survive for a longer period. On the other hand, if we do not care about liquidity, we may face the problem of insolvency or bankruptcy. The firm must decide about the levels of current assets to be carried for which a firm's technology and production policy, sales and demand condition, operating efficiency is taken into consideration in the policy decision. It may follow a conservative risk-return trade-off.

The rank correlation of liquidity and profitability are said to be inversely related to each other. It implies that as the liquidity increases and profitability decreases (Pandey, 2010).More aggressive working capital approaches are associated with higher return and higher risk while conservative working capital approaches are concerned with lower risk and lower return.

Empirical Review

The study on the relationship between working capital management and financial performance has attracted great attention from both academic and financial practitioner for many years and is still ongoing. Okoye, Erin, Modebe and Achugamonu (2016) on working capital management and the performance of consumer and industrial goods sector in Nigeria, investigated the impact of working capital management on the financial performance of selected companies listed on the Nigerian Stock exchange, specifically, forty (40) Consumer and Industrial goods companies out of the population of fifty-seven (57) for the period of ten (10) years, 2006-2015. Ordinary least squares (OLS) regression method and Pearson Correlation were used for the study. The independent variable was represented by Average Payment Period (APP), Cash Conversion Cycle (CCC), Inventory Conversion Period (ICP) and Average Collection Period (ACP), while the dependent variable was represented by Return on Assets. The findings showed that Cash Conversion Cycle (CCC), Average Payment Period (APP) and Inventory Conversion Period (ICP) showed significant positive impact on Return on Assets (ROA). However, Average Conversion Period (ACP) showed a negative impact on Return on Assets. Also, the control variables adopted in this study (size, growth, leverage and current ratio) have significant impact on financial performance of firms selected for the study.

Also, Kiptoo (2017) studied on working capital management practices and financial performance of tea processing firms in Kenya and investigated the effect of working capital management practices on financial performance of fifty-four (54) Tea Processing firms in Kenya. A sample of forty-eight (48) tea processing firms were used for the research, also primary (in the form of questionnaires) and the secondary source was used to get data. Pearson Correlation, regression and ANOVA analysis were adopted. The independent variable was represented was represented with cash management practices, inventory management practices, receivables management practices and payables management practices, while the dependent variable was represented by return on assets, sales and net profit. The findings of the study indicated that working capital management practices significantly affected the financial performance of tea processing firms, in particular, receivables and inventory management practices had a negative and significant effect on financial performance of Tea Processing firms.

Tanveer, Muhammed, Muhammed, Muhammed and Sadaf (2016) studied on the impact of working capital management on firm's financial performance with

evidence from Pakistan and empirically explored the impact of working capital management on firm's performance of fifty (50) listed non-financial companies as sample, on Pakistani Stock Market for the period of ten (10) years, 2005-2014. The independent variable was represented by Inventory Turnover (ITO), Cash Conversion Cycle (CCC), Average Collection Period (ACP) and Average Payment Period (APP), while the dependent variable was represented by Return on Assets (ROA), Return on Equity (ROE) and Earnings per Share (EPS). Multiple regressions were used and the findings showed that inventory turnover had negative impact on Return on Assets, but Average Collection Period had positive and statistically significant impact on Return on Assets.

Osundina and Osundina (2014) carried out a study on the effect of working capital management on market value of quoted food and beverages manufacturing firms in Nigeria and analyzed the correlation between working capital management and market value of quoted food and beverages manufacturing firms in Nigeria. Twelve (12) food and beverages manufacturing firms were selected with a population of 171 staff, then a sample of 120 was obtained with Taro-Yamane's formula. Pearson Product Moment Correlation and Multiple regression analysis were used to ascertain the relationship between working capital management and market value of quoted food and beverages manufacturing firms in Nigeria. The independent variable was represented by Account Collection Period (ACP), Inventory Conversion Period (ICP), Account Payment Period (APP), Cash Conversion Cycle (CCC) and Aggressive Investment Policy (AIP). Survey research design was employed using primary data. Pearson Product Moment Correlation and Multiple regression analysis were used to determine the effect. The findings were that food and beverages manufacturing firms in Nigeria cannot maximize its profits as well as shareholders' wealth without paying proper attention to the management of various components of its working capital.

Soyemi and Olawale (2014) on comparative analysis on working capital management of Brewery companies in Nigeria examined the cost of working capital and the effect on firm performance and took a critical view of the adopted liquidity measures of the measures of the Nigerian firm and attempted to see how it has been achieved. Guinness breweries and Champion breweries were used for five (5) years, 2009-2013. Secondary data was used and ratio analysis was used to analyze the data collected. The findings were that working capital which amounted an average was higher than all other concerns as followed in Guinness Nigeria and Consolidated breweries. Guinness Nigeria possessed huge amounts of current assets than consolidated breweries. It was also deduced that inventories and debtors were very high in the case of Guinness Nigeria, whereas current liabilities where still on the moderate level except in 2013.

Methodology

The study adopted the ex-post facto research design with a population of all publicly quoted Nigerian manufacturing firms over a period of eight (8) years, (2013 – 2020). Using secondary data, stratified and purposive sampling method was adopted in selecting five (5) firms. Data obtained were analyzed using regression statistical technique. The functional relationship between working capital management and financial performance model is as expressed below:

$$ROI_{it} = \alpha_0 + \beta_1 APP_{it} + \beta_2 ITP_{it} + \beta_3 ACP_{it} + \xi_{it}$$

Where:

ROI	=	*Return on Investment*
APP	=	*Average Payment Period*
ITP	=	*Inventory Turnover Period*
ACP	=	*Average Collection Period*
α_o	=	*Constant term (intercept)*
β_{1-3}	=	*Coefficients to be estimated*
ξ	=	*Error term/unexplained variables.*

Table 3.1: Measurement of Variables

S/No	Variables	Acronym	Measurement	Source
1.	Return on Investment	ROI	$\frac{Net\ Income}{Total\ Investment} \times 100$	Hackenback, 1993; &Ndaman, 2013.
2.	Average Payment Period	APP	$APP = \frac{Average\ Account\ Payable}{Purchase} \times 365\ days$ *Where* $ACR = \frac{(Opening+Closing)\ Account\ Payable}{2}$	Eisenberg et al, 1998 & Allan, 2014.
3.	Inventory Turnover Period	ITP	$ITP = \frac{Average\ Inventory}{Cost\ of\ Goods\ Sold} \times 365\ days$ *Where* $ACR = \frac{(Opening+Closing)\ Inventory}{2}$	Aleef(2011)
4.	Average Collection Period	ACP	$ACP = \frac{Average\ Account\ Recievable}{Turnover} \times 365\ days$ *Where* $ACR = \frac{(Opening+Closing)\ Account\ Recievable}{2}$	Mathuva(2010)

Source: *Author's Compilation (2021)*

4. Presentation, Analysis and Discussion of Findings

Table 4.1 presents annualized averages, annualized standard deviation and other summary statistics on the data sets in the study. The descriptive statistics shows that the average return on investment (ROI), which is the measure of financial performance of the firms, is generally low at 0.06. This implies that firms have made less than desired returns on their investment over the period under review. The median value of the ROI as well as the standard deviation indicates that the ROI values appear to be quite similar across firms and over time. Table 4.1 reveals that the measures of working capital (APP, ITP and ACP) are 14.898, 14.504, and 15.719 respectively on average, with quite low standard deviations, suggesting that the mean value is evenly spread among the firms in the sample. Essentially, this is expected to be quite an interesting working capital management strategy for the companies in the study. Average inventory turnover period for the firms is also 75 days on average, which is generally high for these firms.

