Taxation And National Development

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ABSTRACT

The main objective of this paper is to investigate taxation and national development using a small macro econometric model estimated for 1970-2010. Based on the least squares methodology, we specified a lin-log model of Human Development Index as a proxy for national development. An important finding was that taxation has a very positive impact on national development of Nigeria, especially in its socio-economic contribution since the 1970's. The findings show that Petroleum Profit Tax, Company Income Tax and Excise Tax respectively exhibit a positive relationship with the level of national development. Also, a negative relationship exists between corporate tax and Human Development Index. The Johansen and Juselius (1988) maximum likelihood procedure shows that a long-run relationship exists among the variables. We recommend a developed federal fiscal system that could guarantee the full potential of taxation in achieving developmental targets.

1.   Introduction

Taxation is of tremendous importance to national development. Taxes are normally the vehicles for driving developmental projects and are imperative to actualization of the current Millennium Development Goals (MDGs) in Nigeria. It is therefore correct to state that the national development can be affected by fiscal policy instrument of taxation. Perhaps, that is why Ajie et al (2008) defined taxation as the transfer of resources from the private to the public sector in order to accomplish some of the nation's economic and social goals.

Thus, the NEEDS (2004) document in its tax reform agenda stated that taxation and fiscal policy generally will be pro-poor, and used as an instrument for reducing high income disparities, as well as provide incentives for investment and productivity growth. Although, Adelman (1999) confirms that reformed tax systems must also place greater reliance on direct rather than indirect, trade-related taxes, otherwise, the needs of tax collection will conflict with the needs to ultimately foster internationally competitive domestic industries.

However, literature abound on economic factors which impinge on the national development of Nigeria, they include unequal distribution of resources (revenue), poverty, inflationary pressure, high population growth, low human development, corruption, social injustice, political instability, ethno-religious crisis, unemployment, lack of basic infrastructure, uncompetitive private sector and other developmental challenges.

Controversies have raged among financial analysts and policymakers as to why fiscal policy instrument of taxation is not efficient, and what other viable tax policies that could be implemented to ensure achievement of desired national development of Nigeria. In the course of this unending argument so far, certain issues and questions have been raised about the impact of taxation on development in Nigeria: Are there any significant effects of taxation on national development in Nigeria?

In this paper, we adopt the Lord Meghnad Desai and Nobel Laureate Amartya Sen development measure as incorporated by the United Nations Development Programme (UNDP) - the Human Development Index (HDI) to measure national development because it is broad and encompasses socio-economic indicators, such as per capita income, infant mortality, adult literacy, access to clean portable water, life expectancy at birth etc.,. The HDI is a composite index to measure national development, because it is a simple average of the Life expectancy Index, Education Index and adjusted GDP per capita (PPP$) index. In essence, taxation is a means to an end, and the end is national development.

2. Literature Review

Svensson and Fisman (2000) posit that corruption retards development even more than taxation does. Thus, they found that both the rate of taxation and the rate of bribery are negatively correlated with firm growth. They revealed that a one percentage point increase in the bribery rate is associated with a three percentage point reduction in firm growth.

In Nigeria, Odusola (2006) outlined some of the national problems of taxation to include low yield of revenue, disregard for the true principle of federalism, endemic institutional and management concerns at sub-national levels, weak tax assessment, corrupt processes, and the prevalence of multiplicity of taxes. Interestingly, he recorded that as an economic development tool, taxation provides the financial base for providing and maintaining, among others, infrastructure such as roads, electricity, telecommunications, and water that have direct impact on living conditions.

Li (2007) examines development and tax policy in China; Li examined the use of tax incentives in attracting foreign direct investment to China and assesses its impact on the development of China's market economy, he noted that tax policy has had a positive impact on the development of rule-by-law in China, thus, he suggests that a well-developed tax system may be the impetus for the development of rule of law in China.

Weller and Rao (2011) tested the relationship between progressive taxation and economic stability, economic growth, inequality and fiscal policy, based on data from 1981 to 2002; they found that progressive taxation provides policymakers with the ability to conduct countercyclical fiscal policies, which in turn contributes significantly to economic stability. They also found no evidence that progressive taxation adversely affects economic stability by reducing growth (development).

Pirttila and Selin (2011) used the difference-in-differences method to examine tax policy and employment in Sweden; they reflect the possibilities of reforming the Swedish tax system inorder to improve labour market impact. They made three vital recommendations; better targeting the earned income tax credit at families and low-income workers, lowering the top marginal tax rates, and maintaining the tax incentives for older workers.

According to Amable and Chatelain (2001), taxation finances financial infrastructures and decreases the private productivity of capital. They also stated the potentials of financial infrastructures in fostering economic development, thus, it increases the efficiency of the banking sector; it decreases the market power of the financial intermediaries; it lowers the cost of capital; it increases the number of depositors and the amount of intermediated savings, factors which in turn increase the growth rate and may help countries to take off from a poverty trap (Amable and Chatelain, 2001).

