

THE EFFECT OF NON-OIL REVENUE ON ECONOMIC GROWTH IN NIGERIA: FURTHER EVIDENCE FROM ARDL MODEL

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Abstract

The aim of the present study is to investigate the relationship between non-oil tax revenue and economic growth in Nigeria. In particular, the study analyzes the effects of personal income tax and company income tax on real GDP from 1981 to 2016 using annual data. The autoregressive distributive lag framework is employed. The results show that both personal income tax and company income tax have an insignificant positive effect on real GDP. We, therefore, recommend that Federal Government should tighten its belt on its non-oil revenue sources so that income tax leakages could be minimized.

Key words: Non-oil revenue, personal income tax, company income tax, real GDP

Introduction

Tax is an important source of government revenue. Hence, policies guiding taxation are usually aimed at achieving specific goal like revenue generation which is a necessary tool for economic development and growth (Umoru & Anyiwe, 2013). Revenue in form of tax is used by the government to perform their primary duties such as construction of good roads, provision of internal and external securities, maintenance of law and order, regulation of trade and businesses, etc. (Otu & Adejumo, 2013).

One major function of the government is to create tax policies such that they can effectively collect and manage taxes from all resources in order to encourage economic growth. Such tax policies and structure enables the government to have access to additional revenue which they need to help in the economic growth of the country. According to Ogbonna (2010), a good tax structure provides itself as the most effective means of organizing the internal resources in a country and it helps create conducive environment for the promotion of

economic growth. Developing countries like Nigeria need to learn from the governments of developed countries like the United States, United Kingdom, Canada, Netherland, etc. who used tax (company income tax, value added tax, import duties) to grow their economy to a standard level (Appah, 2004). Assessing the outcomes from developed nations, it can be said that tax revenue is a useful tool in achieving economic stability. However, the tax revenue in Nigeria is termed disappointing to the government as it has not met their expectations. This is partly because of their concentration on the oil tax revenue, which is a means of solving most of the problems faced by the country as the government provides social and economic infrastructures, but this also leads to the neglect of the non-oil tax revenue with the government losing on company income tax and customs and excise duties. Although, the Nigerian government has pledged to create better tax structures to develop the non-oil tax revenue in order to boost their income from tax (Adereti et al, 2011).

Most researchers investigated the impact of direct and indirect taxes on economic growth with mixed and conflicting findings and most times inconclusive results were presented. However, Avi-Yonah and Margalioth (2006) reported that direct taxation accounts for about two third of the total tax revenue generated in developed countries, while Burgess and Sten, 1993 suggested that developing countries should be more interested in the use of indirect taxes. While researchers like Lee and Gordon (2005), Jones *et al.* (1993), Li and Sarte (2004), Kneller *et al* (1999), Wildmam (2001), etc. reported a positive relationship between indirect tax and economic growth, Emran and Stigliz (2005), Gordon and Li (2005), Baunsgaard and Keen (2005), and Abizadelh (1979) reported that direct taxation is very important in the economic growth of a country. The results from researchers on the subject matter are mixed and most times the results are obtained from investigations from developed countries. There are few studies on tax structure and economic growth in Africa with most of the researches carried out in South Africa. It is therefore, unwise to use results from developed countries to assess developing country, this however, induce knowledge gap.

The aim of this study is to investigate the impact of non-oil revenue tax income tax on economic growth in Nigeria. In particular, the study intends to use the autoregressive distributive lag method to examine the impact of both personal income tax and company income tax on real GDP from 1981 to 2016.

The rest of the study his structured as follows: The next section contains both the theoretical and empirical literature review. Section 3 discusses the data and method used to in empirical analysis. Section 4 contains the empirical results and section 5 concludes the study.

Literature Review

Tax is a levy that is imposed by the government on citizens and organizations in a country, using some predetermined criteria. Proceeds from tax aids the government to provide required social amenities, security and create a good environment for the economic well-being of the society (Appah, 2004; Basse, 2013). Bhartia (2009) stated that tax by giving his definition as a compulsory levy payable by an economic unit to the government without any corresponding entitlement to receive a definite and direct quid pro quo from the government.

Appah (2010) stressed the importance of good tax structure in the process of economic development. This is due to the multiple roles the tax structure plays in the economic development process. Nzotta (2007) outlined four characteristics of tax: (1) tax is a compulsory contribution made by the citizens to the government of a nation; (2) tax imposes a general obligation on the tax payer; (3) there is a belief that the levy paid by citizens and organizations is not equal to the benefits they receive from the government and (4) the imposition of tax on citizens and organizations by the government is not done because the government wants to render service to the citizens.

