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**EFFECT OF TAX OPTIMIZATION ON FINANCIAL PERFORMANCE OF  
MULTINATIONAL COMPANIES IN NIGERIA**

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**Article Received: 23 June 2025**

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**Article Revised: 13 July 2025**

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**Published on: 03 August 2025**

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**ABSTRACT**

Tax Optimization should nevertheless be carried out with restraint so an attempt to reduce tax does not overstep the boundaries of the law by evading it. Therefore, the study seeks to examine the effect of tax optimization on financial performance of multinational firms in Nigeria using secondary data sourced from annual report of the selected multinational companies. The study utilized panel data analysis on 10 companies for the period of 2012 to 2022 using return on equity as proxy of financial performance of multinational companies and CAI, INI, ETR, FLE, FS and FA as proxy for tax optimization. The study found that Inventory intensity has a positive and insignificant relationship with ROE, CAI reveals a negative and significant relationship with ROE, FLE does not significantly affect multinational companies' financial performance (ROE). The result also showed that ETR had a negative and significant effect on return on equity (ROE). Finally, the control variables showed different effect on ROE, FS showed a positive and significant impact on return on equity (ROE) and FA showed a negative and insignificant relationship with the ROE. Consequently, the study recommended among the following that Companies should ensure appropriate use of creative tax optimization approach such that the tax

reductions will be used properly to enhance or to serve as a useful ground for strengthening the firm financial performance.

**KEYWORDS:** Tax Optimization, Financial Performance, Multinationals Companies, Panel Data Analysis.

## INTRODUCTION

Tax Optimization by firms is regarded as a highly significant activity which serves as one of many instruments employed to manage firm tax activities (Mgammal and Ku Ismail, 2015). Scholes et al. (2014) define Tax Optimization as strategies employed by firms to maximize the estimated discounted after-tax cash flows. This indicates that taxpayers can organize their tax affairs in such a way to pay the lowest level of tax and cannot be forced to pay anything more. Tax Optimization should nevertheless be carried out with restraint so an attempt to reduce tax does not overstep the boundaries of the law by evading it. One of the most significant obligations of the managers responsible for paying taxes on behalf of the corporation is to plan on how to cut down the overall corporate tax burden. Theoretically, the tax liability of a company is comparably associated to its profitability; realizing company shareholder wealth maximization ambition through different approaches of improving profitability raises greater difficulty on the company's ability to owe its tax burden. Moreover, tax Optimization is an essential segment of corporate strategy and it means some element of capital structure decisions provides the company and tax manager with the window of opportunity to cut down the company's tax liability resulting in increased financial performance (Ogundajo and Onakoya, 2016).

Nonetheless, the difficulties facing the tax system of most developing countries, Nigeria inclusive has resulted in the adoption of different strategies to reduce tax burden (Akinyomi & Okpala, 2013; Omesi & Appah, 2021). Taxation has different implications on the investment, financing and performance of a firm. High tax burden impedes investment and productive capacity of a firm through restriction on financial resources availability (Adelegan, 2003; Fagbemi, Olaniyi & Ogundipe, 2019). Also, the financing of investments opportunity with debt has tax relief on interest payments while financing through equity results in taxation being paid from dividend; thus, creating shortage of financial resources for an organization (Gabriel &

Gimenez, 2015; Nekasa, Namusonge & Makokha, 2017). This process determines the investments and future growth prospects of an organization.

One of the major objectives of any organization is to enhance financial performance and shareholders wealth. Financial performance reflects ability of organization to effectively utilize financial and production factors to generate revenue for shareholders has been the major focus of profit-making organization (Kayode & Folajinmi, 2020). Tax optimization arises out of the need to improve financial performance and to enhance shareholders wealth. This had led managers to diverse strategies to reduce tax liability. Among the strategies is the effective tax optimization. Tax optimization are strategies that is employed by an organization to legally reduce tax liability. This is done through tax avoidance. The savings are made available to embark on investments opportunities and this would enhance corporate performance (Desai & Dharmapala, 2009; Omodero & Ogbonnaya, 2018). Effective tax optimization is one of the major responsibilities of corporate bodies through the adoption of strategies to minimize the tax liability of organization. Theoretically, the tax liability of a firm is related to performance and attaining higher performance requires the adoption of effective tax optimization strategies; but to reduce tax liability has posed significant challenges to organizations in the recent time (Madugba, Ben-Caleb, Lawa & Agburuga, 2020).

