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Effects of Thin Capitalization on The Financial Performance of Multinational Companies in Nigeria

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Abstract

Before the Finance Act 2019, multinationals exploited the absence of thin capitalization rule in Nigeria, resulting in the government's loss of tax revenue. Thereby necessitating the examination of the effects of thin capitalization on the financial performance of multinational firms in Nigeria. Secondary data was obtained from the annual reports of eight selected multinationals from 2014 to 2021. Thin capitalization was a proxy with financial leverage ratio, fixed-charge coverage ratio and debt ratio; financial performance was a proxy with return on asset, while the firm's size was used as a control variable. Data were analyzed using descriptive statistics, cross-sectional dependence tests, serial correlation, normality tests and regression analyses. The findings revealed that financial leverage and debt ratio do not significantly affect ROA, while fixed-charge coverage ratio had an effect on ROA. The study, therefore, concluded that thin capitalization does not affect multinationals in Nigeria. Hence, Federal inland revenue was recommended to ensure that all multinationals comply with the Finance Act 2019 on the restriction of interest deductible from profit.

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1. Introduction

Tax planning is a technique most multinational corporations use to reduce tax payments through thin capitalization. Therefore, every business corporation is generally financed (or capitalized) through debt and equity. The tax deductibility of interest expense due to debt financing than equity financing is regarded as thin capitalization (Tijjani and Peter 2020). OECD ((2012) defined thin capitalization as a situation in which a company is financed through a relatively high level of debt compared to equity. An entity is said to be thinly capitalized when a greater proportion of its 'capital structure' is made up of 'debt' compared to 'equity' (Ferrar & Mawami, as cited in Akabom and Ejabu, 2018). Thinly capitalized companies are sometimes referred to as highly leveraged or highly geared companies. Interest expenses are tax-deductible expenses on borrowed capital; hence the higher the debt, the higher the interest paid, resulting in lower taxable income.

In order to thwart tax avoidance by most companies, some major countries (such as Australia, Canada, France, Germany, Italy, Japan, the UK, and the USA) put in place the thin capitalization rule, which is one of the anti-avoidance mechanisms. Nigeria as a country does not have a thin capitalization rule in place, which made it easier for companies to plan their activities around statutory tax expenses until the recent Finance Act, 2019 which puts in place an interest deductibility rule that prohibits "excess interest" on related-party borrowing (involving a foreign lender).

Thin capitalization is mostly used by multinational companies (MNCs) to reduce their tax burden, thereby increasing their tax savings due to the deductibility of interest expenses, lowering the country's taxable income. MNCs usually use a tax haven, inter and intracompany transfers, transfer pricing, intellectual property rights movement, and loan exchanges between connected companies to reduce the tax burden.

A previous study by Clemente-Almendros and Sogorb-Mira (2016) established that the thin-capitalization rule put forth by the Spanish government in 2012 affected the financing behaviour of listed companies, while Okesola (2018) study indicated that thin capitalization policy is statistically insignificant to tax revenue in Latvia. Ramadhan and Riandoko (2017) study revealed that the thin capitalization rule significantly affected corporate capital but did not significantly affect corporate debt in both samples. In Nigeria, Ogundajo and Onakoya (2016) discovered that aggressive tax planning, such as thin capitalization, tax law incentives and other benefits of loopholes in Nigerian tax laws, have not been fully utilized by the Nigerian firms, while Akabom and Ejabu (2018) indicated that thin capitalization is revenue stripping techniques. Still, it affects the performance of multinational companies in Nigeria. Recently, Otuya and Omoye's (2021) 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.

None of these studies considered the effect of thin capitalization (such as financial leverage, fixed interest charge and debt) on financial performance in a single study. Also, the conflicting results of the different studies necessitated the investigation of the effects of thin capitalization (financial leverage ratio, fixed interest charge ratio and debt ratio) on the financial performance (ROA) of multinational companies in Nigeria. Consequently, the study aims to test the following null hypotheses:

H_1: Financial leverage ratio has no significant effects on the return on asset (ROA) of multinational companies in Nigeria.

H_2: Fixed-charge coverage ratio has no significant effects on the return on asset (ROA) of multinational companies in Nigeria.

H_3: The debt ratio has no significant effect on the return on assets (ROA) of multinational companies in Nigeria.