Tax can be direct or indirect. Direct taxes include personal income tax, company income tax, educational tax, petroleum profit tax, while indirect taxes include value added tax and custom, and excise duty (Umoru & Anyiwe, 2013). According to Umoru and Anyiwe (2013), personal income tax is the tax imposed on the salary of a citizen while education tax is the tax imposed on corporate bodies incorporated in Nigeria to help upgrade the education facilities and help solve some pending financial problems in the educational sector (Kizito, 2014). However, the company income tax as defined by Chigbu and Njoku (2015) is a tax imposed on the profit made by companies in Nigeria while petroleum profit tax is the tax imposed on companies engaged in the extraction and transportation of petroleum products. On the other hand, the indirect taxes are expenditure taxes. While the value added tax is a consumption tax levied at each stage of the consumption chain but paid by the final consumer of a product (Ariyo, 1998), the custom and excise duties are taxes imposed on all goods and services that are imported into Nigeria (Umoru & Anyiwe, 2013).

There are several studies on the impact of tax structure on the economic growth of a country. However, the findings from these studies vary. Most of the studies carried out in developed countries are consistent, while that of developing countries tend to be filled with conflicting results. This section tends to look at the various empirical studies on tax structure and economic growth.

Akhor and Ekundayo (2016) investigated the impact of indirect tax revenue on economic growth in Nigeria using secondary data covering a period of 1993 to 2013 using the error correction model. Indirect tax is the independent variable measured by value added tax revenue and custom and excise duty revenue while the dependent variable which is economic growth was measured with real gross domestic product. The findings showed that value added tax had a negative and significant impact on real gross domestic product, while custom and excise duty had a negative and weakly significant impact on real gross domestic product. However, the Error Correction Model (ECM (-1)) coefficient had a correct negative and statistically significant sign which shows that short-run deviation can be quickly corrected.

Ojong, Ogar and Oka (2016) carried out a study on the impact of tax revenue on economic growth in Nigeria. The study had three objectives which include investigating the relationship between petroleum profit tax and the Nigeria economy; to examine the impact of company income tax on the Nigerian economy; and the effectiveness of non-oil revenue on the Nigerian economy. The relationship between the dependent and independent variables was established using Ordinary least square of multiple regression models. The result from the study indicated that there is a significant relationship between the economic growth and both

the petroleum profit tax and the non-oil revenue. However, the study also revealed that there is no significant relationship between the economic growth and company income tax.

Salami, Apelogun, Omidiya and Ojoye (2015) examined the impacts of taxation on the growth of the economy using data from 1981 to 2012. The real GDP was used as a proxy to economic growth which is the dependent variable, while the independent variable, i.e. taxation, was measured by petroleum profit tax, company income tax, customs and excise duties, value added tax. The study used of both simple and multiple linear regression analysis and the findings revealed that all the proxies of taxation exert a significant impact on economic growth.

Lababatu (2014) examined the relationship between tax revenue and economic growth in Nigeria from 1981 to 2010 using multiple linear regression analysis and vector error correction model. The independent variables used are petroleum profit tax, company income tax, custom and excise duty and value added tax while the dependent variable remains the gross domestic product. The results showed that petroleum profit tax, company income tax and value added tax all have a positive impact on Nigeria's economic growth while custom excise and duties impacted negatively. Overall, a significant relationship between tax revenue and the Nigeria economic growth exists.

Okoli, Njoku and Kaka (2014) investigated the impact of taxation on the economic growth in Nigeria from 1994 to 2012 using Granger causality approach. The independent variables used are value added tax, personal income tax, company income tax and petroleum profit tax while the gross domestic product was used as the dependent variable. The result showed that a significant positive relationship exists between taxation and economic growth in Nigeria.

Chigbu and Njoku (2015) also investigated the impact of taxation on the Nigerian economy using time series data from 1994 to 2012. The Gross Domestic Product was used to measure economic growth, inflation and unemployment. Using the OLS technique, the results indicated that positive relationships exist between the independent variables (custom and excise duties, company income tax, personal income tax, petroleum profit tax and value added tax) and the dependent variables (gross domestic product, unemployment). However, the result also showed that the individual independent variables do not significantly affect economic growth.