One of the major challenges been faced by government and organizations in Nigeria is effective charges that would stimulate business activities and economic growth. While the issues of tax evasion have been a great challenge to government, multiple tax payment especially in Nigeria with ineffective tax system has remained an issue which companies seeks to deal with (Adejumo & Sanyaolu, 2020). Policies and reforms which include Federal Board of Inland Revenue Services Act 2007, National Tax Policy of 2017, Assets and Income Declaration Scheme (VAIDS) of 2017 and Voluntary Offshore Assets Regulation Scheme (VOARS) of 2018 have been adopted in Nigeria in the recent years to deal with the problem of multiple tax issue and ineffective tax collection policy (Deloitte, 2017). Despite this, Hart (2018); Juwa-Ogboi (2018) asserted that Nigerian taxation system is presently experiencing series of problems among which include multiple tax system, complex nature of tax laws, unskilled manpower, and improper tax collection method which may posed challenges to business and economic growth.

Various studies have been conducted in Nigeria to assess the effect of tax planning on firm's performance. Olayiwola and Olarewaju (2019) examine the effect of tax planning on financial performance of quoted non-financial companies in Nigeria, Oyeyemi and Babatunde (2016) examined the influence of corporate tax planning on the financial performance of manufacturing firms quoted on Nigerian Stock Exchange, Chukwudi et al. (2020) determine the effect of tax planning on firm value in quoted consumer goods manufacturing firms in Nigeria. However, Akintoye et al. (2020) examine the effect of Tax Planning Strategies on Profitability of Quoted Manufacturing Companies in Nigeria. While Fagbemi et al. (2019) examine the corporate tax planning and financial performance of systemically important banks in Nigeria. From the reviewed of literature above, the findings of these studies produced a conflict results which needs a further investigation and also, there seems to be paucity of research work on tax optimization and financial performance of multinational firms in Nigeria. Against this backdrop this research work intends to examine the effect of tax optimization on financial performance of multinational firms in Nigeria.

## **2. LITERATURE REVIEW**

### **2.1. Theoretical Literature**

There a lot of theories that are relevant to the study but for the purpose of this study three theories that are most relevant to the study were discussed below.

#### **Agency Theory of Tax Planning**

Agency theory was propounded by Jensen and Meckling (1976). The agency theory in tax planning have been adopted and advance by scholars in the area of tax administration (Slemrod 2004); Chen & Chu 2005; Crocker & Slemrod 2005; Tatu, Dragota & Vintila 2011). The agency theory proposed that the relationship between principal (shareholders) and agent (tax managers) is a mutual one and tax managers should to the advantage of shareholders. Thus, the theory suggests that, tax manager should explore every loopholes and opportunities in tax laws to reduce tax burden and liability through effective tax planning to advance the interest of shareholders.

### **Stakeholder Theory**

This theory was developed by Freeman (1984). The theory asserted that the main objective of an organization is to satisfy the needs of all stakeholders that are related to the organization. The theory states that firms are established not only to generate wealth of shareholders but also to cater for the welfare of other stakeholders like government in environment in which it operates. Thus, the theory opined that tax managers are concerned with the generation revenue or enhancement of shareholders wealth and also ensures tax payment to the government (Nwaobia & Jayeoba 2016). Summarily, the theory asserts that tax managers should ensure that shareholders wealth are enhanced through effective tax planning while ensuring that appropriate tax are paid to the government but must not negatively affect financial performance (Kayode & Folajinmi, 2020).

