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Welfare Effects of Taxation On The Nigerian Economy

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ABSTRACT : The aim of collecting taxes is to finance government expenditure in providing public goods to aid the welfare of the citizens. This paper sought to determine the welfare effect of taxation on Nigerian economy using consumption theory function. Total consumption expenditure (TCE) was used to measure the welfare effect of taxation while private investment level (PIL) and total federally collected revenue (TFCR) were used to capture the economy. Jarque – Bera normality tests showed that TCE data had a normal distribution (P = 0.00000), PIL data had normal distribution (p = 0.00000) and TFCR data were normally distributed (p = 0.000006). Augmented Dickey Fuller (ADF) showed that TCE data were stationary at first difference (P = 0.000*) with lag 6, PIL data was stationary at level (P = 0.000*) with 0 and TFCR data was stationary at first difference (P = 0.0023) with lag 9. Ordinary least square method of regression analysis was used to measure the possible effect, PIL had a direct/positive relationship with TCE as expected but no significant effect (p = 0.7922) while TFCR had negative and significant effect (p = 0.0000*) on TCE. About 65% of the variations in TCE are explained by variations in PIL and TFCR. The overall significance of the model was tested using F-test and we found out that taxation has a significant (p = 0.00000) welfare effect on Nigerian economy. We conclude that the negative and significant effect of total federally collected revenue on total consumption expenditure can be as a result of mismanagement of funds, lack of implementation of policy and corruption which is very rampant in Nigeria and we recommend that the revenue should be spent such that income will be evenly and fairly distributed also, private investment should be encouraged as it impacts consumption positively.

KEY WORDS*:* Private Investment level, Taxation, Total Consumption Expenditure, Total Federally Collected Revenue, Welfare.

I. INTRODUCTION

Over the years, one of the main issues in the development economics literature is sustainable improvement in the economic well-being of citizens by the governments of every nation. To keep up with the tremendous demand for government services, government need to raise revenue to carry out its duties. The single most important way governments raise funds to finance its operations is through taxes. Tax is a major player in every society of the world and tax system put in place is an opportunity for government to collect additional revenue needed in discharging its pressing obligations. The economic effects of tax include micro effects on the distribution of income and efficiency of resource use, as well as, macro effect on the level of capacity output, employment, prices, and growth. Thus, the key things to remember is that taxes affect productivity and resources allocation in the economy (Musgrave and Musgrave [2],2004; Azubike[2],2009). Taxation is a compulsory levy imposed on a subject or upon his property by the government to provide security, social amenities and create conditions for the economic well-being of the society. However, the principles of taxation mean the appropriate criteria to be applied in the development and evaluation of the tax structure. Such principles are essentially an application of some concepts derived from welfare economists. Therefore; in order to achieve the broader objectives of social justice, the tax system of a country should be based on sound principles which include principles of equality, certainty, convenience, economy, simplicity, productivity, flexibility and diversity.

Table 1: The table below shows few of the various types of taxes (1970 to 2010)

YEAR	***1970 ₦M***	***1975 ₦M***	***1980 ₦M***	***1985 ₦M***	***1990 ₦M***	***1995 ₦M***	***2000 ₦B***	***2005 ₦B***	***2010 ₦B***
Company income tax	*45.8*	*261.9*	*579.2*	*1004.3*	*2997.3*	*21878.3*	*51.1*	*140.3*	*657.3*
Petroleum tax	*97.7*	*2707.5*	*8564.3*	*6711.0*	*26909.0*	*42857.9*	*68.0*	*1904.9*	*19447*
Custom & Excise duties	*370.0*	*760.7*	*1813.5*	*2183.5*	*8640.9*	*37364.0*	*101.5*	*232.8*	*309.2*
Value Added Tax	-	-	-	-	-	*20761.0*	*58.5*	*178.1*	*562.9*

Source: CBN Statistical Bulletin, (2010) and Annual Report and Statement of Accounts, (2010)

From the data above, company income tax (CIT) rose from ₦45.8m in 1970 to ₦261.9m in 1975 which was about 472% increase and later to ₦ 579.2m in 1980 which brought about an increase of 121%, a decline of 74%. It later increased in 1985 by 73% and further increased in 1990 by 198%. In 1995, CIT skyrocketed by 629% in 2000 and further increased by 359% from 1995 to 2000. Cit, which was ₦51.1b in 2000 increased by 174% in 2005 and further increased by 194% in 2010. Petroleum income tax (PIT) was ₦97.7billion in 1970 and increased to ₦19,447 billion in 2010. Custom and Excise duties was ₦370.0million initially and increased at an increasing rate to ₦309.2billion in 2010. Value added tax (VAT) also increased tremendously from ₦ 20761.0million in 1995 to ₦562.9billion in 2010.

