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Effect of Corporate Tax on Profitability of Business Organizations in Nigeria

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ABSTRACT: *The study investigates the effect of corporate tax on profitability of business organizations in Nigeria from 2011-2015. The study has three specific objectives to achieve, three research questions that guided the study and three hypotheses were formulated. The study used ex-post facto research design. Five banks were selected from the Nigerian Stock Exchange (NSE). Ordinary Least Square (OLS) stated in the form of multiple regressions was used to analyze the data collected. The study revealed that for the Nigerian listed banks, the three explanatory variables have positive significant effect on the dependent variables – Return on Assets and Return on Equity (Profitability). That is, (i) Marginal Tax Rate (MTA) has a strong positive effect on profitability, (ii) the more the Effective Tax Rate (ETR) increases the better the profitability of quoted banks in Nigeria, and (iii) the more Average Tax Rate (ATR), the higher the possibility of better profitability of the listed banks in Nigeria. The study, therefore, recommends that in carrying out tax decision, banks must deploy and properly measure effect of variables like marginal tax rate, effective tax rate and average tax rate on profitability (ROA and ROE) of the firms.*
Keywords: *Marginal Tax Rate, Effective Tax Rate, Average Tax Rate, Profitability.*

INTRODUCTION

The taxation of corporate profits in Nigeria has been one of the most widely discussed issues in the area of public finance. Corporate revenues are currently subject to double taxation. Profits are taxed first at the corporate level and then, when distributed as dividends or when capital gains are realized, taxed a second time at the individual level. Corporations are legal entities that can have multiple owners and separate management. The ability to attract multiple investors through the sale of shares or bonds gives corporations broad access to capital and greater potential for growth. The shares of corporations can be easily transferred to other investors without disrupting the operations of the companies. The owners of corporations also enjoy limited liability since, in case of default; their liability is limited to the amount they have invested. In Nigeria, business entities can avoid double taxation but in the process lose some of the special privileges mentioned earlier, if they organize as pass-through entities. Pass-through entities, such as sole proprietorships, partnerships, and subchapter S corporations, avoid double taxation by passing all profits and losses onto their shareholders (Brealey and Myers, 2000).

Adam Smith as cited in Ali-Nakyea (2008) mentioned equity as one of the characteristics of a good tax system. According to Ali-Nakyea (2008), a good tax system should exhibit both horizontal and vertical equity. According to the author, vertical equity is achieved if persons with higher income pay higher tax (higher effective tax rate) than persons with lower income. Another issue raised against tax policies in Nigeria relates to other taxes, apart from the statutory corporate taxes. Therefore, Islahi (2006) viewed taxation as a compulsory extraction of money by a public authority for public purposes and taxation is also a system of raising money for the purpose of governance by the means of contributions from individual persons or corporate bodies.

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Statement of the Problem

A large body of research has tested for the effects of corporate taxation. Although the results of empirical models vary significantly, al models agree that, to some degree, corporate taxation affects a broad range of the decisions made by taxable corporations. The magnitude of those effects and their overall impact on the economy are still under debate. Gravelle (1995) divides the debate on corporate taxation into three key issues. "First who carries the burden of corporate tax-capital, labour, or consumers, and does it play a role in a progressive tax system? Second, how significant are the distortions caused by the excess corporate tax? And third, how can the revenues raised from corporate tax replaced?" The general objective of this study is to investigate the effect of corporate tax on profitability of business organizations in Nigeria. Hence, the study tries to ascertain how corporate tax (marginal tax rate, effective tax rate and average tax rate) affect the profitability (return in assets and return on equity) of business organizations in Nigeria.

Objectives of the Study

The main objective of this study is to investigate the effect of corporate tax on profitability of business organizations in Nigeria. The specific objectives are to:

i. Determine the effect of marginal tax rate on profitability of business organizations in Nigeria.
ii. Ascertain the effect of effective tax rate on profitability of business organizations in Nigeria.
iii. Investigate the effect of average tax rate on profitability of Nigerian business organizations.

Research Hypotheses

The study is guided with the following null hypotheses:

i. There is no significant effect of marginal tax rate on profitability of business organizations in Nigeria.
ii. Effective tax rate does not have any significant effect on profitability of business organizations in Nigeria.
iii. There is no significant effect of average tax rate on profitability on Nigerian business organizations.