### **Hoffman's Tax Planning Theory**

This theory was promulgated by Hoffman (1961). Fagbemi, *et al.*, (2019); Omesi and Appah (2021) opined that, this theory is stress the role of tax planning in reducing tax payment without negatively influencing accounting income. This theory supports the reduction of tax payment to government thereby increasing the financial position and growth of an organization (Nwaobia & Jayeoba, 2016). According to this theory, tax planning activities are advantageous and help to minimize tax income without adjusting tax income (Akintoye, Adegbe, & IHEME-ONYEKA, 2020).

This theory asserted that taxation are based on business concepts, thus, an organization can adjust business activities to reduce tax burden. Therefore, the theory proposes direct or positive linkage between tax planning activities and financial performance of a firm (Hoffman, 1961; Omesi & Appah, 2021). According to Hoffmann (1961), firms capitalize on some loopholes in existing tax within legal frameworks to generate tax savings opportunities for a firm thereby enhancing performance.

## **2.2. Empirical Literature**

Gallemore *et al.*, (2017) focused on the relationship between corporate taxation and bank outcomes among commercial banks in U.S. Based on the multi-regression analysis, tax rate was found to have significant effect on banks performance.

The study of Nekasa, Namusonge & Makokha, (2017) adopted pooled OLS technique to investigate the impact of corporate income tax on financial performance of listed companies in Nairobi Securities Exchange (NSE) in Kenya in 2015. It was established that corporate income tax had positive and significant relationship financial performance.

Omodero and Ogonnaya (2018) examined linkage between corporate tax and profitability of deposit money banks in Nigeria from 2006 to 2016. The result of the multiple regression analysis and t-test showed that company income tax had positive and significant effect on profit after tax of deposit money banks in Nigeria.

Kurawa and Saidu (2018) assessed the relationship between company income tax and financial performance of listed consumer goods companies in Nigeria from 2006 to 2016. The study employed ordinary least square regression technique to analyze data and it was found that corporate tax had negative and insignificant effect on return on assets while Age and Risk were established to have positive and insignificant effect on return on asset.

Azeez et al, (2025) investigated the effect of tax optimization on financial performance of multinational companies in Nigeria the study used the cross-sectional survey design was adopted. this study associations the elements of both descriptive and assessment research, population of the study consists of government agencies located in Ekiti state while the target population samples of the study comprised 150 from the selected agencies.

Ramadhan and Riandoko (2017) investigated the effect of thin capitalization rule implementation on corporate capital structure (debt and equity) in a sample of 76 publicly-listed Indonesian firms for 2015 and 2016. This study used to leverage data in 2015 (before the implementation) and 2016 (after the implementation). The data was separated with the leverage above 4:1 and below 4:1. Paired sample t-test was used for analysis. The findings showed that the thin capitalization rule significantly affected corporate capital but did not significantly affect corporate debt in both samples.

Okesola (2018) examined the effects of thin capitalization rules on tax revenue by using the Latvian economy as a case study. Taxes on corporate profits, gross fixed capital formation annual percentage growth, short-term interest rates on loans in the Euro Area (EA) and adjusted

net national income percentage growth data for the period of 2000 to 2016 were obtained from the Organization for Economic Cooperation and Development (OECD) and the World Bank database. A multiple regression model was adopted and the results showed that the thin capitalization policy is statistically insignificant to tax revenue in Latvia.

The study of Akabom and Ejabu (2018) on the effects of thin capitalization and international laws on the performance of multinational companies in Nigeria. Ten Samples were drawn from 17 multinational companies quoted on the Nigerian stock exchange, and an expo-facto design was adopted covering the period of 2012-2016, while multiple regressions technique was used for the analysis. The results indicated that thin capitalization is a revenue-stripping technique, but it affects the performance of multinational companies in Nigeria.