High taxation levels and various types of taxes have significant implications on Nigerian businesses by reducing incentives to expand production, leading to higher prices, and distorting factors' incomes. As firms take investment decisions based on long-run returns to capital, the costs of taxation reduce the size of the capital stock and aggregate output in the economy and discourage investment in productivity-enhancing measures. High trade taxes, specifically the higher tariff bands and import prohibitions usually raise domestic prices for protected goods and distort both consumption and production by altering the relationship between domestic and world market prices. Where imports represent essential inputs into final goods production (for domestic sale or export), such barriers increase the costs for businesses and make them less competitive on world markets. In fact, Apart from poor electricity supply, bad road networks, high taxation is one of the major impediments to doing business in Nigeria (Nihal & Mombert[3],2011).

Over the past two decades, revenue sources in Nigeria has always been heavily skewed and concentrated as they are just petroleum tax and company income tax, the Nigeria tax system is highly unstable, dependent largely on oil and the system is deceptively characterised by the predominance of direct tax which is usually high . There is ample scope to increase the rate of some of the existing taxes not directly related to benefits received by the taxpayer. Despite the constant review and enforcement of taxes on the citizens, the social goods which are necessities to Nigerians such as acceptable quality of infrastructure, industrial plants, roads, power stadiums, railways and ports, affordable medical services, access to clean drinking water, and education. All these basic minimum conditions that encourage global investments and improve the welfare of Nigerian economy are inadequate and to what extent do all these effects manifest?

It is worthy of note that the prevailing tax system in Nigeria makes the poor to be poorer and the rich to be richer by tax avoidance and evasion which is affecting the standard of living. Questions were raised that what impact do these heavy taxes have on the national income? And what is the welfare impact of taxation on the Nigerian citizens? The focus of this paper therefore is to examine whether the tax system in Nigeria and tax being collected by the government has significant and positive effects on the welfare of the citizens. Time has come for Nigerians to be worried about what will happen to their welfare not mere pronouncement and intentions of the government must be seen to be addressed and its influence on the standard of living must be positive. From the foregoing, this paper will investigate the welfare effects of taxation on the Nigerian economy.

II. THEORETICAL AND EMPIRICAL ISSUES

In the Keynesian framework of analysis, the ultimate target variable of fiscal policy like tax is the intended change in aggregate demand and part of the target variables are private consumption/expenditure, private disposable income, private savings and investment. Therefore based on the forgoing, the relationship between fiscal instrument (tax) and target variable (Nigerian economy) was anchored on consumption function. The interdependence of target variables that is consumption expenditure, disposable income, investment savings can be demonstrated using aggregate demand (AD) function (Dwivedi [4], 2001) which is commonly given as;

$$AD = C + I + X - M \quad \text{---------} \quad i$$

This paper is based on consumption function of the form

$$C = f(Y_d) \quad \text{-------} \quad ii$$

Where C is the total consumption expenditure and Y_d is the disposable income in form of Private Investment level and total federally collected revenue. The assumption behind this model is that total federally collected revenue is the disposable income of the nation out of which welfare will be provided. The model is stated as follows;

$$TCE = f(PIL, TFCR) \quad \text{----------} \quad iii$$

This paper intends to use regression model as depicted by equation (iii) above. Therefore the equation can be written as follows;

$$TCE = \beta_0 + \beta_1 PIL + \beta_2 TFCR + \mu$$

Several studies have been carried out on taxation and its effects on the economies of both the developed and the developing countries (Tosun and Abizadeh [5],2005; Adebayo [6],2007; Nihal and Mombert[3],2011; Anyanwu[7], 1997;Ekeocha [8],2010; Ajakaiye, [9]2002; Shamusdden [10],2008; Domeij and Heathcote [11], 2004; Dong, Lori and Mine [12], 2003; Baye [13],1998),among others. But only few have studied the implication of taxation on the welfare of Nigerian economy. This study seeks to link taxation to welfare of the Nigerian economy.

