

Value Added Tax and Investment Growth in Nigeria: Time Series Analysis

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Abstract: *This paper examined the impact of value added tax on investment growth in Nigeria. Value Added Tax (VAT) was introduced by the Federal Government of Nigeria in 1993 to replace Sales Tax. The aim was to increase the revenue base of government and make funds available for developmental purposes that will accelerate economic growth. Time series data on investment, government expenditure, real exchange rate, real interest rate and trade openness from the central bank of Nigeria statistical Bulletin (CBN) were analyzed, using multiple regression analysis. The results show that Value Added Tax has significant effect on investment growth in Nigeria. The study recommends that there should be dedicated and apparent honest on the parts of all agents of VAT with respect to the collection and government should try as much as possible to improve on the way of collecting value added tax.*

Key words: *Value added tax, Investment, Economic growth, Government revenue and Time series*

I. Introduction

Value Added Tax in Nigeria was created to replace sales Tax that was in operation. It was imposed on all goods that were manufactured in Nigeria as well as goods that are being sold in Nigeria but were produced outside. VAT Decree No. 102 made on the 24th of August, 1993 by the Federal Government, certain goods and services have been exempted from the preview of Value Added Tax. A number of services have been exempted from Value Added Taxation in Nigeria. These services are all services that are exported, medical services, plays and performance that are run by educational institutions for educational purposes and services that are provided by community banks, mortgage organizations and people's banks.

The Value Added Tax is one of the major sources of financing in many developing countries. In 1994, the Value added tax in Nigeria contributed 4% of the total revenue raised by the federal government while in 1995 the rate of contribution was 5.39%. Some of the countries where Value Added tax (VAT) has become a major source of revenue are Benin, Cote D'ivoire, Guinea, Kenya, Madagascar, Mauritius, Niger, Senegal, Togo and , lately, Nigeria (Ajakaiye 1999). Tait (1989) shows that VAT has been in effect in Ecuador and Mexico since 1973 and accounted for 12.35% in Ecuador and 19.71% in Mexico in 1983. Indonesia introduced VAT in 1983 and by 1988; the ratio of VAT revenue to GDP had risen to 4.5% (Bogetic and Hassan, 1993).

VAT is expected to have a single effect on consumer prices and should not add more than the specified rate to the consumer price no matter the number of stages at which the tax is paid. The credit method of collection should eliminate any cascading effects. All commodities attract VAT with the exception of medical and pharmaceutical products and basic food items such as, beans, yam, cassava, maize, rice, whet, milk and fish, infant food items, etc. In this case all imported goods attract VAT. In 1995, the VAT revenue distribution formula was modified as the share of federal government increased from 20% to 50%, while the share of state government increased from 0% to 25%.

The above discussions demand answers for the following questions.

- What are the impacts of VAT on investment growth in Nigeria?
- Is there a long run relationship between VAT and investment growth in Nigeria?

Objective

The overall objective of this paper is to determine the impact of VAT on investment growth in Nigeria. The specific objectives of the study are:

- To determine the impact of VAT on the investment growth in Nigeria.
- To trace whether there is a long run relationship between VAT and investment growth in Nigeria

Hypotheses

The hypotheses of the studies are:

- VAT has no significant impact on the investment growth in Nigeria.
- VAT has no long run relationship with investment growth in Nigeria.

II. Literature

Taxation theory is based on a link between tax liability and state activities. The theoretical underpinning of VAT is being derived from the expediency theory and the benefits-received theory. The Expediency theory asserts that every tax proposal must pass the test of practicability and must be considered in choosing a tax proposal. Taxation provides a powerful set of policy tools to the authorities and should be effectively used for remedying economic and social ills of the society such as income inequalities, regional disparities, unemployment, and cyclical fluctuations.

The benefits-received theory proceeds on the assumption that there is basically an exchange or contractual relationship between tax-payers and the state. The state provides certain goods and services to the cost of these supplies in proportion to the benefits received. The benefits received are taken to represent the basis for distributing the tax burden in a specific manner. This theory overlooks the possible use of the tax policy for bringing about economic growth or economic stabilization in the country.

According to Ariyo (1997) Nigeria's over dependence on oil revenue to the total neglect of other revenue source was encouraged by the oil boom of 1973/74. This is unsustainable due to the fluctuation with oil market which has in most cases plugged the nation into difficult budgets. It was the view of Popoola ((2009) that Nigeria tax administrator and practice be structured towards economic goal achievement since government budget for the year centers on the oil sector. While decrying the low productivity of the Nigeria tax system, "deficiencies in the tax administration and collection system, complex legislatures and apathy on the part of those outside the tax net" were identified as some of the root causes (Ijewere 1991 and Ndekwu 1991 as cited in (Ariyo 1997).

Evidence so far supports view that VAT is already a significant source of revenue in Nigeria. For example, actual VAT revenue for 1994 was N8.194 billion, which is 36.5% higher than the projected N6 billion for the year. Similarly actual VAT revenue for 1995 was N21 billion compared with the projected N12 billion. Several empirical studies suggest that financial capital flows also are sensitive to tax regimes. Bovenberg *et al* (1990) found that bilateral flow of portfolio capital between Japan and the United States in the 1980s are explained partly by relatively higher taxes on investment (e.g. corporate taxes).

