



## Does Government Policies Improve Business Performance? Evidence from Nigeria

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**Abstract.** This paper empirically examined the impact of government fiscal and monetary policies on business performance in Nigeria. The study which covered the period from 1970 to 2010 used secondary data. The study hypothesized negative relationship between inflation rates, value added tax, exchange rate and return on assets, which is the measure of business performance. Collected data were regressed using the Fully-modified OLS estimation technique while Augmented Dickey Fuller and Johansen Cointegration tests were used to determine the stationarity and long run properties of the variables. Findings indicated a negative relationship between monetary policy measures (inflation and exchange rate) and return on assets (ROA), while the impact of value added tax on ROA was positive. Hence, it was recommended that Nigerian government should be consistent and maintained its policy framework (fiscal stance, exchange rate policy, interest rate policy, and pricing policy) to spur confidence of foreign and local investors.

**Keywords:** Government policy; Business organizational performance, Cointegration, Fully-Modified OLS, Nigeria.

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## 1.0 Introduction

Evaluation of government policies to improve performance of small business sector has provoked a great deal of debate and empirical enquiries in recent the years. Initially economists were of the opinion that government policies have no impact on business cycle but after the great depression of the 1930's, Keynes showed that government policies could affect business cycle. For example, if government imposes taxes and duties that are not commensurate with its profit margin on a particular sector, businessmen can lose interest in the sector and move their capital to another sector. Similarly, tax and duty exemption for a particular sector would encourage businessmen to invest more in the sector thereby making the sector to be attractive to other investors. Furthermore, if a country's monetary policy ensures availability of loans at a reasonable rate, investment will also grow.

The prevailing global order has a tremendous impact on a country's business. It may be legal or illegal. For example, the USA manipulated the UN to impose sanctions on Iraq in the 1990s, these sanctions destroyed Iraqi business for which it lost business worth billions of dollars as well as money in banks in USA and its allies.

Furthermore, the increasingly complex financial integration of economies coupled with turmoil in currency markets and their impacts have revived interests on external sector variables, their volatility, and how they affect the domestic economy. The exchange and inflation rates are important factors affecting business organisation performance. Most studies on exchange rate have always argued that the type of exchange rate regimes incorporated by a country have implications on the economy through their effects on international trade, output, financial markets, inflation, employment, and investment (both domestic and foreign).

The performance of businesses in Nigeria over the years has not been impressive. It is generally believed that monetary policy (exchange and inflation rates) instability constitutes a major constraint to domestic investment in Nigeria. Generally, the massive

devaluation of the Naira since September, 1986 and price instability has resulted in a considerable increase in the cost of production in the country. As a direct consequence of the devaluation, producers have found that they need more thousands of Naira to procure the same quantity of inputs (Olukosi, 1993). However, fiscal policy like tax holiday has helped to grow some notable companies i.e. Dangote groups and Honeywell groups in Nigeria. Value added tax (VAT) as a major source of revenue to the government is a huge burden on most firms in Nigeria. Most of these firms prefer to enjoy tax holidays and shift the burden of VAT to their consumers.

Thus, government policies either domestic or foreign can impact positively or negatively on competitiveness or return on assets (profitability) of a firm. To this end, this study seeks to answer the following questions; does government fiscal policy has significant impact on business performance in Nigeria? And Does monetary policy has significant impact on business performance in Nigeria?

The rest of the paper is organized as follows: section 2 presents a review of the literature on the impact of government policies on businesses. It is followed by the discussion of the framework and method of estimations adopted for the study in section 3. Section 4 discusses empirical results, while the last section concludes with policy implications.

## **2.0 Literature Review on Impact of Government Policy on Business Performance**

Theoretically, the impact of government policy on business can be explained from the political or technical perspective. From the political point of view, the policy adopted by a government depends largely on the political history, ideology, culture and the type of government practice by that country. Policy in a communist country will be different from that in a democracy or monarchy. The government policy in a politically stable country will also be different from an unstable country. In a stable political system, a government can take sustained business-friendly decisions to strengthen local business. The government, in this situation, gets the help of the opposition. However, in an

unstable political system in which the opposition boycotts parliament and takes to street to make their agitations known, businesses and investment would suffer. In such a negative political culture, a country cannot have a sustained business-friendly environment or policy. In an unstable system, a government finds it difficult to maintain law and order which affects and hampers the business environment. This therefore discourages foreign investors.