Table 4.1: Descriptive Statistics

Variable	Mean	Med.	Max.	Min.	S.D.	Skew	Kurt.	J-B	Prob	N
ROI	0.063	0.065	0.323	-0.530	0.137	-1.440	8.837	84.730	0.000	48
APP	14.898	15.400	17.910	10.056	2.043	-0.580	2.666	2.914	0.233	48
ITP	15.719	15.642	17.753	12.630	1.528	-0.435	2.161	2.923	0.232	48
ACP	14.504	15.176	17.481	10.011	2.275	-0.509	1.867	4.639	0.098	48

Source: *Author's Computation (2021) using E- view 11.0*

The skewness for all the series is low, suggesting that the data sets actually lie very close to the reported mean values, irrespective of the companies. The J-B values for most of the variables series are significant at the 5 percent level indicating that all the series are non-uniformly distributed. This indicates that the assumption of normality in the data cannot be accepted: the series for these variables are non-normally distributed. Clearly, individual firm characteristics within each of the companies play essential roles in the determination of firm performance. The implication of this is that the series across sectors are heterogenous and would actually require a panel data estimation technique.

Further to the descriptive statistics, the correlations among the variables are also conducted in order to observe the pattern of initial interactions amongst the variables in the study. The correlation table is reported in table 4.2 below.

Table 4.2: Correlation Matrix

	ROI	ACP	APP	ITP
ROI	1			
	(0.000)			
ACP	0.013	1		
	(0.341)	(0.000)		
APP	0.334	0.632	1	
	(0.000)	(0.000)	(0.000)	
ITP	0.003	0.855	0.566	1
	(0.297)	(0.223)	(0.108)	(0.000)

Source: *Author's computation (2021) using E-views 11.0*

In the correlation table, it can be seen that all the independent variables have positive correlation with the dependent variable, indicating that they move in same directions. In particular also, the correlations between *ACP* and *ITP* with *ROI* are significant at the 1 percent level. The result shows that there is no correlation amongst the independent variable aside from the earlier positive correlation between the variables. The correlation test also shows that bigger firms are less likely to have huge *ACP*, *APP* or *ITP*, but they are more likely to have larger days of inventory turnover.

We conduct our econometric analysis to predict how companies' working capital affects their performance within the panel data analysis framework. The dependent variable is the return on investment (ROI). Our interest is the extent of responses of ROI to each of the selected determinants in order to ascertain the main determinant of working capital factors for improving firm performances in Nigeria.

Table 4.3 reports the coefficient estimate of model. The goodness of fit statistics in terms of adjusted R-squared is low at 0.123 (although this is to be expected – see Woodridge, 2004). The F-statistic is however significant at the 5 percent level, suggesting a strong empirical relationship between ROI and all the independent variables combined. For the individual performance, the result shows that APP passed the significance test at the 1 percent level (since t-probability for its coefficient is less than 0.01). This implies that only this variable has significant impact on ROI. However, given that data type used in the study, the estimates from OLS appear relatively reliable, hence further tests are carried out to determine the best method of estimation.

Table 4.3: OLS Result for the Sectoral Estimates

Variable	Coefficient	t-Statistic	Prob.
Constant	-0.137	-0.618	0.539
ACP	-0.016	-0.936	0.354
APP	0.037**	3.091	0.003
ITP	-0.007	-0.311	0.757
Adj. R-sq	0.123		
F-stat	3.191 (0.03)		
D-W Stat	2.02		

*Note: * indicate significance at 1% respectively.*
Source: *Author's computation (2021) using E-views 11.0*

As stated in the previous section, the standard test for the method of panel analysis to adopt is the Hausman test for random effects. The result of the test is reported in table 4.4 below. The Chi-Square statistic for the random sections argument is significantly different from zero, implying that the null hypothesis stands rejected. This implies that a random effect does not exist in the cross sections of the data.

Table 4.4: Hausman Test for Cross-Section Random Effects

Test Summary		*Chi-Sq. Statistic*	*Chi-Sq. d.f.*	*Prob.*
Period random		**3.902**	**3**	**0.272**
Variable	*Fixed*	*Random*	*Var(Diff.)*	*Prob.*
APP	0.032	0.035	0.000	0.205
ACP	-0.016	-0.016	0.000	0.943
ITP	0.000	-0.004	0.000	0.352

Source: *Author's computation (2021) using E-views 10.0*

The coefficients of the variables reveal important outcomes. The coefficient of ACP and ITP are negative, which show that the longer the number of days taken to receive debts from debtors or the turnover period, the lower will be the firm performance. Thus, taking too long to receive debts or turnover inventories tends to limit the performance of the firm. On other hand, the coefficient of ACP passed the significance test but is positive, which shows that average pay back period positively affects firm performance.

The longer the days taken to pay back creditors, the better it is for boosting performance. This outcome is rather interesting in the findings. These results clearly indicate that working capital management matter significantly for the performance of firms in Nigeria. The finding of the study shows that some working capital management components is significant to the financial performance of the selected Nigerian manufacturing. The finding is in tandem with the study of Hiram and Willy

(2017) and Okoye, Modebe, Achugamonu and Ado (2016).

Conclusion and Recommendation

Most Nigerian firms have large accounts of cash invested in working capital. It is therefore expected that the way in which working capital is managed, have a significant impact on the performance of those firms. On the basis of the above analysis, we further conclude that these results can be further strengthened if the firms manage their working capital in a more effect, efficient and economical manner. The study therefore recommends that the firms should ensure optimal mix of working capital proxies to optimize performance.

Based on the empirical literatures reviewed, no studies had solely considered working capital management and financial performance of selected Nigerian Manufacturing firms. Also, a similar study should be carried out comparing different sectors on the Nigerian Stock Exchange, to examine the effect of working capital management on financial performance, using other performance proxies.