However, Gale, Krupkin, and Rueben (2015) studied the relationship between taxes and growth at the state level using data from 1977 to 2011. The variables used are personal income per capita, employment population ratio, the amount of total state and local tax revenue, statutory marginal personal income tax rate, adjusted marginal personal income tax rate and unemployment rate. The findings are inconsistent with the view that cuts in top state income tax rates will automatically or necessarily generate growth.

Methodology

Data Description

The empirical analysis in this study is based on yearly data in (logarithmic form) on real GDP (LRGDP), personal income tax (LPIT) and company income tax (LCIT) from 1981 to 2016.

Thus, the sample comprises 36 time series observations. All variables are obtained from the annual statistical bulletin and E Views is used to analyze them. The time series graph of the variables

is given in Figure 1. As expected, we can see that the variables all trended upward over the sampled period.

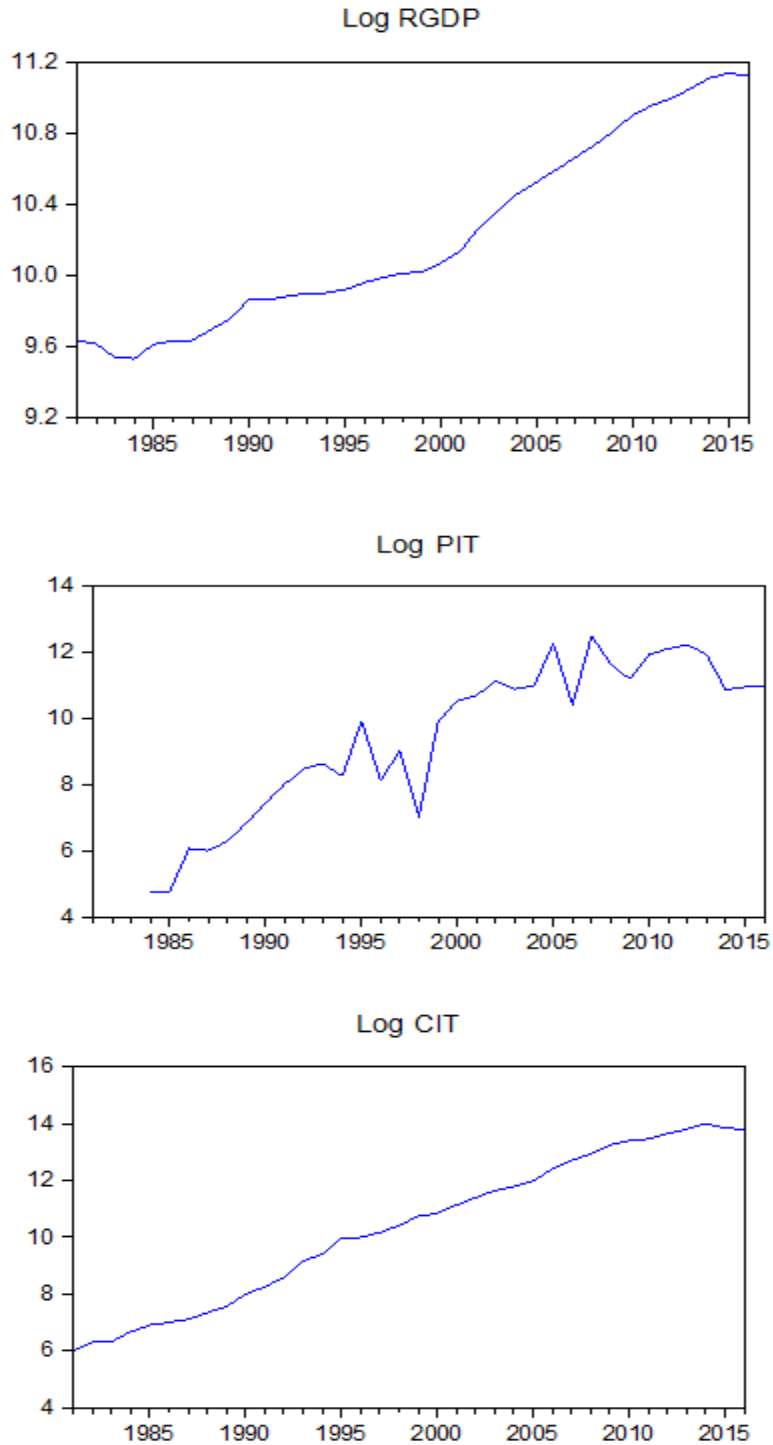


Figure 1: Time series plot of log of RGDP, LPIT and LCIT

Methods and Model

The Autoregressive Distributive Lag (ARDL) framework is employed for empirical analysis. This framework is employed because it allows for a dynamic specification of the relationships being studied. The ARDL model also does not require prior knowledge about the order of integration of the study variables. The implied dynamic model for the relationship between income tax revenue and economic growth is given as follows:

$$LRGDP_t = \beta_0 + \beta_1 LRGDP_{t-1} + \beta_2 LPIT_t + \beta_3 LPIT_{t-1} + \beta_4 LCIT_t + \beta_5 LCIT_{t-1} + \epsilon_t$$