From the technical perspective, the following policies of a government can impact on business directly or indirectly: (a) taxation, (b) subsidies, (c) interest rates, and (d) exchange rates.

**Taxation policy** can affect businesses. High tax rate on imported products would encourage local entrepreneurs to produce goods at home. But high tax rate on raw materials will discourage domestic production and encourage imports. For example, a rise in corporation tax (on business profits) has the same effect as an increase in costs of production. Businesses can pass some of this tax on to consumers in higher prices, but it will also affect the bottom line. Other business taxes are environmental taxes (e.g. landfill tax), and VAT (value added tax). The tax borne of VAT is on the final consumer while the administration of VAT system is a huge cost on the business.

**Lending rates** of the banks and the financial policy of a government can affect the economy. If interest rate rises, investment falls because businessmen would not borrow at unviable rates. Governments create the rules and frameworks in which businesses are able to compete against each other. From time to time the government will change these rules and frameworks forcing businesses to change the way they operate. Business is thus keenly affected by government policy. Key areas of government policy that affect business are:

**Economic policy:** A key area of government economic policy is the role that the government gives to the state in the economy. Between 1946 and 1998 the government increasingly interfered in the economy by creating state run industries which usually

took the form of public corporations. However, from 1999 onwards we saw an era of privatisation in which industries were sold off to private shareholders to create a more competitive business environment.

Interest rate is another area of economic policy determined by government. In Nigeria, the Monetary Policy Committee meets every month to determine the level of interest rates adopted in the economy. For instance, a rise in interest rates raises the costs of doing business and also affects the purchasing power of consumers thereby leading to a fall in business sales.

Government spending policy also affects business. For example, if the government spends more on a particular sector, this will increase the income of businesses that supply inputs in that sector. Government also provides subsidies for some business activity - e.g. provision of petroleum subsidy, tax holiday and removal of excise duties from inputs of real sectors in the economy.

Empirically, Spyros (2001) examined the impact of inflation (monetary policy) on return on stock in Greece using a VAR model and found out that inflation hedges stock returns. In the same vein, Floros (2004) also investigated the causal relationship between inflation and return on assets and found that there was no causal relationship between the two variables in Greece.

On fiscal policy, Unegbu and Irefin (2011) examined the impact of value added tax (VAT) on economic and human developments in Adamawa State, Nigeria between 2001 and 2009. The result of the study revealed that VAT allocations accounted for 91.2% of the variations in expenditure pattern of the State.

In the same vein, the study on the impact of VAT compliance on business by Symons, Howlett, and Alcantara in 2011 used 2008 paying taxes in calendar year across 183 economies. In this study, three indicators were considered as measures of compliance which are; cost of taxes, compliance burden and collection rate. The results showed that on the average, it takes longer time for companies to comply with VAT than to comply

with corporate income tax. It also revealed that administration approach adopted by a country accounted for the variation in the amount each country generates from VAT.

Furthermore, Umeora (2013) examined the effect of Value Added Tax (VAT) on economy growth in Nigeria and concluded that VAT has impacted positively in terms of revenue to the economy but negatively affect businesses in Nigeria.

For monetary policy, Chawla (2011) in his study on the impact of exchange rate fluctuation on the competitiveness of business concluded that the loss of currency devaluation leverage by some European countries due to the adoption of a single currency by most European countries may create opportunities for Chinese organization to buy western companies if China revalue its currency to reduce its current account surplus.

Subsequently, using a unique dataset with information on the currency composition of firms' assets and liabilities, Kamil (2012) examined the effect of exchange rate regimes on foreign currency borrowing decisions and the associated currency mismatches of firms' balance sheets in six Latin-American countries. The study revealed that as countries switched from fixed to floating exchange rate regimes, foreign currency exposures levels of firms reduced their share of debt contracted in foreign currency and vulnerability to exchange rate shocks.