Tosun and Abizadeh (2005) in their study of economic growth of tax changes in OECD countries from 1980 to 1999 reveal that economic growth measured by GDP per capita has a significant effect on the tax mix of the OECD countries. The analysis reveals that different taxes respond to the growth of the GDP per capita. It is shown that while the shares of personal and property taxes have responded positively to economic growth, shares of the payroll and goods and services taxes have shown a relative decline.

Adebayo (2007) in evaluating government programmes on poverty reduction as a welfare consequence of Nigeria's tax policies" takes the position that improvement in welfare is synonymous with reduction in poverty. Therefore the concept of poverty is central to the study, since the concept of poverty is a multidimensional one, encompassing economic, social etc aspects, reducing poverty may, to a large extent mean improving general welfare. Nihal and Mombert (2011) examine the impact of multiple taxation on competitiveness in Nigeria, they stated that the design and application of Nigeria's federal tax system, the multiplicity of taxation, and the administrative burden created by the uncoordinated and careless enforcement mechanisms across different levels of jurisprudence has given rise to significant costs, particularly penalizing smaller and more remote businesses. The large amount and magnitude of taxes on mobile factors leads to the economic isolation of distant areas, prevents the establishment of national supply chains, and reduces competition among companies located in different States within Nigeria, as well as competition among States for investors through improvements in the investment climate. Anyanwu (1997) in a study of the effects of taxes on Nigeria's GDP/Economic Growth (1981-1996) reveal that companies' income tax positively and significantly affects GDP just like customs and excise duties. But petroleum profit tax positively and significantly affects Nigeria's GDP. The same is true of other direct taxes (capital gains and stamp duties). However, all direct taxes positively and significantly affect Nigeria's GDP.Shamsuddeen (2008) examines the Nigerian perspective about fiscal policy to reduce poverty and improve growth, according to him, the full potential will not be realized until good and accountable expenditure and taxation systems are put in place. Overall, fiscal policy reveals more about the political priorities underpinning a country's development strategy than any other area of policymaking. The problem with Nigeria is that we have, until fairly recently concentrated more on how to share poverty than how to create wealth. The intensity of the struggle, moreover, has been so fierce, divisive and selfish that we have merely succeeded in further impoverishing ourselves.

Ekeocha [8] (2010) analyses the economics effects of tax policy reform in Nigeria using the computable general equilibrium analysis. From the analysis, it is clear that the policy strategy of increasing the rate of Value Added Tax from 5% to 15% will improve government revenue and nominal GDP but at the expense of real GDP and worsening level of unemployment. Even though more industries will gain in the sale of their commodities, but this is very minimal. The implication of this result is that the tax incentive structure must be looked into properly and should be such that will boost production in all the industries as to improve the real GDP and boost the level of employment, production and welfare in Nigeria.Ajakaiye (2002) in his study analysed the impact of VAT on key sectoral and macroeconomic elements of Nigeria's economy by combining a survey of Nigerian manufacturers, service providers and Other VAT able organizations with simulations of the impact of VAT under various scenarios. The study was a survey of manufacturers, service providers and other VAT able organizations to determine precisely how they treat their input VAT liabilities. Some 61 organizations were surveyed out of a possible sample of 70 of these, 49 pay taxes on inputs. The implication is that the VAT on inputs is magnified by the mark-up rates, leading to considerable cascading contrary to expectations. Consequently, consumers respond to the price increase by reducing demand, and producers respond by reducing their output rather than their mark-up rates in a bid to lower prices. Reduced production may ultimately have devastating economy-wide effects because production in every sector of the economy depends directly or indirectly on imported intermediate inputs, all of which are VAT can be levied.