Brauner (2010) examines the potential use of taxation to generate development funds in connection with the immigration of skilled immigrants from developing into developed countries, known as the "brain drain," if designed according to the principles of the new development agenda. He explained that a tax on the brain drain may be administratively and legally implementable within the framework of the current international tax regime. He further argued that designing such a tax according to the principles of the new development agenda, tying together the collection and use of the revenue functions, is essential for the tax to be justifiable and effective.

According to Bird (2007),

"…one cannot sell good tax policy or administration to those who are unwilling to buy them"

Bird recommended that if the international community wants developing countries to do more to meet fiscal challenges, it should improve the capacity of the domestic policy communities in those countries to cope with such challenges in their own way, not to tell them in detail how they should do it.

3. Methodology

The study adopts annual time series secondary data (1970 – 2010).The data were obtained basically from various issues of the Central Bank of Nigeria (Statistical Bulletin; and Annual Report and Statement of Accounts). The Ordinary Least Squares (OLS) method is employed in estimating the specified equations, while the EViews as a computing platform in the analysis. The model specification is fairly conventional and follows closely the specifications by Adegbie and Fakile (2011), it is expressed in Lin- logarithmic form as follows:

$HDI = a_0 + a_1 lnPPT + a_2 lnCIT + a_3 lnEXCITAX + a_4 lnCORPTAX + \mu_1$ ---------------------- 4.1
Where,
HDI= Human Development Index
PPT = Petroleum Profit Tax
CIT = Company Income Tax
EXCITAX = Excise Tax
CORPTAX = Corporate Tax

The μ's are the random error term. All the variables are expressed in logarithmic terms except HDI. More specifically, the anticipated signs (apriori) for the a_i's are: $a_1 > 0$, $a_2 > 0$, $a_3 > 0$ and $a_4 > 0$. Consequently, we verify the Least Squares assumptions to avoid the problem of spurious regression that is commonly associated to time series variables. We also applied the Johansen and Juselius (1988) maximum likelihood procedure to ascertain the number of cointegration equations.

4. Discussion of Results

This section presents and discusses results of OLS estimation of the Lin-log equations 4.1 shown above, thus:

$$HDI = 0.187066 + 0.008581PPT + 0.010441CIT + 0.002227EXCITAX - 0.001030CORPTAX ----- 4.2$$

(3.360130)* (0.690234) (0.873781) (0.634530) (-0.337885)

$R^2 = 0.660886$ Adjusted $R^2 = 0.618497$ F=15.59092 DW=1.267381

t- Ratios in parentheses ( )

As noted by Gujarati (2004:87) the R –Squared is a more meaningful measure than r. From our above short- run result presented in equation 4.2, the coefficient of determination (R-Squared) of 0.660886 obtained, means that changes in the explained variable (HDI) is explained by the explanatory variables (PPT, CIT EXCITAX and CORPTAX) to about 66 percent, this shows that the estimated short- run model has a good fit for prediction and policy purposes, while the F- statistic of 15.59092 shows overall significance of the model, which is glaring.

We hypothesized that the level of taxation in Nigeria can have overriding influence on the level of national development as measured by Human Development Index (HDI). From the highlights in our results, it can be concluded that Human Development Index (HDI), which is a proxy to national development showed a positive trend as indicated by the intercept term. However, the study revealed that a positive relationship exist between Petroleum Profit Tax (PPT) and the level of national development proxy by Human Development Index (HDI), this implies that the Nigerian economy has experienced a rising level of national development that is associated with its petroleum industry, though not significant. In a recent study by Adegbie and Fakile (2011), they found that Petroleum Profit Tax has a positive impact on the economic development of Nigeria; their finding is different from this study following the fact that Petroleum Profit Tax is significant on economic development, unlike this study. This is because; they employed Gross Domestic Product (GDP) as a proxy for economic development. It is important to note that Development Economists are dissatisfied with GDP/GNP as a measure of economic development, because it is superficial and unrealistic, in the sense that it does not capture social indicators (Basic Needs), which according to Hicks and Streeten (1979) includes Life expectancy (Health), Literacy (Education), Calorie supply per head (Food), Infant mortality and access to portable water (Water Supply), sanitation and Housing. According to Jhingan (2006), the HDI provides a better picture of the state of a country's development.

The study also found that Company Income Tax (CIT) and Excise Tax (EXCITAX) contribute positively, but not significantly to national development (as proxy by Human Development Index) respectively, this however, conforms to apriori. Basically, by Company Income Tax, we mean profits accruing from registered trade, business or investment activities. Furthermore, an inclusion of corporate tax reveals a negative impact on national development. Intuitively, this implies that, a rise in corporation tax tends to retrogress in the achievement of national development. More explicitly, this kind of tax is usually levied on the trading profits of all companies according to their classification size.