In a recent work by Otuya and Omoye (2021), thin capitalization, effective tax rate and performance of MNCs in Nigeria were investigated. Secondary data from the financial statements of sampled MNCs from 2014 to 2018 was used. Descriptive statistics, correlation and regression analyses were adopted and the findings indicated that thin capitalization, interest expenses rate, effective tax rate, and capital intensity have a positive but insignificant association with MNC's financial performance.

Akintoye et al. (2020) considered the impact of tax planning strategies on profitability of manufacturing companies listed in Nigeria. The study population consists of 52 industrial companies on the Nigeria Stock Exchange on December 17, 2018, where 46 were calculated as a sample size using Taro Yaman's formula. The data was collected from the annual reports of selected companies within 10 years (2008 - 2017). Reliability and validity were based on the regulatory examination of the financial statements. Descriptive and inferential statistics were used for data analysis. The result has shown that TP has no significant impact on ROA of manufacturing companies specified in Nigeria. The Study concludes that tax strategies have a negative and positive impact on the profitability of Nigeria manufacturing companies. The study recommends tax administrators and financial employees to reduce thin capitalization and capital intensity in order to compensate for the source of income for industrial companies and the cost of research and growth should be applied properly to increase their benefit. Professional tax professionals should also be contacted on tax planning for maximized it benefits.

Fagbemi et al. (2019) examine the planning of tax and the financial performance of systematically important banks in Nigeria. Ex-post facto was approved as a research design in this study and OLS was used to analyze the data for the study. This study has shown that an effective tax rate has a negative and significant impact on economic activity. Thin capitalization has a positive effect on SIBA's financial performance in Nigeria and the capital intensity and rent option has little effect on SIBA's economic performance in the country. The study concludes that company tax planning model affects economic activities according to tax planning strategies. Similarly, the study recommends that tax authorities should carry out tax reforms in which the adaption should be based on the tax level of the companies and that banks should carry out activities that can reduce the effective tax rate.

Oyeyemi and Babatunde (2016) examined the influence of corporate tax planning on the financial performance of manufacturing firms quoted on Nigerian Stock Exchange with annual reports of 10 selected firms from the 28 companies listed in the field of consumer goods. The study used the Generalized least square regression model (based on the result of the Hausman's specification test). The study reveals that aggressive tax planning strategies such as thin capitalization, tax control and other gaps' benefits in the Nigerian tax laws were not fully utilized by the sample firms. The study recommends that Nigeria industrial companies should incorporate in the company's strategic planning, specialized tax practice knowledge and ensure the implementation of integrated tax strategies.

Olayiwola and Olarewaju (2019) investigate the relationship between corporate tax planning and financial performance of quoted non-financial companies. The secondary data used were gathered from 2007 to 2016 annual reports of 47 sample firms from non-financial companies. A panel vector approach was maintained by structural analysis. The results of the study showed that tax savings had a direct link to economic activity and tax avoidance had an adverse relationship with economic activity. The company's tax plan, which enhances tax savings, significantly promotes the performance of non-financial companies. The study recommends that, firms should not only participate in tax planning, but also ensure that their tax planning is legal and that companies immediately save taxes so that they do not pay more taxes and thus achieve better financial performance.

### 3. Research Methodology

Since the study is quantitative in nature Ex post facto design was employed for this the study. A judgmental sampling technique was used to select eight multinational companies (Unilever, Nestle Nigeria, Cadbury, Guinness, PZ Cussons, Lafarge, Dangote Sugar, Chemical and Allied Products Plc.) for ten years from 2012 -2022 based on the availability of financial data and information of the selected companies throughout the operation as multinational companies in Nigeria. The preliminary analysis involves descriptive analysis, while the post-estimation tests include a cross-sectional dependence (CD) test, serial correlation test and normality test were conducted. As regards the model estimation, static panel regression analysis such as random effect (RE) and fixed effect (FE) static panel estimation methods were employed. The analysis was conducted with the use of E-views.