Domeij and Heathcote (2004) asserts that changing the balance between capital and labour income taxation is likely to have a very large distributional implication. Reducing taxes in capital income in the model does stimulate, investment, raising aggregate output and consumption on the long run. But the short run cost in the form of high labour taxes is too heavy a price to pay for all except the wealthy, richest households. The implication is that in thinking about welfare, one should pay at least as much attention to the short distribution effects as to the familiar result from Ramsey literature that permit towards lowering capital taxes in the long run. Baye (1998) also gives an insight into the measurement of standard of living as a relative concept. According to him, this can be done in two ways. First, the average real income of a group that is relatively the poorest (i.e. the poorest 40%) is taken as the poverty line. A second method of measuring relative poverty is by using higher poverty lines. The poverty line is raised in proportion to increases in the mean income (or consumption) i.e. the richer the population in which poverty is being measured, the higher the poverty line. Is needful to say that in spite of several criticisms, relative poverty across the globe, is measured using the $1 a day benchmark. Consequently any individual who cannot afford this is taken to live below the poverty line. For several reasons the paper adopts this measure. It is definitely convenient and makes international comparison not only possible but also easy.

III. METHODOLOGY AND DATA ANALYSIS

This study employed empirical analysis method using secondary data obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin, World Bank national account data file and OECD national account data file. Since the main objective of this paper is to determine the welfare effect of taxation on the Nigerian economy, the simplified model which was specified in section two was estimated using standard OLS estimation techniques on annual data for 1970 – 2011. The data used in this work is time series in nature, hence the need to test for stationarity to avoid spurious result. To test for stationarity, Augmented Dickey Fuller (ADF) unit root test was carried out on each of the time series data. Total consumption expenditure was used as a proxy for social welfare since consumption is a function of disposable income which depicts welfare of households. Public investment level and total federally collected revenue are used as proxies to state of Nigerian Economy vis-a –vis investment level and revenue. TCE data increased steadily throughout the period under consideration which characterizes a developing country like Nigeria with increasing population and tendency for high propensity to consume. Also, public investment level increased but not as sharp as TCE. Alarming growth was noticed in total federally collected revenue most especially after the oil boom in 1983 as well as openness to trade around that period.

Based on equation (iii) above; consumption function is written as

$$TCE = f(PIL, TFCR) \quad \text{---------- iii}$$

3.1 Hypothesis

H_0: taxation has no welfare effect on Nigerian economy

Table 2: Description of explained and explanatory variables

Description	TCE	PIL	TFCR
Mean	2662370.	1254698.	1290760.
Median	260109.5	19541.35	106080.3
Maximum	22261680	43869650	7866590.
Minimum	6210.470	173.6000	634.0000
Std. Dev.	5781755.	6749527.	2229200.
Skewness	2.318072	6.208518	1.744174
Kurtosis	6.910380	39.70507	4.695069
Jarque-Bera	64.37359	2627.529	26.32319
Probability	0.000000	0.000000	0.000002

Table 2 shows that over the period of forty two (42) years, the average total consumption expenditure is ₦260,109.5billion with the minimum value of ₦6210.47billion in 1971 and maximum value of ₦ 22,261680billion in 2008. The reason for using median value is because of its advantage over mean in that it is not affected by extreme values. The distributions of all the variables are positively skewed. Jarque – Bera normality tests were conducted and null hypothesis of normality were rejected for all the variables that is; TCE, PIL and TFCR based on little probability attached to Jarque-Bera. Therefore the values of each of the variables were normally distributed at 1% significance level.

ADF test shows that TCE is stationary at first difference (P = 0.000*) with lag length 6 and t-statistic of -3.6394, -2.9511, -2.6143 at 1%, 5% and 10% respectively. Hence the need to use log(TCE) as explained variable. However, for PIL, null hypothesis of unit root was rejected at level because the set of data is stationary at level (P = 0.000*) with lag length 0 and t-statistic of -3.6009, -2.9350, -2.6058 at 1%, 5% and 10% respectively. TFCR is stationary at first difference (P = 0.0023) with lag 9 and t-statistic of -3.6616, -2.9604, -2.6192 at 1%, 5% and 10% respectively. We use log(TFCR) as one of the independent variable. Moser (1997) advocates log-linear regression model for macro variables like these. The model for this research is stated as follows

$$log(TCE) = \beta_0 + \beta_1 PIL + \beta_2 logTFCR + \mu$$

\+ + +

Where:

Log (TCE) is the logarithm of Total consumption expenditure

β_0 = autonomous consumption when there is no public investment and no total federally collected revenue.

