



Company Income Tax and Unemployment in Nigeria

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Authors' contributions

This work was carried out in collaboration between both authors. Author CCGA designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author EO managed the analyses of the study and the literature searches. Both authors read and approved the final manuscript.

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ABSTRACT

This paper focused on the impact of company income tax on unemployment in Nigeria from 1980 to 2019. The data for this study were sourced from the statistical bulletin of Nigeria's apex bank. The Augmented Dickey-Fuller (ADF) unit root test and Ordinary Least Squares (OLS) methods were used as the main analytical tools. The ADF unit test result revealed stationarity of the variables at order zero which satisfied the requirement to employ the OLS method. The OLS regression result revealed that corporate income tax has positive and significant relationship with unemployment rate in Nigeria. Prime lending rate has negative and significant relationship with unemployment rate in Nigeria. Inflation rate has negative and insignificant relationship with unemployment rate in Nigeria. The study therefore concluded that tax revenue from company income has not been efficiently and effectively used to provide infrastructural facilities and social amenities that will help the different sectors of the economy to function very well thereby reducing unemployment in the country. Based on the results, the study suggested that government should ensure that revenue from corporate income tax and other sources are efficiently and effectively used to provide infrastructural facilities and social services that will help the different sectors of the economy to function very well, in so doing unemployment will be reduced. The management, administration and implementation of corporate income tax should be done in such a way that it will not hinder investment and employment in the economy. At the same time, ensure accountability and transparency from government officials on the management of revenue derived from company income tax.

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1. INTRODUCTION

Company income tax (corporate income tax) is an important source of revenue to the government because of the special position which it occupies in the Nigerian economy. It is governed by company income tax act (CITA) 1979 as amended and it is charged on the profit of all companies operating within Nigeria. Put differently, company profit tax is levied on the profits made by companies operating in Nigeria, except those companies engaged in petroleum exploration activities. The tax rate was 45% of the profits declared by companies in 1980s, but it has now been reduced to 30% [1].

The targets of corporate income tax are to raise revenue for the public authority to finance public goods, regulate economic activities, as well as income and employment [2]. Supporting this, Inimino, Otubu and Akpan [3] argued that the essence of company income tax is for government to get additional revenue to improve the welfare of the individuals in the nation with concentration on promoting economic growth and development through the provision of basic amenities for improved public services via proper administrative system and structures. Therefore, it is the responsibility of the Nigerian government to make a decision regarding the level of taxes to impose on the income of companies in the country.

In terms of contribution to government revenue, the highest financial institution in Nigeria (Central Bank of Nigeria - CBN) revealed that tax from the income of companies has been spectacular. It receipts in 1980 was ₦579.2 million, increased to ₦1235.2 million, ₦21878.3 million, ₦24490.0 million in 1987, 1995 and 2006 respectively [4]. Furthermore, revenue from corporate income tax has continued to increase since its introduction in Nigeria. The increase signifies that more revenue is available for the government to make expenditures on education, housing, transportation, agriculture, health, power, road construction, national defense, among others that will help the different sectors to function very well thereby enhancing the country's expansion and development. Then again, if the revenue is utilized in inefficient purposes, it will hinder growth and employment in the country.

Despite the huge revenue that accrue into the government treasury because of the impressive

performance of tax on income of companies in terms of its contributions to total government's revenue in Nigeria, the governments (federal, state and local) still record poor infrastructural facilities, low per capita income, inadequate economic growth, high rate of poverty, high rate of jobless folks, and so forth, which have reduced the living standard, increased in the rate of crime and other evils in the society [3]. Specifically, unemployment has continued to increase in Nigeria. For instance, in 2007, Nigeria's unemployment rate stood at 12.75. The situation worsened again in 2009 when the nation's unemployment rate rose to 19.7 percent. While it was 20.4 percent in 2017, by 2018, it has risen to an unprecedented high of 23.1 percent [5].

Furthermore, Nafziger [6], as well as Abdul-Rahamoh, Taiwo and Adejare [7] traced the problem of unemployment in Nigeria to the failure of managers of the economy to effectively and efficiently utilize revenue that accrued to the country in the development of different sectors of the economy. In general, the various sectors such as education, agricultural, power, transportation, etc. have not performed very well. In addition, Abomaye-Nimenibo and Inimino [8] identified imperfect flow of labour market information, bad economic policies (including tax policy), etc. to be responsible for Nigeria's current unemployment problem.

Regarding tax policy, a decent system of tax ought to encourage employment and raise the standard of living of the people. Tax should be in the position to enhance, rather than inhibit the productive capacity of the economy. Excessive taxation on companies may discourage production and investment [9]. Similarly, Edame and Okoi [10] noted that high company income tax can inhibit investment rate which in turn will lead to increase in the rate of unemployment. That is, high taxation threatens the survival of companies which limits the ability of companies to employ people who are willing and able to work at the common pay rate.