Review of Related Literature

This section presents the conceptual and theoretical perspective of tax and empirical evidences from earlier researchers.

Marginal Tax Rate (MTR)

A MTR is the amount of tax paid on an additional dollar of income (Investopedia, 2016). The marginal tax rate for an individual will increase as income rises. This method of taxation aims to fairly tax individual based upon their earnings, with low income earners being taxed at a lower rate than higher income earners. Corporate marginal tax rate (MTR) measures are used in studies examining tax motivated behavior. Consistent with Scholes and Wolfson (1992), the corporate marginal tax rate is generally defined as the

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change in the present value of the cash flow paid to (or recovered from) the tax authorities as a result of earning one extra dollar of taxable income in the current tax period. Under a marginal tax rate, tax payers are most often divided into tax brackets or ranges, which determine the rate applied to the taxable income of the tax filer. As income increases, what is earned will be taxed at a higher rate than the first dollar earned. While many believe this is the most equitable method of taxation, many others believe this discourages business investment by removing the incentive to work harder. A tax bracket refers to a range of incomes that are subject to a certain income tax rate. In most income tax systems, low incomes fall into tax brackets with relatively low income tax rates, while higher earnings fall into brackets with higher rates. Tax brackets help create progressive income tax schedules.

In Nigeria, corporate tax law treats gains and losses asymmetrically by taxing income for the current period at statutory rates only when positive. Losses may be carried back to obtain refunds of previously paid taxes or carried forward to be offset against future taxes payable. Because of this asymmetric treatment, gains and losses from other years have the potential to reduce firms' current period MTR. In order words, the current period MTR is dependent on the firms' taxable income in prior and future years (Shevlin, 1999). The marginal tax rate is the tax liability generated, today and in the future, by an additional dollar of income earned today. Estimating the marginal tax rate is not straightforward because of the uncertainty of future earnings, the carry back and the carry forward provisions of the tax law, and the alternative minimum tax (AMT). Corporations can "carry back" and "carry forward" operating losses and tax credits-meaning they can apply them to reduce tax liabilities incurred in past or future years. As Grahman (1996) explains the relationship among operating losses, marginal tax rates, and the value of tax shields is not always obvious.

Effective tax Rate (ETR)

The effective tax rate is the average rate at which an individual or corporation is taxed. The effective tax rate for individuals is the average rate at which their earned income is taxed, and the effective tax rate for corporation is the average rate at which its pre-tax profit are taxed. An individual effective tax rate is calculated by dividing total tax expenses by his taxable income. For corporations, the effective tax rate is computed by dividing total tax expenses by the firm's earnings before taxes. In many cases, effective tax rate only refers to income incurred by taxpayers and does not include sales tax or other types of taxes. However, in other cases, analysts include excise taxes as well payroll taxes. This can be especially useful when trying to compare the effective tax rate of two or more individuals, as income tax is only a portion of the total tax paid by most taxpayers. To calculate effective tax with these inclusions, add together all of the tax under consideration and divide it by the individuals income.

Average Tax Rate (ATR)

This is measured by the total amount of taxes paid by an individual or business divided by taxable income. This rate will vary based on the amount of income received

during the taxable period. The average tax rate (ATR) measures are used by researchers to assess corporate tax burdens (Omer, Molloy & Ziebart, 1991). An early motivation for examining ATRs was to provide evidence on the political cost hypothesis (Zimmerman, 1983; Porcano, 1986; Wilke & Limberg, 1990; Shevlin, 1999). According to them, this hypothesis predicts that larger firms faced more political scrutiny and thus were more likely to select income decreasing accounting methods (and accruals). One measure of political scrutiny, according to Shevlin (1999), is reflected in the taxes paid by different size firms. That is, do larger firms face higher tax burdens? ATRs are used to examine tax planning effective (and also tax aggressiveness). More effective tax planners are expected to exhibit lower ATRs. But if we examine statutory tax burdens, the burden can only differ from the top statutory tax rate because of credits. That is, any tax planning that deter revenue or accelerates tax deductions reduces taxable income but has no effect on the statutory tax burden (Shevlin, 1999).