In addition, Umoru and Oseme (2013) used Vector Error Correction Mechanism (VECM) to analyse the J-curve effect in Nigeria from 1970 to 2011. The empirical results of the study support the non-existence of J-curve hypothesis in Nigeria. Although there is indication of a cyclical feedback between the trade balance and the real exchange rate depreciation of the Naira however, the short-run deterioration of the trade balance cannot be attributed to fluctuation in exchange rate in the country.

Usman and Adejare (2014) empirically examined the effect of monetary policy on industrial growth in Nigerian covering the period of 1970 to 2010. Their results showed

that rediscount and deposit rates have significant positive effect on industrial output but Treasury Bills has negative impact on industrial output.

### 3.0 Framework and Methodology

#### 3.1 Framework and model specification

This study draws from Syros (2001) which is in line with the Fisherian hypothesis that states that inflation hedges return on stock or assets. The functional form is given as:

$$ROA = f(Inf) \quad (1)$$

Augmenting equation (1) with exchange rate (monetary policy) and VAT (fiscal policy), gives:

$$ROA = f(Inf, Vtax, Exrt) \quad (2)$$

Using the fully-modified OLS, equation (2) is re-specified below as:

$$ROA_t = \alpha_0 + \beta_1 Inf_t + \beta_2 Vtax_t + \beta_3 Exrt_t + \varepsilon_t \quad (3)$$

Where:

$\alpha_0$  = Autonomous incomes

$\beta_1, \beta_2$  and  $\beta_3$  are parameters

ROA = Return on Assets

INF = Inflation rate

VTAX = Value Added Tax

EXRT = Exchange rate

$\varepsilon$  = Error Term

A priori,  $\beta_1 < 0$  that is a change in inflation rate will lead to decrease in ROA,  $\beta_2 < 0$ ; a change in value added tax will lead to a negative change in ROA and  $\beta_3 < 0$ ; a change in exchange rate will also lead to a negative change in ROA.

#### 3.2 Methodology

The estimation technique adopted for this study is the fully-modified Ordinary Least Square. In this approach, the stationarity of the data is determined using the Augmented Dickey Fuller (ADF) unit root. If the variables of interests (ROA, Infl, Vtax and Exrt) are integrated of order 1, the Johansen cointegration test is conducted to examine the long run relationship among the variables. Having determined this, the fully-modified OLS which is the cointegration regression is estimated to determine the long run effect of infl, Vtax and Exrt on ROA. In the ADF test adopted, two models were considered viz, with constant and constant with linear trend. The null hypothesis is that there is the presence of unit root. The ADF regression is given below as:

$$\Delta x_t = \alpha x_{t-1} + K\Delta x_{t-i} + \alpha + \beta_t + \varepsilon_t \quad t = 1, \dots, n$$

where  $x_t$  is the relevant time series,  $\alpha$  is a constant,  $\beta_t$  is a time trend and  $\varepsilon_t$  is the residual term. The test is carried out separately for each variable at level and first difference in order to determine their order of integration.

### 3.3 Sources of Data

This study employed annual data that covers the period 1970 to 2010 in Nigeria. Data for the study are obtained from secondary sources such as the Statistical Bulletin of the Central Bank of Nigeria (CBN) for various editions and annual reports account of a commercial bank<sup>1</sup> listed in Nigeria stock exchange. The variables of interest are; Return on assets of a listed bank in Nigeria, inflation rate, value added tax and exchange rate. Inflation rate, VAT and exchange rate are used as proxy for monetary and fiscal policy because of the immediate impact they have on the cost of production and prices of finished goods of firms in Nigeria. ROA was used as a measure of the firms' performance because of the availability of data.

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<sup>1</sup> annual report of First Bank PLC was used for this analysis.



## 4.0 Presentation and Interpretation of Findings

### 4.1. Descriptive Statistics

The summary of the statistics used in this empirical study is presented in Table 1. As observed from the table, firm performance (proxied as ROA) has the highest mean value of 12.87, while value added tax (proxied as VTAX), has the lowest mean value of 7.60 whereas the mean values for exchange rate (EXR), and inflation (INF) are 9.03 and 10.97 respectively. The analysis was also fortified by the value of the skewness and kurtosis of all the variables involved in the model. The skewness is a measure of dispersion away from the mean value while the kurtosis is a measure of the symmetry of the histogram. The bench mark for symmetrical distribution i.e. for the skewness is how close the variable is to zero. From this study, it can be observed that all the variables: return on asset (ROA), inflation (INF), value added tax (VTAX) and exchange rate (EXRT) are positively skewed.