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VALUE ADDED TAX RATE CHANGE: EFFECTS ON INFLATION RATE AND GOVERNMENT BORROWING IN NIGERIA

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Abstract

The tax revenue to the Nigerian government especially the indirect tax revenue has been observed to be inadequate for growing needs of government. The Federal Government has therefore enacted the Finance Act 2020 introducing changes to the Companies Income Tax Act, Value Added Tax Act, Petroleum Profits Tax Act, Personal Income Tax Act, Capital Gains Tax Act, Customs and Excise Tariff Etc. (Consolidation) Act and Stamp Duties Act. Value Added Tax (VAT) rate has changed from 5% to 7.5% with effect from 1 February 2020. The Federal Inland Revenue Service has also issued a clarifying circular on the operation procedure and exemptions. There has been a barrage of argument that higher tax rates especially the new VAT rate are needed to bring in desperately needed revenue to government as its previous 5% rate's impact seems neither significant on national revenue nor reduced government reliance on loans and foreign aids. Others still fear that the increase will adversely affect other macroeconomic variables especially inflation rate. The questions are: What effect would increase in VAT rate has on inflation rate in Nigeria? How would the new VAT rate minimize the volume of Nigerian government borrowing? This work therefore assessed the effect of an increase in VAT rate on inflation rate in Nigeria; and the relationship between Value Added Tax and Nigeria's total debt outstanding. The work hypothesized that: VAT rate increase would not significantly cause a change in inflation rate in Nigeria; and there is no significant relationship between VAT revenue and Nigeria's total debt outstanding. The study adopted the ex post facto research method using a regression technique (Koyck Model) which rides on adaptive expectation hypothesis. Data were sourced from Federal Inland Revenue Services (FIRS) and Central Bank of Nigeria (CBN) statistical bulletins. The findings showed that increase in VAT rate does not guarantee more revenue that will bring about significant reduction in government borrowing but could worsen inflation rate in Nigeria. The paper concluded that general paucity of patriotism among citizens tend to frustrate even seeming good policies of the government. The government should have the political will to entrench culture of transparency and accountability; impose VAT on foreign goods that have local substitutes, and all luxury goods; work towards institutionalizing the tax institution such that no person should influence the tax policies selfishly.

Keywords: Government, Inflation rate, Value added Tax, VAT Revenue and Total National Debt Outstanding

Introduction

The existence of government is a necessity for orderly society. The government capacity of delivering its mandate requires finance. Therefore, government cannot continue without financial means to pay its expenses as there are certain services which the government must provide to its citizens because of their essential nature (Okpe, 1998). The political, economic and social development of any country depends on the amount of revenue generated and optimal allocation of such revenue for human development and the provision of infrastructures strategically. However, one means of generating the revenue needed for the provision of such infrastructures is through taxation. One of the types of taxes is the Value Added Tax (VAT).

The VAT was introduced in Nigeria in 1994. The government has experienced not comfortable growth in her tax revenue. For instance, according to the Organisation for Economic Co-operation and Development (OECD)'s Revenue Statistics in Africa 2019 report, Nigeria's tax-to-Gross Domestic Product (GDP) in 2017 was 5.7%. This was a moderate increase from the figures reported in 2016 (5.3%). However, when compared with the same index across other African countries over the same period, it was apparent that Nigeria's tax revenue generation was significantly low for the level of economic activities in the country. Specifically, the 26 African countries (including Ghana and Botswana) reviewed in the OECD's study reported an average tax to GDP ratio of 17.2% (11.5 basis points higher than Nigeria's ratio). A rundown of government annual expenditure from 1970 (at the end of the Nigeria–Biafra war) to 2014 shows that the government ran annual deficits for 39 years (even after VAT introduction in 1994) which has not translated into a viable economic performance in terms of price stability and growth that guarantees employment creation (Fagbohun, 2017). This was in sharp contrast to Nigerians' believe that the VAT was introduced as a means of avoiding taking loans from international agencies and relying on foreign aids for development (Ochei, quoted in Adereti, Sanni & Adesina, 2011).

Available records indicated that VAT revenue yearly target were hardly met. In fact, between 2009 and 2017 there has been increase in total debt outstanding (₦3,818.47 billion and ₦18,366.31 billion). The government felt convinced that one of the major considerations is to increase its revenue stream (FIRS Collection Profile from 1996 to 2017 and 2017 Central Bank of Nigeria Statistical Bulletin), hence the Finance Act, 2020 intended to raise necessary revenue required to defray public expenditure, support sustainable increase in public revenue and ensure that tax law provisions are consistent with the national tax policy objectives of the Federal Government of Nigeria. Earlier, the International Monetary Fund managing director, Ms Christine Lagarde, in January, 2016 described Nigerian VAT as the lowest in the Economic Community of West African States (ECOWAS) region and one of the lowest around the world.

The obvious matter is the likely macroeconomic fundamentals' challenge especially inflation rate given the overdependence on oil revenue by the government and seeming insincerity in governance. A persistent increase in prices has constituted a major macroeconomic challenge in 1970s. From a single digit level in 1960s, the inflation rate increased to 16% in 1971 only to jump to an all-high level of 33.9% in 1975. The 1975 high level of inflation has been attributed to the oil boom of the early 1970s and the increases in salaries and wages of both government and private workers (Maku & Adelowokan, 2013). The level of inflation in Nigeria continued to show a random trend. From 20.5% in 1981, it rose to 40.9% in 1984, and fell to 3.2% in 1985. From 1985 it rose again to 49% in 1989, falling to 7.9% in 1990. The upward trend continued in 1990, reaching an all-time high of 72.7% in 1995. In 2009 the inflation rate was 11.53% and in 2017 it was 16.50%. Ordinarily, increasing the VAT rate upwards will trigger inflation rate in the present Nigeria economy and structure.

The Government had earlier attempted increasing the VAT rate to 10% in 2007. It was faced with stiff opposition resulting in the suspension of the proposed increase. It was noted that the Nigerian companies treated their VAT expenses as input costs and pass these to the consumers while the government injects most of the VAT revenue back into the system as consumption expenditures, causing huge disruptions to the economy. More so, the Nigeria's infrastructure is of poor quality by any standard and constraint business even if it is better than average for Africa. In the World Bank survey, manufacturing companies in the Nigeria ranked infrastructure as their most severe business constraints (Igbaekemen, 2014). In a country where basic physical infrastructure – for transport, communications, power and information technology – to strengthen competitiveness and expand productive capacity are lacking, the increase in VAT rate was not only ill timed, but counterproductive in the already highly distorted Nigerian economy.

The Federal Executive Council (FEC) of the Federal Government of Nigeria (FGN) on Wednesday, 11 September 2019, while approving a 50% increase in the VAT rate applicable on supply of goods and services from 5% to 7.5%, effective from 1 February, 2020, observed that increase in inflation rate was one of the problems envisaged (Deloitte Nigeria, 2019). Reason adduced was that Nigeria still practices a modified VAT system where taxpayers can only claim a limited portion of input VAT against output VAT charged. Consequently, without a corresponding adjustment to the VAT system, the increment may turn out to have a higher impact than envisaged. This is more so as entities will ultimately seek to pass the cost to end-users (Deloitte Nigeria, 2019). A barrage of argument about the effect of VAT rate increase on inflation was inconclusive among scholars and economic watchers. Two questions begging for answers are: What effect would increase in VAT rate have on inflation rate in Nigeria? How would the new VAT rate minimize Nigerian government borrowing?