Ability-to-pay approach theory: The ability-to-pay approach theory according to Akakpo (2009) as cited in Gatsi, Gadzo & Kportorgbi (2013) is that, taxes are based on taxpayers' ability to pay thus, there is no quid pro quo. The underlying principle of this theory is that, taxes paid are seen as a sacrifice by taxpayers, which raise the issues of what the sacrifice of each taxpayer should be and how it should be measured. According to them, the theory has the following principles:

- Equal sacrifice: This implies that the total loss of utility as a result of taxation should be equal for all taxpayers so that those who can afford to pay higher taxes are made to pay higher than those who cannot afford.
- Equal proportional sacrifice: The proportional loss of utility as a result of taxation should be equal for all taxpayers such that the payment of taxation should not deprive anybody of what he/she would have previously sacrificed.
- Equal marginal sacrifice: The instantaneous loss of utility as a result of taxation should be equivalent for all taxpayers. This will require the least collective sacrifice; it is measured by the derivative of the utility function. The current study evaluates the finding to assess whether the principles under the ability to pay theory is fully adhered to in the case of corporate taxation in Nigeria.

Empirical Review

Jens and Schwellnus (2008) examined the effects of corporate income taxes on two of the main drivers of growth, profitability and investment of firms in European OECD member countries over the time period of 1996-2004; through stratified sampling, it is found to be true across firms of different size and age classes, except for young and small firms. The results suggest that corporate income taxes reduce investment through an increase in the user cost of capital. This may be partly explained by the negative profitability effects of corporate income taxes if there is an increase in the corporate tax rate. Rohaya, Nor'Azem and Bardai (2010) conducted a study on corporate income taxes and revealed an association between income tax and profitability of corporate institutions. The study related to the impact of corporate income tax liabilities on different variables of a firm as gross profit, cost of sales, expenses etc. A sample of 7,306 companies was taken

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from the hotels and restaurants sector, this includes 6,594 in business services and 1,484 in transport manufacturing sectors, for the accounting periods 1995 to 2000. The conclusion was that corporate income tax adversely affects the profitability of corporate institutions but has a positive relationship with the firm size and age of companies. De Mooij et al. (2001) and Meg (2008) all found a negative relationship between corporate taxation and financial performance. Mayende (2013) analyzed the effects of tax incentives on the performance of Ugandan manufacturing firms in terms of gross sales and value added employing panel data estimation techniques. The study findings show that firms with tax incentives perform better in terms of gross sales and value added than their counterparts. The education level of managers of firms, firm-size, and age of the firm have positive impact on firm performance. The major policy implication of the study findings indicates that Government needs to streamline the provision of tax incentive for better firm performance. Access to quality and technical education and skills development is necessary in order to have qualified managers with high level of management skills to utilize the available tax incentives so as to improve firm performance.

Djankov, Ganser, McLiesh, Ramalho and Shleifer (2010). Present new data on effective corporate income tax rates in 85 countries in 2004. The data came from a survey, conducted jointly with PricewaterhouseCoopers, of all taxes imposed on "the same" standardized mid-size domestic firm. In a cross-section of countries, our estimates of the effective corporate tax rate have a large adverse impact on aggregate investment, FDI, and entrepreneurial activity. Corporate tax rates are correlated with investment in manufacturing but not services, as well as with the size of the informal economy.

RESEARCH METHODS

Data Collection Procedures

This section focuses on the procedures and methods employed in collecting data used for the study. In the study, secondary data were collected. The data were sourced from the Nigerian Stock Exchange Fact Book (2011-2015) and the annual reports of the selected firms. Financial information of five quoted banks- Diamond Bank plc, Union Bank plc, Wema Bank plc, Access Bank plc and First Bank plc were collected. The above mentioned banks were purposively selected based on convenience and availability of the required data. Panel data collected for the five listed banks over a five year period of five focus variables resulted in 125 data points used for the study.