Moreover, previous studies on the impact of company income tax on unemployment including studies by Zirgulis and Sarapovas [11], Meyer [12] and Alphonsus [13] have provided mixed results. For instance, studies by Zirgulis and Sarapovas [11], as well as Meyer [12] revealed that a rise in the effective average corporate tax (company income tax) rate significantly increases

unemployment rate. On the opposite hand, the empirical study of Alphonsus [13] showed that company income tax has an inverse relationship with unemployment. This situation brings up a relevant question: what is the association in Nigeria between company income tax and unemployment? To provide an answer to the above question was the core concern of this paper. In particular, the general objective of this paper was to examine the impact of company income tax on unemployment in Nigeria from 1980 to 2019. The remaining part of this paper is structured into review of related literature, research method, results and discussion, as well as conclusion and recommendations.

2. REVIEW OF RELATED LITERATURE

2.1 Theoretical Framework

The benefit received theory of taxation (also, the advantage got hypothesis of tax collection) holds that corporations should be taxed on the basis of the benefits they obtain from projects funded with tax revenue. This theory was at first developed by two economists - Knut Wicksell (1896) and Erik Lindahl (1919) of the capital of Sweden College - Stockholm School. The assumption is that, there exist essentially an exchange association between the tax payers and the government [14]. The government provides numerous goods and services (construction of roads, nationwide defense, etc. which in turn will aid the operation of companies in the country and companies contribute to the cost of these supplies in proportion to the benefits received. The more benefits a company derives from the services and goods provided by the government, the more it should pay to the government. This line of thinking makes it clear that government should levy tax on the profits made by companies operating in Nigeria.

In addition, Keynes (1936) argued that the problem of unemployment - a situation in which people who are willing and able to work at the common pay rate are unable to find jobs is as a result of insufficient spending (insufficient aggregate demand) in the system. According to Keynes, inadequate aggregate demand will increase unemployment and poverty. The gift to inadequate aggregate demand is either additional investment by businesses or additional expenditure and thus greater government budget deficits. Hence, he advocated for government intervention as the solution to unemployment crisis.

Keynes argued in 1930s that stabilization policy by the government using fiscal expansionary strategy will stimulate output (economic growth), aggregate demand, investment and employment thus reducing unemployment and poverty. For instance, if the government believes at a particular point in time that the level of economic activity in the country is too low, which usually shown by a low level of output and a soaring unemployment rate, it could raise it by changing its own spending. In this case, it could increase 'pumps' money into the system through appropriate projects. More cash in the pockets of individuals will increase their purchases of goods and services; producers (i.e., firms) step up production, employment and output will increase. Then again, if the government believes that the economy has been over-stimulated, which is usually shown by an inflationary situation, it could use a reduction in its spending to fight the problem.

The government can also use taxation to steer the economy in a desired direction. If, for instance, the government wishes to stimulate the economy, it could do so by cutting taxes. A tax reduction leaves more cash in the possession of individuals to spend. In this way, spending, production and employment will go up. However, if the public authority (government) wishes to restrain the economy, it could do so by increasing taxes. By so doing, people's disposable income, spending and production will fall. Thus, unemployment rate will rise in the country [15]. This theory is significant as it is utilized to examine the influence of corporate income tax on unemployment in Nigeria.

2.2 Review of Related Empirical Literatures

Empirically, Alphonsus [13] used Ordinary Least Squares (OLS) procedure to examine the effect of tax rule on unemployment in Nigeria from 1981 to 2017. The findings of the investigation showed that tax policy has significant long term effect on unemployment in Nigeria. In particular, Nigeria's corporate income tax, customs and excise duty, as well as personal income tax have an inverse relationship with unemployment. However, revenue from value added tax has a positive relationship with unemployment.

Meyer [12] examined the effect that reduction of corporate income tax will have on the levels of unemployment in a nation by utilizing an experimental investigation of 15 European Union

member nations, primarily because of the accessibility of information and the specific movement of capital. The investigation used the common least squares procedure. The outcome demonstrated that tax rate has a positive connection with unemployment rate.

In Lithuania, Zirgulis and Sarapovas [11] utilized system General Method of Moments (GMM) to examine how unemployment in 41 nation-states is influenced by changes in corporate income tax. The outcome indicated that an increase in the effective average corporate tax rate significantly increases the unemployment levels.