This work therefore aimed at assessing the effect of an increase in VAT rate on inflation rate in Nigeria; and the relationship between Value Added Tax revenue and Nigeria's total debt outstanding. The work hypothesized that: VAT rate increase would not significantly cause a change in inflation rate in Nigeria; and there is no significant relationship between VAT revenue and Nigeria's total debt outstanding.

This study is further presented in the following sections: Conceptual and theoretical framework; Empirical studies' review; Methodology; Data presentation and analysis; Summary of findings, conclusion and recommendations.

Conceptual and Theoretical Framework

Baiyewu (2000) regarded Value Added Tax (VAT) as the policy thrust to raise higher revenue from non-oil tax sources particularly from consumption taxes such as VAT and Duties without jeopardizing the liberal tax policies. Value added Tax is of the family of indirect tax.

Different definitions of Value Added Tax have been given, some in relation to its tax incidence, and some in relation to its state of collection, while some are relative to its base. Muhammed (1995) described VAT as consumption tax designed primarily to tax private consumption by individuals of goods or services that are subject to tax. Naiyeju, 2014 defined it as a tax levied on the Value Added at the various stages of sales. Ogundele (1996) defined VAT as the 'addition type' in which the tax base would be the sum of wages and capital income. He further re-affirmed it as the difference between the sales and the purchases of the taxable firm. VAT is an indirect tax collected from someone other than the person who actually bears the cost of the tax or the tax burden. Bickley (1996) defined Value Added Tax (VAT) as a tax levied at each stage of production. Oldman and Woods (1996) defined Value Added Tax as a multi-stage consumption tax levied as the difference between a firm's sales and the value of its purchased inputs used in producing goods. Ogundele (1996) has also defined Value Added Tax as a multi-stage tax imposed on the value added to goods and services as they are processed through various stages of production and distribution and to the service as they are rendered. Broadway (1979) defined Value Added Tax (VAT) in relation to its base as 'the base of VAT is ultimately the final value of the products.' Magner (1983), defined VAT as "a method of assigning tax liability" against the value added at each stage in the process of production and distribution.

The beauty of these definitions is that they bring out the three essential characteristics of Value Added Tax: Value Added Tax is a consumption tax; Value Added Tax incidence is on the final consumer; and Value Added Tax is a multi-stage tax. VAT can be described as a goods and services tax (GST), and it is levied on the value added that results from each exchange.

The first country that introduced or imposed VAT, as is known in modern sense is France on April 10, 1954. The first developing country to implement VAT was Brazil in 1967 when the government abolished the multiple sales tax system, in order to ensure financial and economic co-ordination among 26 States in the country. India and China imposed VAT in 1990; and Nigeria introduced VAT on 1st September, 1993 and was implemented on 1st January 1994 (Adereti *et al*., 2011).

The major reason for constant study and review of VAT is rooted in the economic functions of government. The economic function of government in any country cannot be over emphasized. According to Musgrave (1959), these economic functions of government may be divided into three main categories: to overcome the inefficiency of the market system in the allocation of economic resources; the redistribution of income and wealth in order to move towards the distribution that the society adjudges to be just and equitable; and the role for government in smoothing out cyclical fluctuations in the economy and ensuring a high level of employment and price stability. Ademola (1999) threw more light by stating five major macro-economic objectives that every modern government seeks:

- **Full employment**: The government aims at a high level of human and physical resources utilisation, and the level of employment at which approximately 94 to 95 percent of those seeking jobs are employed.
- **Relative Price stability**: The government seeks the prevention of upward movement of prices (inflation) or downward movement of prices (deflation).
- **External balance**: The government executes her business aiming at the promotion of a debt-free and self-reliant economy.
- **An equitable distribution of income and wealth:** The government seeks to ensure that every citizen has access to the basic necessities of life, and ensuring equitable redistribution of wealth of the nation.
- **Economic growth:** This is the expansion of the production capacity of the economy to generate increase flow of goods and services.

Governments need money to provide the services and social infrastructure to improve the well-being of citizens. This makes it inevitable for government to raise revenue to finance the provision of these goods and services especially those known to be essential to the smooth running of the economy. No wonder why Adesoji and Chike (2013) posit that revenue generation is the nucleus and the path to modern development.
In Nigeria, revenue profile consists of oil and gas, and non – oil sectors with the former contributing over 70% of the total revenue to the federation. Central Bank of Nigeria (2016) indicated that the oil and gas sector contributed 77.5% from 1986-2016 on the average while the non-oil sector generated only 22.5% during the same period. Thus, there are tax and non-tax revenue sources to governments. When a country is confronted with increasing demands to better the well-being of her citizens from its own resources, it will look to other sources of extra income to meet its obligations

either by incurring National debt or increasing tax revenue through appropriate tax reforms. National debt has demerits if poorly contracted. It has to be serviced.

"All the money borrowed by the public sector over the past which has not been repaid is called the public sector debt or national debt (Titley & Moynihan, 2000). The servicing of most debts does not only require that the principal debt is serviced but in addition to servicing the principal debt, interest has also to be paid. This means therefore that instead of meeting other social needs of the people of a country, the money will go to the payment of interest. Because of the complexities that go with National Debt, it therefore calls for proper management. Poorly managed debts tantamount to sacrifice of future wealth of the debtor and possible underdevelopment/poverty.

What happens to a country like Nigeria that pursue high revenue generation through increase in VAT rate with a view to minimise borrowing or even do away with borrowing? Other macroeconomic variables that could be triggered is inflation. Inflation is a continuing rise in prices as measured by an index such as the consumer price index (CPI) or by the implicit price deflator for Gross National Product (GNP). Inflation is frequently described as a state where "too much money is chasing too few goods" (CBN, 2017). When there is inflation, the currency loses purchasing power. Conceptually there are two causes of inflation: demand-pull and cost push. *Demand-pull inflation* is caused by an increase in the conditions of demand. These could either be an increase in the ability to buy goods or an increase in the willingness to do so. *Cost-push inflation* arises from anything that causes the conditions of supply to decrease. Some of these factors include a rise in the cost of production, an increase in government taxation and a decrease in quantity of goods produced.

The government has limit in her capacity to increase tax rate. There is usually an optimal tax rate in given government environment. Every Government has to discover that optimal tax rate to achieve efficiently and effectively her reasons for taxation. The *Laffer curve* introduced by Prof. Arthur Laffer explained it. According to Afuberoh and Okoye (2014), *Laffer curve*is a theoretical representation of the relationship between government revenue raised by taxation and all possible rates of taxation. This theory is demonstrated with a curve as shown in Figure 1.