Model Specification

The study adopted a multiple regression of Ordinary Least Square (OLS) method to identify the effect of corporate tax on profitability of business organizations in Nigeria. The choice of ordinary least squares (OLS) for this research work is guided by the fact that its computational procedure is simple and the estimates obtained from this procedure have optimal properties which include: Linearity, Unbiasedness, Minivariance and Mean square error estimation (Koutsoyianis, 2003). In carrying out this research paper on the effect of corporate tax on profitability, we developed a compact form of our model as follows:

$Y = f(X)$.....1

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$Y = \beta_o + \beta_1 x + \beta_2 x + \beta_3 x + \mu$.....II

Where:

Y = dependent variable of company

X = independent variable of company

β_o = intercept for X variable of company

β_1 - β_3 = coefficient for the independent variables X of companies, denoting the nature of the relationship with dependent variable Y (or parameters)

μ = the error term

Specially, when researcher converts the above general least squares model into our specified variables, it becomes:

ROA = f(MTR + ETR + ATR).....I

ROA = $\beta_o + \beta_1$MTR + β_2ETR + β_3ATR + μ.....II

ROE = f(MTR + ETR + ATR).....I

ROE = $\beta_o + \beta_1$MTR + β_2ETR + β_3ATR + μ.....II

Where:

ROA = return on assets

ROE = return on equity

MTR = marginal tax rate

ETR = effective tax rate

ATR = average tax rate

β_o = constant or intercept

β_1 - β_3 = coefficient of explanatory variables

μ = error term

Table 1: Variable Measurements

Variable	Measurements
ROA =	net income/total assets
ROE =	net income after tax/shareholders' equity
MTR =	total liability/total income
ETR =	total tax paid/earnings before tax
ATR =	tax paid/taxable income

Data Analysis and Interpretation

The summary of the analysis result and its corresponding interpretations of the effect of corporate tax on profitability of business organization in Nigeria are presented below.

Table 2: Descriptive Statistics

Variables	Mean	Max	Min	St. Dev
ROA	0.0138	-0.0208	0.0788	0.0181
ROE	0.0766	-3.9430	1.1800	0.8612
MTR	116.30	-57.637	1177.4	234.20
ETR	0.1550	-0.2334	0.7195	0.1849
ATR	0.1575	-0.2334	0.7195	0.1859

Source: Researcher summary of Minitab descriptive statistics (2016)

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Table 2 above shows the mean (average) for each variable, their maximum values, minimum values, standard deviation. The result provides some insight into the nature of the selected banks data used for the study. Firstly, it was observed that over the period under review, the sampled companies have positive average return on asset of 0.0138, while the mean of return on equity is 0.0766, this means that the selected banks has a positive return on asset and equity (profitability) in the period of the study. The table also reveals that a positive average value of 116.3 for marginal tax rate, 0.1550 for effective tax rate and 0.1575 for average tax rate for the selected banks used in the study. These values mean that within the period under review, quoted banks meet up 76% on the average within the period under review. The maximum value of marginal tax rate is -57.637 and its minimum value is 1177.4, maximum value for effective tax rate is -0.2334 and its minimum value is 0.7195; that of average tax rate is -0.2334, the minimum is 0.7195. The large differences between the maximum and minimum value shows that the banks data used for the study are homogeneous.

Table 3: Correlation Analysis

Variables	ROA	ROE	MTR	ETR	ATR
ROA	1.000				
ROE	0.404	1.000			
MTR	-0.223	0.096	1.000		
ETR	0.413	0.117	0.665	1.000	
ATR	-0.398	0.125	0.663	0.198	1.000

Source: Researcher summary of Minitab 16 correlation analysis

The correlation matrix is to check for multi-colinearity and to explore the association between each explanatory variable and the dependent variable. The findings from the correlation matrix table (table 3 above) show that return on asset (ROA) has a positive association with return on equity (ROE). This justifies the use of both measures as proxy for firm profitability. The table shows that return on asset has a negatively associated with marginal tax rate and average tax rate and positively associated with effective tax rate. Return on equity has a strong positive association with effective tax rate and average tax rate but weak association with marginal tax rate. Marginal tax rate is strongly associated with effective tax rate and average tax rate.

Effective tax rate is positively associated with average tax rate. In checking for multi-colinearity, the study observed that no two explanatory variables were perfectly correlated.