Nwafor (2010) carried out a work on the effect on VAT on the Nigeria economy 1997 to 2007 using regression analysis. The empirical result of her Hypothesis shows that VAT has a significant positive effect on Nigeria economy as well as on the consumption patterns of Nigeria. Her work also showed that VAT has contributed significantly to the increase standard of living in the Nigeria economy. Evidences from her result also showed that there is no significance different between inflation rate before the introduction of VAT and after the introduction of VAT. However, she therefore argued that the introduction of VAT in the Nigeria economy has contributed significantly to increase Economic growth and increased standard of living. Jenkins (1989) compared the tax system of Sri lanka prior to 1977. The Sri lanka tax rates prior to 1977 were quite high, but were ineffective in raising adequate revenue.

Udezue (2008) also carried out a work on the impact of taxation on foreign direct investment (FDI): using Nigeria as a case study.

III. Model

The methodology of this study will follow an econometric analysis based on linear regression model the functional form of the model is stated as:

$$INVEST = f(VAT, GEXP, RER, RIR, NX, TOPN)..... (1)$$

In order to trace the individual and random effects, equation (1) is transformed into equation (2) as:

$$Invest: \alpha_0 + \alpha_1VAT_t + \alpha_2GEXP_t + \alpha_3RER_t + \alpha_4RIR_t + \alpha_5NX_t + \alpha_6 TOPN + \mu_t.... (2)$$

Where invest =investment rate

VAT = value added tax

GEXP = government expenditure;

RER = exchange rate

RIR = real interest rate;

NX = net export

TOPN = trade openness and

μ_t = stochastic error term.

Sources of Data:

The data are annual time-series gotten from the Central Bank of Nigeria's Statistical bulletin 2010

Tests

Pre-estimation tests that were carried out in this study are:

- Stationarity Test: This is undertaken to investigate whether the mean value and variance of the stochastic process are constant over time. The Augmented dickey fuller (ADF) Test was be adopted.

- Co-integration Test: This is to ascertain whether the variables have long run relationship or are stable over time, as a result of their different order of integration. The Augmented Dickey fuller test is used to confirm the existence of long- run relationship.

IV. Results

The results of the regression model are presented with the aid of table 1.

Table 1: Results of the investment function

Variables	Coefficient	Standard Error	t-Value
GEXP	-0.0976	0.2256	-0.43
RER	1185.994	1524.911	0.78
RIR	-1549.259	3066.402	-0.51
NX	-0.125	0.0377	-3.31
TOPN	905.883	2048.713	0.44
VAT	17.526	4.194	4.18
Constant	-63174.49	100237.1	-0.63

$R^2 = 0.9771$

The above results shows that a unit change in government expenditure decreases investment in Nigeria by 0.0976. Real interest rate and net export affect investment growth negatively by -1549.259 and -0.125 respectively. Value Added Tax, Real exchange rate and the degree of trade openness impact positively on investment growth in Nigeria. VAT and net exports exhibit significant impact on the growth of investment. The results further show that explanatory variables in the model explain up to 97.7% of the variations in investment in Nigeria.

The results of the stationary test of Augmented Dickey-Fuller show that all the variables are integrated of order zero $I(0)$ except real exchange rate which is integrated of order one $I(1)$. The relationship among investment, Value Added Tax and Net Export is shown with the aid of figure 1

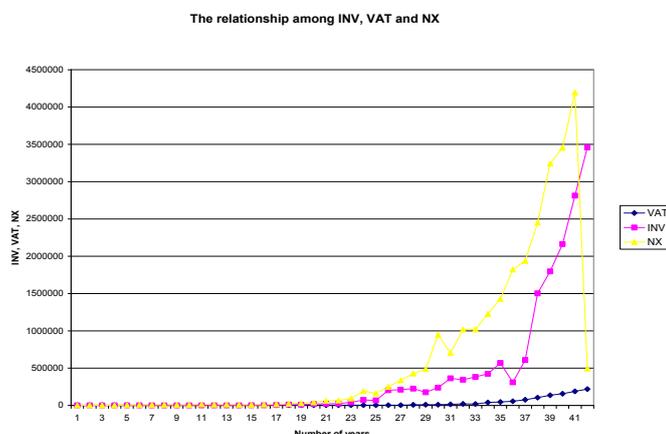


Figure 1: The relationship among investment, VAT and Net Export in Nigeria.

Figure 1 shows that Investment increases as Net Export increases but not as increase in net export until 2011 when Net Export decreased drastically irrespective of high investment. The result of the co-integration shows that the variables have a long run relationship. This shows that there is long run equilibrium among the variables.

4.3 Summary of Findings

Value Added Tax is found to be one of the significant factors affecting investment growth in Nigeria. Pre-estimation tests indicate that all the variables are integrated of order zero $I(0)$ with the exception of real exchange rate which is integrated of order one $I(1)$. Empirical results of the multiple regression show that VAT and Net Export are the only significant variables in the model while others are not statistically significant. The sign of VAT does not conform with the a priori expectation of the model. There is a long run relationship between investment growth and Value added Tax as shown by the co-integration result.

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