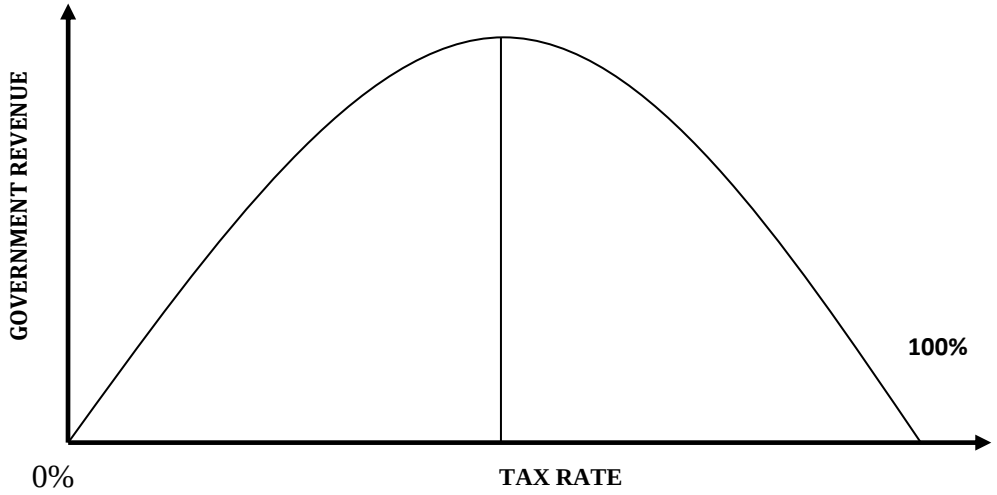

Figure 1: Laffer curve

Source: Afuberoh, D. & Okoye, E. (2014). The impact of taxation on revenue generation in Nigeria: A study of Federal Capital Territory and selected states. *International Journal of Public Administration and Management Research (IJPAMR), 2*(2), 22-47.

In the curve, it shows that the amount of tax revenue raised at the extreme tax rates of 0% and100%. The theory concludes that a 100% tax rate raises no revenue in the same way that a 0% tax rate raises no revenue. This is because at 100% rate, there is no longer incentive for a rational tax payer to earn any income, thus, the revenue raised will be 100% of nothing. It therefore follows that there must exist at least one rate in between where tax revenue would be a maximum. Laffer attributes the concept to Ibn-Khaldun and Keynes J. Marguments. One potential result of this theory is that increasing VAT rate beyond a certain point will become counterproductive for raising further tax revenue because of diminishing returns (Laffer quoted by Afuberoh & Okoye, 2014).

Another theoretical pedestal for this work is known as socio political theory put forward by Wagner quoted by Onakoya and Afintinni (2016). This theory of taxation states that social and political objectives should be the major factors in selecting taxes. The theory advocated that a tax system should not be designed to serve individuals, but should be used to cure the ills of society as a whole. One of the Nigerian society's ills that brought about VAT was that of relying on external loans and supports to finance development by Government.

The Keynes General Theory of Employment, Interest and Money is also relevant in this study. John Maynard Keynes, a British economist in 1936 in his major work, 'the general theory of employment, interest and money' first published in 1936 advocated the use of fiscal policy by central government to manage the level of aggregate demand to preserve full employment and avoid inflation. This involves the manipulation of

government spending and taxation in order to guide the economy's performance. When inflation exists, government spending should be reduced or taxes increased. These policies will reduce aggregate demand and thus reduce inflationary pressures. Another approach would be to use monetary policy, intended to alter the supply of money in order to influence the level of economic activity. Inflation calls for a reduction in the money supply. By making it more difficult to borrow funds, the government can reduce spending and thereby combat inflation (Anichebe, 2015).

Empirical Studies' Review

A number of related works have guided thoughts in this work. Kleiman (1993) examined the extent to which international differences in taxation may explain departure of national price levels from Purchasing Power Parity (PPP).Investigating a sample of 51 Countries for which price level data were available from stage IV of the project on the international comparison of purchasing powers and the real products for 1980. The study suggests that the overall burden of central government taxation, especially of indirect domestic taxes raises the general price level. Consistent with the accepted view that direct tax cannot be shifted forward; no such effect is associated with the direct tax burden. Contrary to expectations, however, the burden of domestic indirect taxes expresses itself in the prices of tradables rather than of non-tradables.

Olatunji (2013) described the impact of VAT on the revenue generation in Nigeria and the perception of the citizen on VAT and Inflation. Primary data were obtained by the use of oral interviews and structured questionnaire and analysed using Pearson and Spearman Rank correlation analysis. Findings showed that the participants did not perceive any VAT impact on the inflation rate in Nigeria.

Atan (2013) examined the attempts by successive governments in Nigeria to use Taxation to influence macroeconomic aggregates, especially inflation and Unemployment. The study used secondary data, covering the period 1970 to 2008. Data gathered were analysed by means of both descriptive and inferential statistical techniques. The Ordinary Least Square (OLS) method was used for the estimations. Results indicated that taxes have a negative but insignificant effect on the inflation rate in line with theory. The effect of tax policy on unemployment was also insignificantly negative. The study concluded by that tax policy was not effective in controlling inflation, and reducing unemployment levels in the country over the period covered by the study.

Ikpeh and Nteegah (2013) studied the economic impact of Value Added tax on the level of aggregate prices, using partial equilibrium analysis. The analysis was carried out by applying multiple regression analysis in static form to data for the 1994 – 2010 period. The Results revealed that VAT exerted a strong upward pressure on price levels, most likely due to the burden of VAT on intermediate inputs.

Gelardi (2014) used graphs and statistical methods to ascertain whether inflation in the United Kingdom and Canada was affected by the introduction or changes in rate of the Value Added Tax. Results showed that the introduction of VAT in the United Kingdom showed no significant effect on the rate of change of Consumer Price Index (CPI), whereas the introduction of General Sales Tax (GST) in Canada did have a significant increase in the rate of CPI. It was also found that when the tax rates were changed substantially, inflation was affected; however, modest changes in the rate did not affect inflation.

Olaoye (2016) examined the determinants of VAT, Interest rate, Inflation and influence on revenue generation in Nigeria. Secondary data were gathered from CBN statistical bulletins that cut across 1990 and 2012. This period was selected in order to capture the inflation, interest rate, prior, during and post implementation of VAT. Data were analyzed with the use of descriptive analysis and Johansen co-integration test. The results revealed that VAT, INT and INF have the means of 461214, 19.06478 and 20.09913 respectively, while their standard deviations stand at 1460060, 3.284060 and 18.93905. Their minimum and maximum values are 0.0000 and 7101500 for VAT, 13.54 and 29.80 for INT, 8641 and 4749200, 5.4 and 72.80 for INF. The descriptive statistics gave a clear picture of the distribution and range of all the series, there exist no significant relationship between VAT and INT ($r=-0.200$, $p>0.05$), INF and VAT ($r=-0.139$, $p>0.05$), INT and INF ($r=-0.074$, $p>0.05$). However, there is significant positive relationship between VAT and INF both on the short and long run, while interest rate exerts negative influence on inflation both on the short and long run. There is strong and positive relationship between VAT and revenue generation in Nigeria. It was recommended that government should provide effective anti-inflationary policy to cushion the inflationary tendencies of value added tax in the country and regulate the rise in the level of interest rate in order not to provoke price instability and at the same time maintain the current level of improvement in the revenue generation in the country.