Table 4: Regression Analysis

Return on Asset (ROA) Model

	MTR		ETR		ATR
Coeff.	10.6792	14.0658	10.0205		
P-value	0.0750	0.0062		0.0879	
R.sq (adj)	64.80				
F-stat	11.398				
F-stat Prob.	0.0275				
Durbin Watson	1.7898				

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Source: Researcher summary of Minitab 16 Regression Analysis

The regression analysis result shows an R-sq (adj) value of 0.648 approximately 65%. This indicates that about 65% of the variation in firm performance can be attributable to the firm corporate tax rate quoted firms in Nigeria. Thus, 65% of the outcome of the dependent variable can be explained jointly by all the independent variables. The F-statistics shows a value of 11.389 and F-start probability value of 0.0275, this shows the appropriateness of the model used for the analysis while the probability value means that model is statistically significant and valid in explaining the outcome of the dependent variable. The Durbin Watson statistic which test for the presence of autocorrelation has a value 1.7898 which is approximated as 2. This reveals the absence of autocorrelation in the model used for the analysis.

Return on Equity (ROE) Model

	MTR		ETR		ATR
Coeff.	12.106	13.901	12.402		
P-value 0.0924		0.0785		0.0033	
R.sq (adj)	60.00				
F-stat	10.136				
F-stat Prob.	0.0939				
Durbin Watson 1.7409					

Source: Researcher summary of Minitab 16 Regression Analysis

The regression analysis result shows an R-sq (adj) value of 0.600 approximately 60%. This indicates that about 60% of the variation in firm performance can be attributable to the firm corporate tax rate quoted firms in Nigeria. Thus, 60% of the outcome of the dependent variable can be explained jointly explain by all the independent variables. The F-statistics shows a value of 10.398 and F-start probability value of 0.0939, this shows the appropriateness of the model used for the analysis while the probability value means that model is statistically significant and valid in explaining the outcome of the dependent variable. The Durbin Watson statistic which test for the presence of autocorrelation has a value 1.7409 which is approximated as 2. This reveals the absence of autocorrelation in the model used for the analysis.

Summary of Findings

The study reveals that for the Nigerian listed banks, the three explanatory variables have positive significant effect on the dependent variables – Return on Assets and Return on Equity (Profitability). The coefficient value (10.6792) by ROA and (12.106) by ROE reveals that Marginal tax rate (MTR) has a strong positive effect on profitability, while the P-value of 0.0750 by ROA and 0.0924 by ROE reveals that the effect is statistically significant at 10% level. On the Effective tax rate (ETR), the more the ETR increases the better the profitability of quoted banks in Nigeria. It can also be observed under the Average tax rate (ATR), that the more ATR, the higher the possibility of better profitability of the listed banks in Nigeria. The results from the descriptive statistics table provide some insight into the nature of the selected banks data used for the study. It

was observed that over the period under review, the sampled banks have positive average return on asset of (0.0138), while the mean of return on equity is 0.0766, this means that the selected banks has a positive return on asset and equity (performance) in the period of the study. The table also reveals that a positive average value of (116.3) for MTR, 0.1553 for ETR and 0.1575 for ATR for the selected banks used in the study. The findings from the correlation matrix table show that Return on Assets (ROA) has a positive association with Return on Equity (ROE). This justifies the use of both measures as proxy for firm's profitability. The table reveals that ROA has negative association with MTR and ATR, and positive association with ETR. ROE has a strong positive association with ETR and ATR but weak association with MTR.

CONCLUSION

From the view point of the effect of corporate tax, the findings will assist in establishing financial policy guidelines that will mitigate financial risk in their various firms. Similarly, given the outcome of this study, the model used in this study could be used as a basis for formulating corporate tax policy in Nigeria that will indicate its effect on the firm's profitability. The findings should be of policy relevance to tax authority in issuing out guidelines for taxation which would boost the economic activities in the market in particular and economy in general.

RECOMMENDATIONS

The study, therefore, recommends that:

- In carrying out their tax decision, banks must deploy and properly measure effect of variables like marginal tax rate, effective tax rate and average tax rate on profitability (ROA and ROE) on the firms.
- Government should establishing financial policy guidelines that will mitigate financial risk in the various firms in Nigeria.
- In order to indicate its effect on the firm's profitability, the model used in this study should be adopted as a basis for formulating corporate tax policy in Nigeria.

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