**Table 1 Showing the Summary of Descriptive Statistics**

	ROA	INF	VTAX	EXRT
Mean	12.87	10.97	7.60	9.03
Median	12.60	12.51	7.59	8.95
Maximum	16.89	15.30	7.60	14.99
Minimum	8.48	5.68	7.59	4.99
Standard Deviation	2.98	3.37	0.01	3.29
Skewness	0.13	0.47	0.01	0.21
Observation	40	40	40	40

*Source: Author's Computation*

### 4.2 Correlation matrix and Chow Break Point test

The correlation matrix is carried out on the time series to see if any of the independent variable correlates with each other so as to avoid multicollinearity while the chow break

point test is conduct to show the effect of structural break on return on asset over the period of the study.

**Table 2: Correlation Matrix**

Variables	ROA	INFRT	VTAX	EXRT
ROA	1.000			
INFRT	0.119	1.000		
VTAX	0.216	0.008	1.000	
EXRT	0.156	-0.215	0.258	1.000

*Source: Author's Computation*

Table 2 revealed that none of the independent variable correlates with each other suggesting that the set of independent variables can be regressed on the dependent variable (ROA). For the chow break point test, two years were considered. These years are 1986 when Nigeria adopted the Structural Adjustment Programme (SAP). This policy change redefines government policy in Nigeria. The second year was in 1999 which signified when Nigeria moved from military rule to democracy. The result of the chow break point test is presented in Table 3 below:

**Table 3: Chow Break Point test**

Chow Breakpoint Test: 1986; 1999			
Null Hypothesis: No breaks at specified breakpoints			
F-statistic	1.275	Prob. F(8,29)	0.294
Log likelihood ratio	12.356	Prob. Chi-Square(8)	0.136
Wald Statistic	10.199	Prob. Chi-Square(8)	0.251

*Source: Author's Computation*

Table 3 reveals that the F-statistics is very low and the probability value is not significant at any level suggesting that the null hypothesis of no breaks at specified

breakpoint cannot be rejected implying that structural changes did not affect any of the variables in the model.

### 4.3. Result of Unit Root Test

Time series properties of all variables used in estimation were examined in order to obtain reliable results. Thus, this exercise was carried out through Augmented Dickey Fuller (ADF) test as articulated by Engel and Granger (1987). In this analysis, constant model was considered. The null hypothesis in the ADF is that there is the presence of unit root. Table 4 reports the results of ADF.

**Table 4: Stationary Test Result**

Variables	At Level		At First Difference		Order of Integration
	ADF Values	Mackinnon Critical Values	ADF Values	Mackinnon Critical Values	
ROA	-0.229	-3.606	-5.444*	-4.212	I(1)
INF	-1.673	-3.873	-6.118*	-4.219	I(1)
VTAX	-0.943	-3.955	-5.398*	-3.610	I(1)
ERT	-1.249	-3.250	-5.008*	-4.212	I(1)

*Source: Author's Computation*

*NOTE: One, two and three asterisk denotes rejection of the null hypothesis at 1%, 5%, and 10% respectively based on Mackinnon Critical Values.*

The above results show that ROA and INF, VTAX as well as ERT are non-stationary series at level, but after first difference. Thus, the all the series are I(1) after first differencing. The above Augmented Dickey Fuller (ADF) tests suggest that ROA and INF, VTAX and ERT are of the same order of integration.

#### 4.4 Cointegration test

The order of integration of time series determines if their linear combination would be stationary that is, integrated of order zero (0). In this scenario, ROA, Inf, Vtax and Exrt are nonstationary at I(1) this implies that we can only regress ROA on inf, Vtax and Exrt only if they are cointegrated. Otherwise the result that would be obtained from such regression would be spurious. To test for cointegration, the Johansen and Juselius (1990) maximum-likelihood approach is adopted for the three models above. The lag length selection criterion is conducted

**Table 5 : VAR Lag Order Selection Criteria**

Endogenous variables: ROA, Inf, Vtax, Exrt

Exogenous variables: C

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-86.88083	NA	6.80e-05	4.594042	4.805152	4.670372
1	185.4997	463.0470	2.92e-10*	-7.774987*	-6.508327*	-7.317003*
2	218.7347	48.19069*	2.06e-10	-8.186735	-5.864526	-7.347098

*Source: Author's Computation*

From Table 5 above, the optimal lag length selected for the models is one when the four different information criteria ie Akaike Information Criterion, Schwartz Information Criterion, Hannan-Quinn Information Criterion and Final Prediction Error are considered.