The reviewed literature revealed gaps on area of expected inflationary effect if valued added tax is reviewed upwards; and the extent value added tax revenue has mitigated the quantum of national debt outstanding in Nigeria. This paper showed the expected inflation rate change given the Value added Tax rate upwards to 7.5%; and the relationship between value added tax revenue and the national debt outstanding in Nigeria.

Methodology

This study used *ex post facto* research method using descriptive and regression techniques. Data were sourced from Federal Inland Revenue Services (FIRS) and Central Bank of Nigeria (CBN) statistical bulletin. Two models were adapted in this paper: Koyck model and simple regression model. To ascertain the effect of an increase in VAT rate on inflation rate, Koyck model is considered and the theory

behind this model is Adaptive Expectations which gives importance to past events in predicting future outcomes. Lyman (2012) defined adaptive expectation as the way of forming expectations in which the future value of the variable of interest is solely dependent on its past values. Gujarati as quoted by Lyman (2012) also called it progressive expectation or error learning hypothesis. Gregory (2011) in justifying its usefulness stated that for the purpose of finding good proxies for psychological expectations as required in the study of economic behaviour, adaptive expectations should be used whenever the economist believes that the economic agents in question form psychological expectations by taking a mean of past values with geometrically declining weights.

Model for Hypotheses I

Scholars expect inflation rate to increase when VAT rate increases. Hence the model is formulated:

Inf= f(VAT)……..……..……..…. (1)

Algebraically, $I_t = B_0 + B_1V_t^* + U_t$.....…… (2)

Where:

I= Inflation rate

V*= Expected VAT rate

Modeling expectation with the use of Adaptive Expectation hypothesis

$V_t^* - V^*_{t-1} = \lambda(V_t - V^*_{t-1})$ ……... (3)

Where λ is known as the coefficient of expectation such that $0<\lambda \leq 1$

$V_t^* = \lambda v_t + (1- \lambda)v^*_{t-1}$ .....…… (4)

Substitute equations4 into 2

$I_t = B_0+B_1(\lambda v_t + (1- \lambda)v^*_{t-1}) + U_t$

$I_t=B_0+B_1\lambda v_t + B_1(1- \lambda)v^*_{t-1} + U_t$ .....……. (5)

Lag equation 2 by one period, multiply it by 1- λ, and subtract the product from equation 5;

We obtain, $I_t = \lambda B_0+ \lambda B_1v_t+(1- \lambda)I_{t-1}+ U_t- (1- \lambda)U_{t-1}$

$I_t =\lambda B_0+ \lambda B_1v_t+(1- \lambda)I_{t-1}+V_t$ .....…(6)

Where, $V_t= U_t- (1- \lambda)U_{t-1}$

Model for Hypotheses II

The simple regression model was used to evaluate the extent to which Value Added Tax relates to Nigeria's total national debt outstanding. The model is:

TND = f(VAT) ……..……(7)

From the equation 7 functional relationship, the model can be specified as:

$TND_t= \beta_0+ \beta_1VAT_t + Ɛ_t$ ……..…….. (8)

Where

β_0 = intercept or average total debt outstanding when other variables are not applied

β_1 = Coefficient of the explanatory variable, VAT

TND =Total National Debt Outstanding
$\mathcal{E}_t$= Stochastic disturbances/ variables

***A Priori* Expectations**

VAT rate increase influences inflation rate positively; VAT revenue helps to reduce Nigeria's total national debt outstanding. Higher VAT rate results to higher inflation rate; and higher VAT revenue brings about reduced total national debt outstanding.

Data Presentation

The data processed were displayed in table I and the descriptive statistics is shown in table 2.

Table 1: Nigeria's Total National Debt Outstanding, Vat Revenue and Inflation Rate: 1994-2017

Year	Total national debt outstanding (TND) ₦' Billion	Value Added Tax Revenue (VAT) ₦' Billion	Inflation Rate (INF) %
1994	1,056.39	7.2608	57.0317
1995	1,194.60	20.761	72.8355
1996	1,037.30	32.5	29.2683
1997	1,097.68	35.3	8.52987
1998	1,193.85	37.6	9.99638
1999	3,372.18	47.8	6.61837
2000	3,995.63	58	6.93329
2001	4,193.27	91.7	18.8736
2002	5,098.88	108.6	12.8766
2003	5,808.01	136.4	14.0318
2004	6,260.60	163.3	14.998
2005	4,220.98	192.7	17.8635
2006	2,204.72	232.7	8.23953
2007	2,608.52	312.6	5.38222
2008	2,843.56	401.7	11.578
2009	3,818.47	481.4	11.5377
2010	5,241.66	564.9	13.7202
2011	6,519.69	659.2	10.8408
2012	7,564.43	710.6	12.217
2013	8,506.31	802.7	8.47583
2014	9,535.54	803	8.05738
2015	10,948.53	767.3	9.01768
2016	14,537.12	828.2	15.6969
2017	18,366.31	972.3484	16.5

Source: *2017 Central Bank of Nigeria Statistical Bulletin (CBN) and Federal Inland Revenue Services (FIRS) Collection Profile*

Table 2: Descriptive data on the input data

	INF	TND	VAT
Mean	16.71334	5467.676	352.8571
Median	11.89750	4207.125	212.7000
Maximum	72.83550	18366.31	972.3484
Minimum	5.382224	1037.300	7.260800
Std. Dev.	15.87107	4392.474	325.5170
Skewness	2.633854	1.390597	0.516953
Kurtosis	9.047224	4.605521	1.709729
Jarque-Bera	64.31765	10.31273	2.733764
Probability	0.000000	0.005763	0.254901
Sum	401.1201	131224.2	8468.570
Sum Sq. Dev.	5793.489	4.44E+08	2437110.
Observations	24	24	24

Source: Authors Computation; output from E-view version 8

The results revealed that INF, TND and VAT have the means of 16.713, 5467.67 and 352.85 respectively, while their standard deviations stand at 15.87, 4392.47, and 325.51. Their minimum and maximum values are 5.38 and 72. 83 for INF; 1037.3 and 18366.31 for TND; and 7.26 and 972.34 for VAT. The Jarque-Bera Statistic probability of less than 0.05 for INF and TND indicated normal distributions as against the VAT revenue of 0.25 (the skewness and kurtosis were 0.516 and 1.709 respectively; indicating near flat trend). Thus, human factors may have influenced the values of the VAT revenue.

Test of Null Hypothesis one: Increase in VAT Rate and Inflation Rate

The paper proposed that VAT rate increase would not significantly cause a change in inflation rate in Nigeria. Since revenue from VAT is inadequate as desired by the government and hence has taken actions to increase her revenue through VAT, it is essential that we find out if the VAT rate increase is the best way to go. An attempt is therefore made to find out if VAT rate can be increased without worsening the situation of inflation rate in Nigeria. Using Koyck model which rides on adaptive expectations hypothesis, we used past data to project future expectations following the increase in VAT rate from 5% to 7.5% and the result is presented in table 3.