2. Literature Review

2.1. Conceptual review

2.1.1. Thin capitalization

The Organization of Economic Cooperation and Development (OECD) 2012 defined the concept of thin capitalization as a situation in which a company is financed through a relatively high level of debt compared to equity. Otuya and Omoye (2021) defined thin capitalization as a situation in which an organization's capital structure has more debt than equity. How a company is capitalized will often significantly impact the amount of profit it reports for tax purposes. A company is operating with thin capitalization if the size of the paid-up capital is considered small or low compared with its debt capital or the size of its operation. Different countries such as Australia, Canada, France, Germany, Italy, Japan, the UK, and the USA put in place the thin capitalization rule, which is one of the anti-avoidance mechanisms, but Nigeria does not have such a rule until 2020; when the Finance Act, 2019 puts in place an interest deductibility rule that prohibits "excess interest" on related-party borrowing (involving a foreign lender). Excess interest is any amount paid or payable as loan interest exceeding 30% of earnings before interest, taxes, depreciation, and amortization (EBITDA); thereby allowing companies that cannot deduct the unabsorbed interest to carry it forward for five years.

2.1.2. Financial leverage ratio

The financial leverage ratio is a financial ratio that indicates the proportion of relationships (relativity) between debt and equity used to finance a company's assets. It gives value to the organization because of the interest tax shield offered with corporate tax by most governments (Kaluarachchia et al., 2021). The greater the proportion of debt used for a company's capital structure, the greater the obligations. (Riyanto, as cited in Heikal et al., 2014). The leverage ratio, the debt-equity ratio, calculates the weight of total debt and financial liabilities against total shareholders' equity.

2.1.3. Fixed interest coverage ratio

The interest coverage ratio, the time's interest earned (TIE) ratio, is a debt and profitability ratio used to determine how easily a company can pay interest on its outstanding debt. Ezemama (2010) defines the interest coverage ratio as a ratio similar to the time interest ratio. Still, it is more inclusive because it recognizes that many firms lease assets and incur long-term obligations under lease contracts to pay lease premiums. The interest coverage ratio is calculated by dividing a company's earnings before interest and taxes (EBIT) by its interest expense during a period (Palomino et al., 2019). The interest expenses paid or payable is a function of debt capital which eventually reduces taxable income (Rahayu as cited in Prastiwi and Ratnasari, 2019).

2.1.4. Debt ratio

According to Siahaan et al. (2016), the debt ratio, which can be interpreted as the proportion of a company's assets financed by debt, is the ratio of a company's debt to its total assets. The lower the debt ratio, the lower the source of financing through debt and conversely, the higher the debt ratio, the higher the source of financing through debt. A ratio greater than 1 shows that assets fund a considerable portion of a company's debt. In contrast, a ratio below 1 means that a greater portion of a company's assets is funded by equity. A high ratio indicates that a company may be at risk of default on its loans if interest rates suddenly rise.

2.1.5. Financial performance

Financial performance is a subjective measure of how well a firm can use assets from its primary

business mode and generate revenues. The term is also used to measure a firm's overall financial health over a given period. (Olusola et al., 2022). Akenga and Olang (2017) defined financial performance as a monetary measurement of the results of a firm's policies and procedures over a period. It analyses how effectively and efficiently a company generates and manages its assets, liabilities, and the financial interest of those who have a staked interest in the companies (Olusola *et al.*, 2022). Financial performance can be proxied with profitability, return on equity or return on asset. Return on asset is net income after tax plus interest expenses divided by the average total asset.

2.1.6. Multinational companies

A multinational corporation (MNC) is a multinational enterprise or a transnational corporation that produces goods or services in at least one country other than its home country. According to Brian (2013), a company can be described as an MNC if it obtains 25 per cent or more of its income outside of its home country. The wave of globalization has spurred MNCs to operate across different countries of the world freely. Spero and Hart (as cited in Otuya and Omoye, 2021) explained that MNCs consist of a parent firm and a collection of subsidiaries located in various nations with a shared pool of managerial, financial, and technical resources. MNCs' additional incentives to use debt instead of equity financing are concerned with deploying internal (related party) debt as a profit-shifting instrument by injecting equity financing into a foreign associate in a low-tax jurisdiction. This affiliate then offers loans to associated entities within the MNC in countries having higher tax rates. The implication is low tax revenue for these countries and higher tax savings for the MNCs due to the deductibility of interest expenses (Fagbemi et al., 2019).

2.2. Theoretical review

2.2.1. Modigliani-Miller Theorem

Modigliani-Miller Irrelevance Theorem (1958) hypothesized that in a perfect market (where they assumed there are no taxes, no bankruptcy cost), it does not matter what capital structure a company uses to finance its operations, instead, what matters the most is the ability of the firm in creating profit and the risk of its underlying assets. However, in the real world, taxes and bankruptcy costs significantly affect a firm value. So, in their subsequent paper, Modigliani and Miller (1963) were the first to introduce the idea that corporate taxation affects firms' capital structure. In particular, they showed that when corporate income is taxed and debt interest is a deductible expense, firm value can be increased by using debt financing rather than funding entirely with equity. In this context, a firm's value increase is due to the debt tax shield (Clemente-Almendros and Sogorb-Mira, 2016). The theory is relevant as thin capitalization is the excessive use of debt to gain interest deductibility from profit in order to reduce tax payments.