#### Model Specification

This study was anchored on Hoffman's tax planning theory propounded by Hoffman (1961). The study stressed the role of effective tax planning in reducing tax liability thereby enhancing the performance of firms. However, the study adapted the model of Omesi and Appah (2021) with little modification. The model is functionally given as:

$$\text{Perf} = f(\text{TO}) \quad (1)$$

Where:

Perf = Performance. This is the dependent variable which is proxied by return on equity (ROE).

TO = Tax Optimization. This is the independent variable proxy by inventory intensity, capital intensity, financial leverage, effective tax rate (ETR).

Thus, the model is decomposed into:

$$\text{ROE} = f(\text{INI}, \text{CAI}, \text{FLE}, \text{ETR}, \text{FMS}, \text{FA}) \quad (2)$$

In the model presented in (2), firm size (FMS) and Firm age (FA) were used as control variables.

Thus, the model is econometrically given as:

$$ROE_{it} = \beta_0 + \beta_1 INI_{it} + \beta_2 CAI_{it} + \beta_3 FLE_{it} + \beta_4 ETR_{it} + \beta_5 FMS_{it} + \beta_7 FA_{it} + \mu_{it} \quad (3)$$

Where:

ROE = Return on Equity

INI = Inventory Intensity

CAI= Capital intensity

FLE = Financial Leverage

ETR = Effective Tax Rate

FMS = Firm Size FA= Firm's age  
 u = error term i = cross-sectional variable  
 t = time series variable

### Measurement of Variables

From the above equation, Return on Equity (ROE) is the dependent variable, and is measured by profit after tax divided by total equity. Inventory intensity is one of the independent variables and it is measured by the ratio of inventory to fixed asset, CAI is capital intensity and is measured by ratio of Noncurrent asset to total asset, FLE is the financial leverage and it is measured by the ratio of Long -term debt to total asset , effective tax rate (ETR) is measured by total tax cash expenses divided by pre-tax income expressed as a percentage. while Firm Size (FMS) measured by Log of total assets serves as the control and firm's age (FA) is measured as the Number of years of observation minus years of listing.

### 4. Data Presentation and Analyses

The analysis of data collected from different sources such as annual report of these firms is presented here. Preliminary estimation such as the descriptive statistics and correlation matrix are discussed.

**Table 1: Descriptive Statistics.**

	ROE	INI	CAI	FLE	ETR	FS	FA
Mean	0.196250	0.565	0.077806	1.872	0.283769	8.043174	22.321
Max	0.368073	8.168	0.368073	13.51	1.283526	8.657849	53.000
Min	-0.118447	0.0002	0.331770	0.392	-0.263332	7.439775	2.000
Std Dev	0.266063	0.9095	0.399396	2.026	0.278228	0.346667	13.390
Skewness	1.295458	3.528781	3.328781	3.717	0.730140	-0.248954	0.616593
Kurtosis	3.452944	5.785277	6.685277	19.863	6.148627	1.898745	3.121078
Jarque-Bera	7.806746	4.403323	9.139079	863.295	20.07712	2.434456	3.593074
Probability	0.020174	0.0110132	0.053407	0.000	0.000044	0.296050	0.165872
Observation	80	80	80	80	80	80	80

**Source: Author's Computation, 2025**

From table 1 above shows descriptive statistics which describes the characteristics of the variables in their natural form. From the result all the variables exhibit low average value which implies low deviation from the standard deviations. Also, from the table all the variables are positively skewed except firm's size (FS) that is negatively skewed. In the same vein, kurtosis which measures the flatness and tallness of the variables showed that all the variables (ROE, INI,

CAI, FLE, ETR and FA) are all leptokurtic because they are greater than 3 which is the threshold except FS that is platykurtic because it is less than 3. Finally, Jargue-Bera which measures the normality of the distribution showed that all the variables (i.e ROE, INI, CAI, FLE, ETR) are not normally distributed whereas, FS and FA are normally distributed.