Table 3: Regression Result on Effect of VAT Rate Increase on Inflation Rate in Nigeria

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DDVAT	0.024745	0.025437	0.972779	0.3436
C	8.251781	1.298207	6.356291	0.0000
INFLATION(-1)	0.257438	0.063557	4.050496	0.0008
R-squared	0.485638	Mean dependent var		12.13109
Adjusted R-squared	0.428487	S.D. dependent var		5.372327
S.E. of regression	4.061397	Akaike info criterion		5.772495
Sum squared resid	296.9090	Schwarz criterion		5.921712
Log likelihood	-57.61120	Hannan-Quinn criter.		5.804879
F-statistic	8.497417	Durbin-Watson stat		2.076716
Prob(F-statistic)	0.002520			

Source: Authors' computation through E-view version 8

From Table 3, the R-squared shows that about 49% of the dependent variable was explained by the independent variable. The Durbin Watson value also shows absence of serial correlation since its value is close to 2. The coefficient of expectation which was ascertained by1- (1-y) that is 1- coefficient of the lag of the dependent variable (1-0.25). The value would be 0.75(75%) which means that an increase in VAT rate would lead to an increase in inflation by 75% in the first year of its implementation. In the second year, the total increase in VAT rate would be totally transferred on inflation rate. This negates the findings of Atan (2013), who found a negative relationship between taxes and inflation rate.

The regression result of the model has succeeded in throwing a limelight to the increment of VAT rate. The p-value of regression parameter DDVAT was 0.3436 which is greater than 0.05 benchmark, therefore we reject the null hypothesis. There is a direct proportionate effect on inflation rate (the coefficient of INF-1 is .025; thus 1 - .25 = .75). The increase in VAT would lead to a 75% rise in inflation automatically in the first year which will further impoverish Nigerians. We conclude that VAT rate increase would significantly cause a change in inflation rate in Nigeria.

Test of Hypothesis Two: VAT and Nigerian's Total Debt Outstanding

This paper also proposed that there is no significant relationship between VAT revenue and Nigeria's total debt outstanding. This hypothesis established if there is any relationship between VAT revenue and National Debt outstanding. The output data are presented in Figure 2 and table 4 respectively:

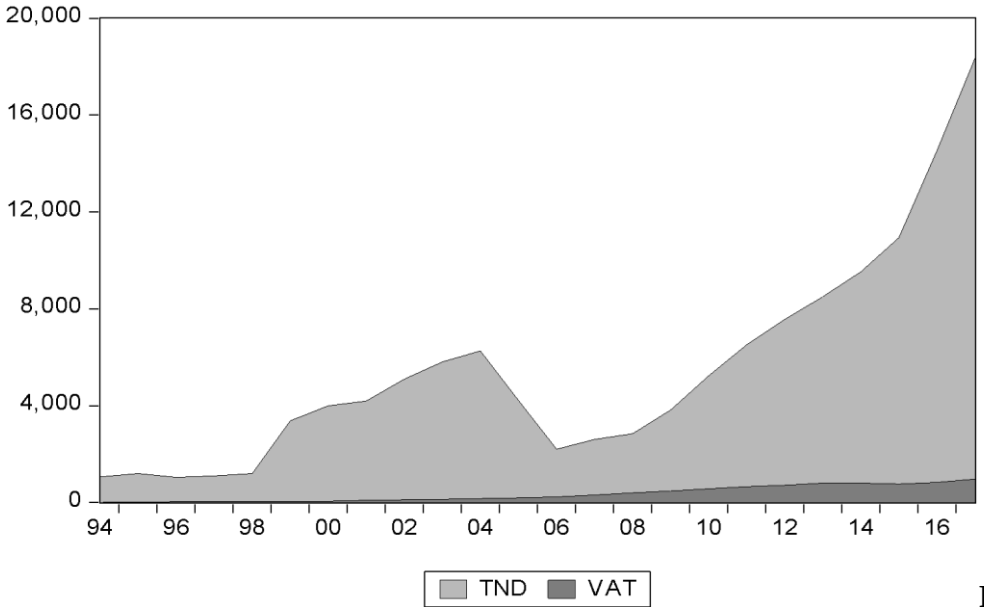

Figure 2: VAT Revenue and Total National Debt Relationship
Source: Output result from E-view version 8

Table 3: Regression Result of Effect of VAT Revenue on Total National debt outstanding

Variable	Coefficient	Std. Error	t-Statistic	Prob.
VAT	11.29721	1.573313	7.180523	0.0000
C	1481.377	748.0342	1.980359	0.0603
R-squared	0.700924	Mean dependent var		5467.676
Adjusted R-squared	0.687330	S.D. dependent var		4392.474
S.E. of regression	2456.137	Akaike info criterion		18.53022
Sum squared resid	1.33E+08	Schwarz criterion		18.62839
Log likelihood	-220.3627	Hannan-Quinn criter.		18.55627
F-statistic	51.55991	Durbin-Watson stat		0.271270
Prob(F-statistic)	0.000000			

Source: Authors' computation through E-view version 8

From figure 2, Total National Debt outstanding (TND) increased despite the introduction of VAT in 1994. The increase was not so pronounced between 1994 and 1998 (₦1,056.39 billion and ₦1,193.85 billion respectively). There was a drastic increase in National Debt from 1999 to 2004 but 2005 witnessed a dramatic fall in TND when Nigeria receive debt cancellation. From 2006 upward, TND has been increasing with the highest value occurring in 2017 (₦18,366.31). The simple

correlation coefficient between TND and VAT revenue was determined to be 0.837. This means that 1% increase in VAT revenue results in 83.7% increase in TND. The expectation is negative.

Table 2 shows VAT revenue and TND regression estimate parameters. The regression model can be stated as: TND = 1481.377+11.29721VAT +ε_t

The regression shows that Value Added Tax (VAT) has positive relationship with TND. The R-Squared and Adjusted R-Squared were 0.700924 and 0.6873300.6 respectively. Thus, the VAT revenue explained 68% changes in the Total National debt outstanding. In other words, one percent increase in VAT revenue will lead to increase in Total National Debt by 68%. The Prob(F-statistic) of 0.000000also shows that the model is useful not minding the poor result of the Durbin Watson value of 0.271. The p-value and t-statistic of 0.0000 and 7.180523 respectively indicated that the hypothesis is significant. Therefore, we accept the null hypothesis that VAT revenue has no significant relationship with the total national debt outstanding.