Based on the above results, the Johansen cointegration test is conducted and the result is presented in Table 6. The result shows that there are at-most 3 co-integrating equations in the Model. This implies that there exists a long-run relationship between the variables in the model.

**Table 6: Johansen Hypothesized Co-integrating Relations**

Null Hypothesis	Alternative Hypothesis	Trace Statistics	5% critical level	Max-Eigen Statistic	5% critical	No of cointegrating Equation
R=0*	R=1	124.48	40.17	78.21	24.16	3
R≤1*	R=2	46.27	24.27	30.33	17.79	
R≤2*	R=3	15.94	12.23	13.04	11.22	
R≤3	R=4	2.91	4.13	2.91	4.12	

*Source: Author's Computation*

The cointegration results as presented in Table 6 indicate that there is a long run relationship between the variables in the model. Therefore the long run determinants of business performance (ROA) using the Fully-modified Ordinary Least Square (FMOLS) is presented in Table 7. The FMOLS is better in capturing the apriori expectations of each of the explanatory variables in the model and to measure the effect of a percentage change in any of the independent variables (Infl, Vtax and Exrt) on the dependent variable (ROA).

**Table 7: Fully- Modified OLS Result**

Dependent Variable: ROA				
Method: Least Squares				
Variable	Coefficient	Std.Error	t-Statistic	Prob
C	4.22	0.297	13.231	0.0001
INF	-0.26	-0.345	-5.449	0.0041
VTAX	0.12	0.213	8.673	0.0005
EXRT	-0.25	-0.346	-4.824	0.0021
R = 0.857				
Adjusted R <sup>2</sup> = 0.828				
DurbinWatson: 1.893				

*Source: Author's Computation*

#### **4.5 Discussion of findings from Fully-Modified OLS Result**

The results presented in Table 7 show that the overall coefficient of determination ( $R^2$ ) of the equation was 0.857 suggesting that 86% change in the dependent variable (ROA) is caused by the independent variable (INF, VTAX and EXRT). The higher the  $R^2$ , the higher the goodness of fit, the more reliable is the model.

As the adjusted ( $R^2$ ) tends to purge the influence of the number of included explanatory variables, the adjusted ( $R^2$ ) of 0.828 shows that having removed the influence of the explanatory variables, the model is still of good fit. The Durbin Watson (D.W) statistics of 1.893 is significant within the bench mark thus we can conclude that there is no auto-correlation or serial correlation in the model specification. The prob. (F- statistic) shows that the model is significant at 1%, 5%, and 10%.

The long run estimated effects of INF, VTAX and EXRT revealed that monetary policy (INF and EXRT) impacted negatively on ROA. This imply that a 1% increase in inflation and exchange rates will bring about 26% and 25% decrease in business performance, respectively. The coefficient of the measure of fiscal policy (VTAX) is positive indicating that changes in VTAX impacted positively on business performance. Although this result is in dissonance with the negative sign hypothesized by theory, further intuition shows that significant proportion of incidence of VTAX in Nigeria is shifted to the customers. There is no doubt that sound government policy is crucial in stimulating business growth, there seems to be a growing consensus that consistent and increasing government presence in an economy can hinder economic growth, especially in developing countries like Nigeria.

#### **5.0 Conclusion**

The objective of the study was to probe the effect of fiscal and monetary policy on business organizational performance in Nigeria, utilizing the Fully- modified Ordinary Least Square Method (FMOLS) between 1970 and 2010. The empirical results showed

that inflation and exchange rate which are measures of monetary policy had negative impact on performance of businesses measured by return on asset (ROA). The results also reveal that value added tax (VAT) had a positive and significant impact ROA. The major implication of these results is that fluctuation in inflation and exchange rate affect the price of product produce by these firms thus having negative impact on the demand and supply of these products.

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