Eduardo and Fajardo [16], examined the impacts of tax variables (payroll taxes, value added taxes and corporate income taxes) on an assortment of labour market outcomes including employment, unemployment, informality and wages. The study used national data on labour variables for 15 Latin American countries and adopted the OLS fixed effect estimation model. The outcome from the investigation revealed that payroll taxes reduce employment and increase labour cost when their benefits are not valued by workers. Sales taxes increase informality and decrease the demand for skilled labour. Taxes from corporate income may help to decrease informality, particularly among workers with low education but when tax enforcement abilities are strong may decrease participation of labour and employment of medium and high-educated workers.

Jukka and Hakan [17] examined the impact of Swedish tax policy on employment. The study focused on the microeconomic part of research, drawing on both applied theory and micro-econometric evidence and employed the difference in differences method for the data analysis. Results showed that the current Swedish tax system has fairly favourable effects on employment.

In a study of general equilibrium by Clausing [18] on corporate tax incidence showed evidence to support the idea that tax on company income may reduce wages. Nevertheless, it is by no means conclusive. Clausing [18] argued that labour market outcomes are shaped by a myriad of effects, which make modeling difficult. Clausing further argued the existence of no clear answer as to the direction of the effect of a corporate tax on unemployment.

Bettendorf, Horst and Mooij [19] investigated the influence of company taxes on structural

unemployment in a general equilibrium framework. The study adopted a union bargaining model to explain equilibrium unemployment on the basis of several institutional variables. The bargaining framework is embedded in an applied general equilibrium model for the European Union that is designed for analyzing corporate tax policies. This so called CORTAX model encompasses various distortions of corporate taxation, including the marginal investment distortion, international spillovers from foreign direct investments and profits shifting by multinationals and distortions in the financial structures of companies. Results showed that although the influence of company tax on unemployment may be smaller than the effects of labour taxes and value added taxes, for most European countries, the welfare costs of corporate taxation are usually greater under conceivable parameters, particularly under solid global spillovers.

Garcia and Sala [20] provided a detailed investigation on the labour market effect of tax incidence for 21 OECD countries from 1965 to 2003. The researchers used the OLS estimation technique and the Lagrange multiplier serial correlation test. A model that involves various wage bargaining mechanisms and the effect of different tax types was also developed. The findings showed that the wage tax bias plays an important role in explaining unemployment in the continental, European countries but not in the Nordic or the Anglo Saxon ones. There is also no correlation between the incidence of the wage tax bias and the persistent unemployment, even though the degree of the fiscal wedge is a positive one.

In an effort to examine the effects of financing unemployment benefits by trade unions, Halko [21] constructed a model where monopolistic trade unions have considerable wage-setting control. According to this model, the trade union loses some of its bargaining power as corporate income taxes increase, lowering wages, and thereby decreasing unemployment. However, Zirgulis and Sarapovas [11] argued that the study is unclear as to the direction of effect of the corporate tax on unemployment.

Wang [22] investigated the incidence of corporate income tax on labour vs capital using a general equilibrium model. The result revealed that capital bears a majority of any tax incidence but that, as a side effect, labour will move out of the corporate sector.

3. RESEARCH METHODS

The data needed for this study are time series data which consist of unemployment rate, company income tax, prime lending rate and inflation rate. All data which spanned between 1980 and 2019 were sourced from the statistical bulletin of Nigeria's apex bank (Central Bank of Nigeria). The paper used econometrics method of Ordinary Least Squares (OLS) multiple regression analysis to examine the impact of company income tax on unemployment in Nigeria. The OLS was used because the estimates possess the properties of Best Linear Unbiased and Estimators (BLUE). In doing this, it was assumed that revenue generated from company income tax will be used to make expenditures on education, housing, transportation, agriculture, health, power, road construction, national defense, among other that will help the various sectors of the Nigerian economy to function very well thereby reducing unemployment in the country. That is, high rate of tax revenue from company income (business profit) will significantly reduce unemployment.

3.1 Model Specification

The model for the investigation is stated thus;

$$UER = \alpha_0 + \alpha_1 CIT_t + \alpha_2 PLR_t + \alpha_3 INF_t + \mu_t \quad (1a)$$

$$UER = \alpha_0 + \alpha_1 \ln CIT_t + \alpha_2 PLR_t + \alpha_3 INF_t + \mu_t \quad (1b)$$

Where;

UER= Unemployment Rate,

CIT= Company Income Tax Revenue,

PLR= Prime Lending Rate,

INF = Inflation Rate,

Ln= Natural Logarithm,

α_0 = Constant term,

$\alpha_1, \alpha_2, \alpha_3$ are Regression Coefficients of independent variables and μ_t = Stochastic Error

Term. On the apriori, we expect α_1 and $\alpha_3 < 0$; while $\alpha_2 > 0$;

3.2 Unit Root Test

Before doing the OLS analysis, it is necessary to test the stationary of the series. The Augmented Dickey-Fuller (1979) test was employed to infer the stationary of the series. The general form of ADF is estimated by the following regression

$$\Delta y_t = \alpha_0 + \alpha_1 y_{t-1} + \sum \alpha_i \Delta y_i + \delta_t + u_t \quad (2)$$

Where:

y is a time series, t is a linear time trend, Δ is the first difference operator, α_0 is a constant, n is the optimum number of lags in the independent variables and u is random error term.