**Table 2. Correlation Matrix.**

Variables	ROE	INI	CAI	FLE	ETR	FS	FA
ROE	1						
INI	0.009	1					
CAI	-0.2390	.239	1				
FLE	-0.116825	0.0690	.024	<b>1</b>			
ETR	0.151623	0.113767	0.0121	0.0201	<b>1</b>		
FS	0.2252	-0.2702	-0.0471	-0.3683	-0.4440	<b>1</b>	
FA	0.5933	0.3700	0.7563	-0.0350	-0.1006		1

**Source: Author's Computation, 2025**

From table 2, the explanatory variables INI, ETR, FS and FA are positively correlated with ROE while CAI and FLE are negatively correlated with the financial performance ROE at -0.2390 and -0.116825 respectively. However, FA has the highest positive correlation with financial performance (ROE =0.5933). It is to be noted that the correlation matrix above also gives the correlation among the explanatory variables themselves; CAI and FA have the highest positive correlation of 75.63%. this followed by INI and FA of correlation coefficient of 0.3700. in the same way, INI and CAI also have a positive correlation of 0.239 while, CAI has positive correlation with FLE of 0.24. As displayed from the correlation table, the correlation coefficients between various independent variables (CAI, INI, FLE and ETR) and control variables (FS and FA) are less than the threshold of 0.8 (Gujarati, 2010).

### Static panel model results

**Table 3 Pooled Regression**

Variable	Coefficient	Std Error	t-test	Prob
Constant	-0.098	0.030	-3.23**	0.001
CAI	-0.029	0.015	-1.91**	0.056
INI	0.000	0.004	0.01	0.989
LEV	0.154	0.026	5.87***	0.000
ETR	-0.255	0.5406	-2.12**	0.025
FS	0.024	0.004	6.74***	0.000
FA	-0.000	0.000	-0.59	0.557
R-Square	0.813			

Adj R2	0.906
F(6,749)	15.96
Prob > F	0.000

**Source: Author's Computation, 2025**

Bases on Table 3 above, which shows the pooled regression value of the impact of explanatory variables on dependent variables (financial performance). The adjusted R square of 0.906 indicate that 90% changes in the dependent variable ROE is affected by the combined effect of the explanatory variables of CAI, INI, FLE, ETR, FS and FA while the remaining 10% is caused by other determining variables that are not revealed by the study. The p-value of the model is 0.0000. This implies that, the present study clearly shows that the selected variables are sufficiently enough to explained dependent variables (financial performance).

**Table 4. Fixed effect and Random Effect**

<b>Variables</b>	<b>FE</b>	<b>RE</b>
<b>Constant</b>	2.216*** (0.004)	4.510*** (0.000)
<b>CAI</b>	-2.002** (0.002)	-5.335 (0.000)
<b>INI</b>	2.0102 (0.551)	0.432 (0.330)
<b>FLE</b>	0.136 (0.661)	0.239 (0.463)
<b>ETR</b>	-0.179*** (0.000)	-0.193*** (0.000)
<b>FS</b>	0.300** (0.022)	-0.884*** (0.000)
<b>FA</b>	-0.179*** (0.210)	-0.426*** (0.003)
R-Square	0.293	0.811
Adj R-square	0.233	0.760
F- Stat	4.878*** (0.002)	15.690*** (0.000)
Hausman Test		
Chi-Square Stat	16.809	
P-value	(0.002)	

**Source: Author's Computation, 2025**

**Note:** The values in the parenthesis () are the *p*-values for the respective coefficients, while \*\*\*, \*\* & \* denote statistical significance at the conventional 1%, 5% and 10% significance levels, respectively.