Discussion of Findings

Government borrow when the money they take from citizens in the form of tax or other revenue is less than the money they spend in order to finance her expenditure. The IMF (2018) advised that Nigeria should increase its VAT rate from 5% since the country has the lowest VAT rate in the world which will help it generate more revenue in order to service its debt and repay the borrowed fund. This has put pressure on the tax authority to raise enough revenue that will be used to service the debt and restore the confidence of international community on Nigeria economy. But, it seems that the Nigerian government is rather spending type without strategic sustainable resources to finance her expenditures. It is true that the population of the nation is on increase and populace are more demanding on improved well-being. There seems obvious distrust on project Nigeria such that the governance structure lacks transparency and accountability. Resistance to tax and other revenue sources to government are been perfected on daily basis. This must have accounted for expected rise in inflation rate following the increase in VAT rate from 5% to 7.5%. The government palliative measures such as exemption of services rendered by microfinance banks (unit, state and national) from VAT, and the introduction of a threshold for VAT compliance seems good for the records: manageable vatable persons, guaranteed vat revenue from them, less cost of administration and enrollment in the tax net. Companies with turnover of ₦25, 000, 000. 00 or more shall render their tax on or before the 21st of every month; others below the threshold are exempted from registering for VAT. The citizens have accepted the attitude of expecting everything from the government because the structure is such that resources are not transparently distributed especially the social goods. Only force of law seems to compel those that pay taxes. There is need to entrench culture of patriotism. This shall promote voluntary participation of the citizens in *baking the cake*. Good governance on agreed economic and political structure seems to be the answer. The Finance Act 2020 also defined the term “goods”

to include 'any intangible product, asset or property over which a person has ownership or rights, or from which he derives benefits, and which can be transferred from one person to another, excluding interest in land". Consequently, the VATability of incorporeal property, such as rights, patents, trademarks, royalty, etc., that was hitherto debated has been legislated in favour of the government. The voluntary participation is still doubtful if the electricity supply is inadequate and costly, roads are in poor conditions, tuition fees exorbitant, educational tools in poor supply, and governance related corruption on increase and independence of the judiciary questionable. The fear of increase in inflation rate following the increase in VAT rate is highly probable if transparency and accountability in governance continue to create confusion in minds of the citizens.

It also seems that the Nigeria's huge debt has been used on recurrent expenditure and on wasteful projects instead of investment in capital projects and infrastructure that will help increase the tax base and revenue to the government. Equally, the huge debt means that the resources that would have been used for investment are diverted to meeting debt service obligations. The debt servicing and the adjustment policies required to address the debt burden have also worsened social welfare in the area of education, health and agriculture. The most serious implication of debt overhang is that, it has reduced the amount of foreign exchange available to finance the importation of raw materials and capital goods needed for rapid economic development. This means that the debt burden has denied the industrial and agricultural sectors the needed inputs, holding back new investments and even the maintenance of capital stock. The Debt Management Office (DMO) in the 2017 Debt Sustainability Analysis (DSA) warned that Nigeria's high debt service to revenue ratio, which deteriorated in 2016, could trigger a debt crisis in event of prolonged shocks (decline) in revenue, exports and Naira devaluation.

The Fiscal Sustainability Analysis for the Federation (Federal, States and Federal Capital Territory Abuja), showed that the ratio of Total Public Debt-to-Gross Domestic Product, remained below its threshold throughout the projection period. For instance, the ratio of Total Public Debt-to-GDP for 2017 was projected at 19.80 percent; and both the External and Fiscal Sustainability Analyses showed that all the revenue indicators (the ratios of Debt-to-Revenue and Debt Service-to-Revenue) deteriorated under varying shocks, suggesting that any prolonged shocks on the revenue would lead to debt distress in the medium to long-term, except other sources of revenue are speedily developed to enhance the revenue generation performance of the country. The debt burden of the nation has been on increase. The heavy debt burden payments have inevitably put great pressure on budget leading to rising fiscal deficits in the heavily indebted countries, the implication of this impact are: it has to increase tax to service the debt and reduce the deficit ,it equally has the effect of depressing investment on the debt over hung effect (Iyoha, 1997).

The increase in VAT rate may not be the solution to the problem of Nigeria's debt burden, but government should invest borrowed fund on capital projects or infrastructure that will help increase the tax base and revenue to the government rather than spending it on recurrent expenditure, on wasteful sustainable projects, and *unmerited projects* which could be a means of diverting the fund into private pockets.

Summary of Findings, Conclusion and Recommendations

This paper has found that: VAT rate increase would cause a positive and significant change in inflation rate in Nigeria; and Value Added Tax (VAT) has no significant relationship with Nigeria's total national debt outstanding.

The increase in VAT rate does not guarantee more revenue that could reduce borrowing and promote economic growth but could worsen inflation rate in Nigeria. There are loopholes and infrastructural deficits even in the Nigeria tax structure. Citizens believe in Nigeria project will show in increasing VAT revenue which would not only reduce the national debt outstanding but also productive for sustained economic growth through expansion of VAT net and prudent utilization of VAT revenue.

This paper therefore recommends that:

i. The VAT rate increase should extend to all goods especially luxury goods and foreign goods with local substitutes. This is an elementary requirement that stands on the progressiveness principle and the infant local industry protection objective. A high VAT rate on goods consumed by the wealthy citizens that have the wherewithal to pay will generate more revenue to the government, bridge the wide gap between the rich and the poor and also not put too much burden on the poor. Also, a high rate on foreign consumer goods with locally made substitutes will protect the local producers and would along with other incentives also encourage rapid local industrialisation.

ii. Since VAT rate increase could worsen the situation of inflation rate, may not be the solution to the problems of poor government revenue generation, high rate of unemployment and Nigeria's ever increasing debt. There is need for Nigerian government to shift focus from taxation to production and embarked on major industrialization drive of various constituent elements of the nation according to comparative advantage.

iii. The unwholesome attempts to delay or discourage entrepreneurship from marginalized persons must stop. There should be acceptance of power devolution and mutual trust if voluntary patriotism will characterized the Nigeria project, rather than self-destruction posture of the political and elite classes. The nation is not short of resources, ideas and skills to become self-sufficient but paucity of patriotism induced by distrust and greed.

iv. **S**ince VAT revenue has not increased to significantly reduce the national debt outstanding, the government should invest borrowed fund on capital projects or

infrastructure that will help increase the tax base and revenue to the government rather than spending it on recurrent expenditure and on wasteful projects which could be a means of diverting the fund into private pockets.

v. Improvement on VAT administration and VAT collection rate: we recommend that machinery of VAT collection should be properly harnessed by FIRS and the tax system be designed in such a way as to minimize corrupt practices and escalate a host of underground economy evading VAT procedures to VAT net. This could be achieved by the FIRS by constant monitoring of the registered persons to ensure that they render returns as and when due and by automating VAT administration.

vi. There is need for FIRS to measure up to international standards by becoming professionals and detribalized, and allowed a structure that is capable of resisting the tendency of a few wealthy persons controlling the tax policies and rates in the country. This is because we have seen several instances where it appears as though the combined power of a handful of Nigeria industrialist billionaires was greater than the power of the federal government agency. This only happens because of the weakness of the institution. A strong institution would always put national interests first and the powerful individuals would see very clearly that they cannot pit their strength against such institution.

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