β_1 *and* β_2 = the slopes of PIL and DTFCR respectively

μ = the stochastic error term, the level of significance is 5%

The positive (+) signs underneath show that our expectation is that public investment level and total federally collected revenue in Nigeria should have positive impacts on welfare of Nigerians. After estimating the models above, we have;

$$lTCE = 19.512 + 0.03010PIL - 0.6360lTFCR$$

Table 3: Matrix table showing regression result of the estimated model;

	Coefficient	Probability (t - Statistic)	R^2	Adj. R^2	Durbin Watson	F- Statistic	Prob. (F)
β_0	19.512	0.000000	0.6475	0.6294	1.39	35.82	0.000000
PIL	0.0310	0.7922					
TFCR	-0.6360	0.000000					

IV. FINDINGS AND RECOMMENDATION

From the above, total consumption expenditure has a positive and direct relationship with public investment level which is in line with *a priori* expectation but total federally collected revenue in Nigeria has negative and inverse relationship with total consumption expenditure. The direct relationship between TCE and PIL shows that as public investment level increases, total consumption expenditure increases. This is in line with the link between investment and income which brings about consumption. Surprisingly, total federally collected revenue in Nigeria has negative effect on total consumption expenditure, the reason for this may not be farfetched as the wealth in Nigeria is not evenly distributed and corruption has become the order of the day. This paper agreed with Yazid and Tatsiana (2012) who in their paper presents a simple endogenous growth model where corruption hinders investment. They said in the presence of corruption, government diverts a part of tax revenues away from investment in public capital, which in turn will affect consumption expenditure. Thomas and Chaido (2005) revealed that there is a causal relationship between tax revenue and economic growth of Greece but the outcome of this work does not suggest this kind of relationship. The regression result shows that 1% increase in public investment level will increase total consumption expenditure by 3% though the relationship is not significant at 1%. 5% and 10% significance levels. 1% increase in total federally collected revenue in Nigeria will reduce total consumption expenditure by 63%. The inverse relationship can also be as a result of Keynesian thought of income having the options of being saved, consumed, invested,or as transfer payments for the compensation of the flood victims, and coupled with Boko-Haram menace, Niger- Delta militants group and settlement of public debt to mention a few.

Autonomous consumption will still be ₦19,512 billion if there is no public investment and revenue in Nigeria due to other factors which can bring about welfare to the citizenry. Approximately 65% variation in welfare can be explained by variation in PIL and TFCR. The remaining 35% variation can be explained by other factors which are not accommodated in this model. There exists positive first order serial correlation after testing the hypothesis $\rho = 0$ in the specification: $U_t = \rho_{ut-1} + \varepsilon_t$. F – Statistic shows that taxation has an overall significant effect on Nigerian economy.

V. POLICY IMPLICATIONS AND RECOMMENDATIONS

This paper has been able to ascertain that public investment has a positive but insignificant effect on the Nigerian economy but total federally collected revenue does not. The welfare status of Nigerians would be positively impacted, if the taxes collected by government are re-injected back into the economy for the provision of public goods like securities of life and property, social amenities like electricity, safe means of transportation and deliberate effort to reduce unemployment rate which has become a plague in this nation. These social welfare indices that are not in place in the country reflected the negative and significant effect of TFCR on the economy. It seems the focus of Nigerian government is on tax revenue which will create a sense of accountability in Nigerian political leaders to the citizenry, transparency in public expenditure and effective system of government (Poot, 2000).

It is therefore recommended based on the findings that government should make judicious use of tax revenue for social and economic development of the nation so as to alleviate the sufferings of the masses and thereby reduce poverty which is eating deep and deeper in Nigeria. The Nigerian government should encourage public investment since total consumption expenditure responds more positively to it than total federally collected revenue either through taxes or oil revenue. Diversification of economy is also recommended by expansion of other sectors of economy like agricultural sector, manufacturing sector and exploration of other solid minerals rather than oil sector so as to have sustainable growth and development.

Nigerian companies treat their taxes expenses as input costs and pass these on to the consumers. On its part, the government injects tax revenue back into the system as consumption expenditures. Because this combination results in a serious negative impact on the economy, it is necessary to consider strategies for ensuring that companies treat taxes properly and that government directs its expenditure toward sectors that are most likely to lessen the adverse effects of taxes on consumer welfare, production, employment and income.

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