From table 3, the result of Hausman test show that the null hypothesis will be rejected and therefore accept the alternative hypothesis. This implies that fixed effect model was appropriate for this analysis. However, as shown in Table (3), changes in capital intensity *CAI* exert negative and significant effects ( $\beta = 0.2002$ ,  $p = 0.002 < 0.05$ ) on the financial performance (*ROE*) of the selected multinational companies in Nigeria. Given the magnitude of the partial slope coefficient, *ROE* responds negatively, on average, to every 1% change in *CAI* by about 0.20%. In other words, *ROE* appears to be *CAI* elastic since the partial elasticity coefficient of *ROE* for *CAI* is greater than one. Also, changes in inventory intensity exert a statistically insignificant positive impact ( $\beta = 2.0102$ ,  $p\text{-value} = 0.551 > 0.05\%$ ) on the financial performance (*ROE*) of the selected multinational companies in Nigeria. Given the magnitude of the partial slope coefficient, every 1% rise (fall) in *INI*, on average, results in about a 0.19% rise (fall) in *ROE*. Hence, *ROE* appears to be *INI* elastic since the partial elasticity coefficient of *ROE* for *INI* is greater than one. Nevertheless, financial performance responds positively and insignificantly to inventory intensity. In the same way, changes in financial leverage (*FLE*) exert positive but insignificant effects ( $\beta = 0.136$ ,  $p = 0.661 > 0.1$  or 10%) on the financial performance (*ROE*) of the selected multinational companies in Nigeria. Given the magnitude of the partial slope coefficient, *ROE* responds positively, on average, to every 1% change in *FLE* by about 0.13%. In other words, *ROE* appears to be *FLE* inelastic since the partial elasticity coefficient of *ROA* for *FLV* is less than one. However, financial performance responds positively but insignificantly to financial leverage. Similarly, changes in effective tax rate exert a statistically significant negative impact ( $\beta = -0.179$ ,  $p\text{-value} = 0.000 < 0.01$  or 1%) on the financial performance (*ROE*) of the selected multinational companies in Nigeria. Given the magnitude of the partial slope coefficient, every 1% rise (fall) in *ETR*, on average, results in about a 0.18% rise (fall) in *ROE*. Hence, *ROE* appears to be *ETR* elastic since the partial elasticity coefficient of *ROE* for *ETR* is greater than one. Nevertheless, financial performance responds negatively and significantly to the effective tax rate. Finally, concerning control variables and the *ROE*, *FS* reveals to be positive and significantly related with the *ROE* taking into account a  $p\text{-value}$  of 0.022 with a regression coefficient of  $\beta = 0.300$ . whereas *FA* taking into account a  $p\text{-value}$  of 0.210 and a regression coefficient of  $\beta = -0.179$  reveals a negative and insignificant relationship with the *ROE*.

**Table 5: Post Estimation Test Results for FE Method Panel Data.**

<b>Cross-sectional dependence test:</b>	<b>t-test</b>	<b>P-value</b>
Pearson CD test	2.831	<b>0.085</b>
<b>Serial Correlation Test</b>		
Durbin Watson Statistic	1.957	
<b>Normality Test:</b>		<b>P-value</b>
Jarque-Bera	7.3920	0.451

**Source: Author's Computation, 2025**

The post-estimation tests include a cross-sectional dependence test, normality test and serial correlation test. The essence of these tests is to affirm the applicability of the underlying assumptions of OLS and the efficiency of the estimates obtained.

Table (5) presents the results of the cross-sectional dependence test, serial correlation test and normality test. As regards the cross-sectional dependence test, the null of “no cross-sectional dependence” will be accepted since  $p$ -value of 0.085 is greater than 0.05. This suggests that the cross-section residuals are independent or not correlated.

The Durbin-Watson statistic ( $d$ ) is 1.957. As a rule of thumb, since the Durbin-Watson statistic is approximately equal to two ( $d \approx 2$ ), thus, the null hypothesis of “no serial correlation” cannot be rejected. This suggests that there is no existence of serial correlation in the residuals of the estimated panel regression model for the given sample period. Therefore, the assumption of “no autocorrelation in the disturbance term” is preserved in the estimated panel data model.