4. RESULTS AND DISCUSSION

4.1 Unit Root Test Result

To avoid spurious regressions which may arise as a result of carrying out regressions on time series data, the study first subjected the data to stationarity test by using the Augmented Dickey Fuller (ADF) test. The stationarity status of the data series is presented in Table 1.

The ADF test revealed that all the variables were stationary at level, implying that the variables in the model got integrated of order zero (i.e., I(0)). Thus, having confirmed that the variables are integrated of order zero, the requirement to fit in Ordinary Least Squares (OLS) model is satisfied. The result of the OLS is displayed in Table 2.

The estimated OLS regression result showed that coefficient of company income tax appeared with positive sign and statistically significant. Thus, a percentage increase in company income tax will increase unemployment rate by 0.821929%. Also, the t-statistic of 9.666035 with the t-prob. of 0.0000 showed that there is a significant relationship between company income tax and unemployment rate in Nigeria. The above finding corroborates the empirical studies

Table 1. ADF test results at level

Variables	ADF test@ Level	Critical value @ 5%	Order of integration
UER	-4.382202	-3.533083	1(0)
CIT	-7.157552	-3.574244	1(0)
INF	-3.549886	-3.536601	1(0)
PLR	-3.294600	-2.941145	1(0)

Source: Author's result

Table 2. Ordinary least squares result

Dependent variable: UER				
Method: Ordinary least squares result (OLS)				
Variable	Coefficient	Std. error	t-Statistic	Prob.
C	2.806985	1.119993	2.506253	0.0170
LOG(CIT)	0.821929	0.085033	9.666035	0.0000
PLR	-0.107327	0.053778	-1.995749	0.0538
INF	-0.019431	0.016132	-1.204523	0.2365
R-squared	0.774397			
Adjusted R-squared	0.755060			

F-statistic = 40.04667;
Prob(F-statistic) = 0.000000; Durbin-Watson stat = 1.658968.

Source: Authors' Result

of Zirgulis and Sarapovas [11], as well as Meyer [12] who explicitly affirmed that an increase in the effective average corporate tax (company income tax) significantly increases unemployment rate. This suggests that tax revenue from company income has not been efficiently and effectively used to provide infrastructural facilities and social amenities that will help the different sectors of the economy to function very well thereby reducing unemployment in the country. Momentously, if income generated from company income tax at the current 30% and other sources are efficiently and effectively used to provide infrastructural facilities and social services it will help the economy to function very well thereby reducing unemployment in the country.

Furthermore, the coefficient of prime lending rate appeared with a negative sign and statistically significant at conventional level. At the same time, inflation rate appeared with a negative sign and statistically not significant. The R^2 of 0.774397 showed that 77% systematic disparity of the dependent variable was caused by the independent variables (i.e., company income tax, prime lending rate and inflation rate). This shows the good fit of the model. Also, the Durbin Watson value of 1.7 which is not too far from DW benchmark of 2.0, showed that the estimated model is suitable for policy making.

Table 3. Post estimation test (normality test)

Test	Jarque-Bera stat.	P-value
Normality Test	3.453947	0.177822

Source: Authors' Result

The post-estimation test result as reported in Table 3 revealed that the residuals are normally distributed as the P-value $0.177822 > 0.05$. Therefore, the estimated parameters are stable over time and as such can produce a reliable forecast.

5. CONCLUSION AND RECOMMENDATIONS

This paper examined the impact of company income tax on unemployment in Nigeria from 1980 to 2019. Time-series data on company income tax, unemployment rate, prime lending rate and inflation rate were collected from CBN statistical bulletin and analyzed via Ordinary Least Squares technique. The conclusion from the empirical results is that tax revenue from company income has not been efficiently and effectively used to provide infrastructural facilities and social services that will help the different sectors of the economy to function very well thereby reducing unemployment in the country. Based on the finding, the study suggested that public authorities should ensure that revenue from company income together with revenue from other sources are efficiently and effectively used to provide infrastructural facilities and social services that will help the various sectors of the economy to function very well, in so doing unemployment will be reduced. The management, administration and implementation of company income tax in Nigeria should be done in such a way that it will not hinder investment and employment in the country. In addition, government should ensure accountability and transparency from government officials on the management of revenue derived from company income tax. Monetary authorities should make the financial sector to be strong to provide credit at lower interest rate which in turn will reduce unemployment in Nigeria.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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