Where $LRGDP_t$ = logarithm of real GDP at time t , $LRGDP_{t-1}$ = logarithm of real GDP at time $t - 1$, $LPIT_t$ = logarithm of personal income tax at time t , $LPIT_{t-1}$ = logarithm of personal income tax at time $t - 1$, $LCIT_t$ = logarithm of company income tax at time t , $LCIT_{t-1}$ = logarithm of company income tax at time $t - 1$ and D is a dummy variable which takes a value of 1 for the period before economic rebasing (1981 – 2009) and zero for the period after economic rebasing (2010 – 2016).

Empirical Analysis

In this section, we estimate our empirical model for the relationship between non-oil tax revenue and real GDP. The estimation is based on Newey-West HAC standard errors and the lag length is selected on the basis of low information using the Schwarz information criterion. Table 1 shows the ARDL estimation results.

Table 1: Empirical Results for LRGDP and Non-oil Tax Revenue

Variable	Coefficient	T-value	P-value
LRGDP(-1)	0.951713	18.43666	0.0000
LPIT	0.007880	1.430763	0.1632
LCIT	0.006807	0.541796	0.5921
Constant	0.394469	0.938768	0.3556
R-squared	0.995871	F-statistic	2331.71 (0.0000)
Adjusted R-squared	0.995444	Durbin-Watson	1.384515

From table 1, the coefficient on LRGDP (-1) is positive (beta = 0.9517, p-value = 0.0000) with an associated zero p-value, indicating that the real GDP at time $t - 1$ has a highly significant positive influence on real GDP at time t . This reflects the autoregressive nature of real GDP, implying that an increase in real GDP in the current year would lead to an increase in real GDP in the next one year. This is also another contribution of this study since none of the previous works incorporates the effect of previous real GDP while studying the relationship between non-tax oil revenue and economic growth. Further, although, the coefficients on LPIT (beta = 0.0078, p-value = 0.1632) and LCIT (beta = 0.0068, p-value = 0.5921) both are positive, none of them is statistically significant even at 10% level. This suggests that personal income tax and company income tax both have no significant impact on real GDP. These results are

inconsistent with most of the previous studies including Lababatu (2014), Okoli, Njoku and Kaka (2014) and Salami, Apelogun, Omidiya and Ojoye (2015). However, the results are consistent with the findings of Chigbu and Njoku (2015) and Ojong, Ogar and Oka (2016).

In terms of overall model fit, the F-statistic is however, associated with a zero probability, suggesting that overall regression is highly significant. These results are also reliable given that the HAC standard errors are used. These standard errors are robust to both autocorrelation and heteroskedasticity.

Summary and Conclusion

The aim of the present study is to investigate the relationship between non-oil tax revenue and economic growth in Nigeria. In particular, the study analyzes the effects of personal income tax and company income tax on real GDP from 1981 to 2016 using annual data. The autoregressive distributive lag framework is employed. The results show that both personal income tax and company income tax have an insignificant positive effect on real GDP. We, therefore, recommend that Federal Government should tighten its belt on its non-oil revenue sources so that income tax leakages could be minimized.