Unit Root Tests for Stationarity
Table 4.1: Unit Root Test of Stationarity Results

Test	Variables	Levels		Differences		Order of Integration
		t- statistic	Critical	t- statistic	Critical	
ADF	HDI_t			-5.061640	-3.6117*	I(1)
	PPT_t	1.379900	-3.6117*			I(0)
	CIT_t	6.483667	-3.6117*			I(0)
	$EXCITAX_t$			-4.143849	-3.6171*	I(1)
	$CORPTAX_t$			-5.970407	-3.6228*	I(1)

Note: * Implies significance at 1%, based on MacKinnon critical values for rejection of hypothesis of a unit root
Source: Author's Computation based on data from Central Bank of Nigeria Publications

An application of the Augmented Dickey- Fuller (ADF) test reported in table 1 above indicates that the unit root test results show that Petroleum Profit and Company Income taxes in the model are integrated of the order zero, I(0), whereas, Excise and Corporate Taxes are integrated of order one, I(1) i.e. they have unit roots of

order one (I-I series). According to Maddala (1992), testing for unit roots is a formalization of the Box- Jenkins approach of differencing the time series after a visual inspection of correlogram. The analyzing and testing for unit root naturally lead to the theory of cointegration (Iyoha and Ekanem, 2002).

Table 4.2: Johansen Cointegration Result

Eigenvalue	Likelihood Ratio	5 Percent Critical Value	1 Percent Critical Value
0.966793	259.4120	68.52	76.07
0.941827	133.4272	47.21	54.46
0.367343	28.18693	29.68	35.65
0.262032	11.24733	15.41	20.04
0.000128	0.004718	3.76	6.65
L.R. test indicates 2 cointegrating equation(s) at 5% significance level			

Source: Author's Computation based on data from Central Bank of Nigeria Publications

All of the variables are non-stationary at level except Petroleum Profit Tax and Company Income Tax, which represents that they have time trend. Cointegration analysis represents that there is a long-run relationship among the variables.

The short-run estimation output can be said to be spurious if econometric criteria's or assumptions are neglected. This brings us to the light of test conducted; especially to verify the core least squares assumptions otherwise referred to as the Gaussian assumptions (see Gujarati, 2004: 65-75). The usual OLS assumption that the error terms are uncorrelated, the Durbin-Watson (DW) statistic measures the serial correlation in the residuals. In principle, if there is serial correlation in an estimated model, it implies that the OLS estimates are no longer efficient, from our short-run result, the computed Durbin- Watson statistic of 1.267381 indicates that we cannot decide whether there is no positive autocorrelation or not (i.e. the zone of indecision).

5. Conclusions, Recommendations and Implementation Strategies

5.1 Conclusion

This study has generally revealed that taxation has a very positive impact on national development of Nigeria, especially in its socio-economic contribution since the 1970's. We conclude that taxation is an integral part of an effective fiscal policy instrument and a major potential catalyst to development. Yet the benefit of taxation does not reflect significantly on the level of human development in Nigeria.

Results obtained in this study confirm that a positive relationship exist between Petroleum Profit Tax (PPT) and the level of national development proxy by Human Development Index (HDI), this however implies that a significant rise in the performance of petroleum industry, which of course is the mainstay of our economy, will trigger development in Nigeria. Supportive to this, other check variables like Company Income Tax and Excise Tax respectively exhibit a positive relationship with Human Development Index, this suggests that taxes collectable by the Federal Government has potential to achieve a significant level of development in Nigeria. Although, against apriori, we found a negative relationship between corporate tax and Human Development Index during the period under review, these points to the fact that levies on trading profits of companies and enterprises may reduce income.

5.2 Recommendations

1. Thus, Nigeria as an emerging economy need to articulate creative strategies that will bring about the desired visible development both in the short and long-run through the instrument of taxation.

2. Activities of corporations should be promoted in such a way that its levies would not have such a negative impact on development.

3. There should be a routine assessment of the stipulated level of taxes of companies and corporations relative to its performance in Nigeria.

4. There should be a developed federal fiscal system that could guarantee the full potential of taxation in achieving developmental targets.

5.3 Implementation Strategies

1. The suggestion for the implementation strategy therefore is to conduct national awareness programmes for the potentials of these taxes towards achieving the desired level of development in Nigeria. Also, about the need and importance of tax collected to promote government social responsibility.

2. The Federal Inland Revenue Service which is responsible for the assessment and collection of taxes should ensure international best practices in implementing its function, this could be achieved through

various forms of development of its human capital (workforce), more regular and effective training programmes, provision of necessary infrastructure such as accessible library is nevertheless suggested.

3. Improvement in FIRS provision of adequate and timely statistics that is easily accessible should be implemented nationally.

4. The analysis of this paper suggests many directions for future research

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