As shown in Table (4), the Jarque-Bera statistic (4.097) preserves the assumptions of normality of the estimated model since the  $p$ -value (0.128) is more than a 5% significance level. In other words, the normality test result reveals that the estimated model's residuals are normally distributed with statistically insignificant test results. Based on the foregoing, the estimated parameters are valid for inferences and policy making, having satisfied the underlying assumptions of the estimation method.

### **Discussion of Findings**

INI reveals a positive and insignificant relationship with ROE. This can be viewed from Table 4 above which displays a  $p$ -value of 0.551 and the regression coefficient of  $\beta = 2.0102$ . This result signifies that a percentage increase in the inventory intensity of the company might not in any

way increase the company's financial performance in Nigeria. The result is in line with the findings of Olanrewaju and Olayiwola (2019); Omesì and Appah (2021) who found out a positive and insignificant relationship between financial performance of multinational companies and tax planning. Also, CAI reveals a negative and significant relationship with ROE, taking into account a *p-value* of 0.002 and a regression coefficient of  $\beta = -2.002$ . Moreover, this explains that a significant rise in capital intensity would lower the company's financial performance in Nigeria. This finding is also inconsistent with the finding by Salawu (2017) who found capital intensity has a positive and significant relationship with firm value but in tandem with the findings of Ado, Rashida, Mustapha and Ademola (2021) who found out that Capital intensity has a negative and significant impact on financial performance of firms. Similarly, the study showed that the financial leverage does not significantly affect multinational companies' financial performance (ROE). This suggested that a firm's capital structure is not a significant determinant of its financial performance; therefore, the accumulation of debt capital in the capital structure does not affect the performance of these MNCs. The finding is consistent with other studies (Ogundajo and Onakoya, 2016; Akabom and Ejabu, 2018; Otuya and Omoye, 2021). In the case of effective tax rate, the result showed that ETR had a negative and significant effect on return on equity (ROE). This implies that tax optimization has a relationship with performance of multinational companies in Nigeria which is in line with the theory of Hoffman's tax planning theory of positive relationship between tax planning and financial performance. These findings are in line with the result of Olanrewaju and Olayiwola (2019); Fagbemi, Olaniyi and Ogunbadejo (2020); Adejumo and Sanyaolu (2020); Kayode and Folajinmi (2020). The result of firm's size shows that FS had a positive and significant impact on return on equity (ROE) with the coefficient and *p-value* of 0.300 and 0.022 respectively. The findings imply that those firms that are larger in size in terms of assets, have higher profitability. This is consistent with (Ftouhi et al., 2014), (Appolos & Kwarbai, 2016), (Sani & Jamilu, 2016) and (Oyeyemi & Babatunde, 2016). Finally, FA taking into account a *p-value* of 0.210 and a regression coefficient of  $\beta = -0.179$  reveals a negative and insignificant relationship with the ROE. This result is in line with findings of Ado, Rashida, Mustapha and Ademola (2021).

### Conclusion and Recommendations

The study examined the effects of tax optimization on the financial performance of multinational companies in Nigeria. Multinational companies contribute to the economic development of a country. Still, most of them take advantage of the non-existence of thin capitalization rule in Nigeria to reduce their tax payable, which invariably negatively affects the country's revenue generation. Based on the study's findings, which discovered that capital intensity CAI had a negative and statistically significant effect on ROE, INI showed a positive and but insignificant impact on ROE. In the same vein, FLE exerts positive but insignificant effects on ROE. Contrarily, effective tax rate (ETR) exerts a statistically significant negative impact on ROE. Finally, the control variables showed different effect on ROE. In the case of FS it showed positive and statistically significance effect whereas, FA show a negative and insignificant effect on ROE.

From the foregoing, the study recommends that Companies should ensure appropriate use of creative tax optimization approach such that the tax reductions will be used properly to enhance or to serve as a useful ground for strengthening the firm financial performance. Also, this study also recommends that tax optimization measures should be put in place by corporate managers to grow and strengthen the firm financial performance in the course of corporate tax optimization.

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