References

- Abizadeh, S. (1979). Tax ratio and the degree of economic-development. *Malayan Economic Review*, 24(1), 21-34.
- Adereti, S. A., Sanni, M. R., & Adesina, J. A. (2011). Value added tax and economic growth of Nigeria. *European Journal of Humanities and Social Sciences*, 10(1), 2220 - 9425.
- Akhor, S. O., & Ekundayo, O. U. (2016). The impact of indirect tax revenue on economic growth: The nigeria experience. *Igbinedion University Journal of Accounting*, 2, 62-87.
- Appah, E. (2004). Principles and practice of nigerian taxation. *Ezevin Mint Printers and Publishers, Port Harcourt*.
- Ariyo, A. (1998). Productivity of the Nigerian tax system: 1970 to 1990. *African Economic Research Consortium*, Nairobi Kenya.
- Avi-Yonah, R., & Margalioth, Y. (2007). Taxation in developing countries: Some recent support and challenges to the conventional view. *Va. Tax Rev.*, 27, 1.
- Barro, R. J. (1999). Notes on growth accounting. *Journal of Economic Growth*, 4(2), 119-137.
- Bassey, O. (2013). Personal income tax in nigeria. *Lagos, CIBN Press Limited*,
- Bhartia, H. L. (2009). *Public Finance*. 14th Edn. New Delhi : Vikas Publishing House PVT Ltd.
- Burgess, R., & Stern, N. (1993). Taxation and development. *Journal of Economic Literature*, 31(2), 762-830.
- Chigbu, E. E., & Njoku, C. O. (2015). Taxation and the nigerian economy (1994-2012). *Management Studies and Economic Systems*, 54(2648), 1-18.
- Emran, M. S., & Stiglitz, J. E. (2005). On selective indirect tax reform in developing countries. *Journal of Public Economics*, 89(4), 599-623.

- Furceri, D., & Karras, G. (2008). Tax changes and economic growth: Empirical evidence for a panel of OECD countries. *Manuscript, University of Illinois, 1*, 1-29.
- Gale, W. G., Krupkin, A., & Rueben, K. (2015). The relationship between taxes and growth at the state level: New evidence. *National Tax Journal, 68*(4), 919-942.
- Gordon, R.H. & Li, W., (2002). Taxation and economic growth in China. University of.
<http://econweb.ucsd.edu/~rogordon/hongkng4.pdf>
- Jones, L. E., Manuelli, R. E., & Rossi, P. E. (1993). Optimal taxation in models of endogenous growth. *Journal of Political Economy, 101*(3), 485-517.
- Keen, M. M., & Baunsgaard, M. T. (2005). *Tax revenue and (or?) trade liberalization* International Monetary Fund.
- Kneller, R., Bleaney, M. F., & Gemmell, N. (1999). Fiscal policy and growth: Evidence from OECD countries. *Journal of Public Economics, 74*(2), 171-190.
- Lababatu, S. G. (2014). Tax revenue and economic growth in Nigeria. *M.Sc. Thesis* submitted to department of Accountancy, Faculty of Administration, Ahmadu Bello University, Zaria.
- Lee, Y., & Gordon, R. H. (2005). Tax structure and economic growth. *Journal of Public Economics, 89*(5-6), 1027-1043.
- Nzotta, S. (2007). Tax evasion problems in Nigeria: A critique. *The Nigerian Accountant, 12*(1), 40-43.
- Ogbonna, G., & Ebimobowei, A. (2012). Impact of petroleum revenue and the economy of nigeria. *Current Research Journal of Economic Theory, 4*(2), 11-17.
- Ojong, C. M., Anthony, O., & Arikpo, O. F. (2016). The impact of tax revenue on economic growth: Evidence from Nigeria. *IOSR Journal of Economics and Finance, 7*(1), 32-38.
- Okoli, M. N., Njoku, C. O., & Kaka, G. N. (2014). Taxation and economic growth in nigeria; A granger causality approach.
- Otu, H. B., & Adejumo, T. O. (2013). The effects of tax revenue on economic growth in nigeria. *International Journal of Humanities and Social Science Invention, 2*(6), 16-26.
- Petru-Ovidiu, M. (2015). Tax composition and economic growth. a panel-model approach for eastern europe. *Annals of'Constantin Brancusi'University of Targu-Jiu.Economy Series, 2*(1)
- Salami, G., Apelogun, K., Omidiya, O., & Ojoye, O. (2015). Taxation and nigerian economic growth process. *Research Journal of Finance and Accounting, 6*(10), 93-101.
- Solow, R. M. (1970). Growth theory. an exposition. *Growth Theory. an Exposition.*
- Umoru, D., & Anyiwe, M. (2013). Tax structures and economic growth in nigeria: Disaggregated empirical evidence. *Research Journal of Finance and Accounting, 4*(2), 65-81.
- Uyi Kizito, E. (2014). The nexus between tax structure and economic growth in nigeria: A prognosis. *Journal of Economic and Social Studies, 4*(1), 107-131.

- Wenli, L., & Sarte, P. (2004). Progressive taxation and long-run growth. *American Economic Review*, 94(5), 1705-1716.
- Widmalm, F. (2001). Tax structure and growth: Are some taxes better than others? *Public Choice*, 107(3-4), 199-219.
- Xing, J. (2011). Does tax structure affect economic growth? empirical evidence from OECD countries.