2.2.2.Trade-Off theory

The trade-off theory addresses the idea that firms will choose how much debt finance to use by balancing the costs and benefits of that decision (Ai et al., 2020). Firms will choose to leverage within a capital structure until the optimal capital structure is reached since they have to trade off the benefits of favourable tax treatment from debt financing against higher interest rates and bankruptcy costs. The optimal level of leverage is achieved when the marginal tax shelter benefit equals the marginal bankruptcy and agency costs associated with debt. The theory recognizes that since interest expense is tax deductible, issuing bonds will be preferable to reduce the company's tax liability. At the same time, paying dividends on equity will give no tax benefit to the company. However, since increasing debt also increases the risk of bankruptcy to a company; therefore, trade-off theory suggests a mix of debt and equity financing to offset the increasing financial risk to a company.

2.2.3. Pecking order theory

Pecking Order Theory was first introduced by Gordon Donaldson in 1961 and then modified by Myers in 1984. According to Myers (1984), firms finance their activities with retained earnings when feasible. If the retained earnings are inadequate, then debt is used. Only in extreme cases will firms use new equity finance. Thus, the order of financial sources used was the source of internal funds from profits, short-term securities, debt, preferred stock and common stock last. Pecking order theory predicts that the issuance of equity (common stock) is the last alternative funding source. This hierarchy is based on the order of the least financing cost that the company should incur. However, some studies found that firms in developing countries prefer equity financing to debt financing and do not use the hierarchy as explained in the pecking order theory while choosing their financing decision (Singh and Hamid, 1992).

2.3. Empirical review

Clemente-Almendros and Sogorb-Mira (2016) explored the corporate tax shield's explanation of the capital structure of firms listed on the Spanish stock exchange from 2007– 2013. Regression was used for analysis and the results suggest that marginal tax rates affect the debt policies of Spanish-listed companies, and non-debt tax shields constitute an alternative to using debt as a tax shelter. Finally, the impact of the Spanish government's new thin-capitalization rule in 2012 on the financing behaviour of Spanish-listed companies was estimated in the study of Ogundajo and Onakoya (2016) on the influence of corporate tax planning on the financial performance of manufacturing firms quoted on Nigerian Exchange using annual reports and accounts of 10 selected firms out of 28 firms listed under consumer goods sector. The study employed the Generalized Least Square (GLS) regression method and established that aggressive tax planning, such as thin capitalization, tax law incentives and other benefits of loopholes in Nigerian tax laws, had not been fully utilized by the Nigerian firms.

Ramadhan and Riandoko (2017) investigated the effect of thin capitalization rule implementation on corporate capital structure (debt and equity) in a sample of 76 publicity-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.

3. Research methodology

Ex post facto design was adopted since the study is characterized by quantitative analysis of existing financial data. A judgemental 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 eight years from 2014 -2021 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**.**

Table 1. Variable description summary

Dependent Variable	**Proxy/Measure**	**Definition**	
Financial performance	Return on assets	$ROA_{i,t} = \frac{Net\ income}{Total\ Assets}$	Measures firm's profitability based on total assets.
Independent Variable:	Proxy/Measure	*Definition*	
Thin capitalization	(a) Financial leverage (*FLV*)	$FLV_{i,t} = \frac{Debt\ capital}{Equity\ capital}$	Measures the proportion of a firm's capital to its equity capital. It indicates a firm's level of financial risk relative to its debt capital.
	(b) Fixed-charge coverage ratio (*FCCR*)	$FCCR_{i,t} = \frac{EBIT + Lease\ payment}{Interest\ payment + Lease\ payment}$ *EBIT = Earnings before interest and tax*	Measures a firm's ability to meet its fixed-charged obligations such as interest payment, debt repayment and lease expenses.
	(c) Debt ratio (*DBR*)	$DBR_{i,t} = \frac{Total\ Debt}{Total\ Assets}$	Measures the proportion of a firm's assets financed by its debt.
Control Variable	Proxy/Measure	Definition	
Firm's Size	Total assets	A firm's total assets are comprised of the current and non-current assets	

Source: Researchers' compilation, 2022

3.1. Measurement of variables

The dependent variable is the financial performance proxy with return on assets (ROA), while the independent variables include the measures for thin capitalization such as financial leverage ratio, fixed-charge coverage ratio and debt ratio. Table (1) presents the summary of the variable description.

3.2. Model specification

The explanatory variables include the selected measures for thin capitalization, such as financial leverage ratio, fixed-charged coverage ratio and debt ratio. Meanwhile, firm size (with the total asset as a proxy) was employed as the control variable. The dependent variable is the financial performance proxy with return on assets. Based on the foregoing, the functional form of the model is given as follows:

$$ROA_{it} = f(FLV_{it},\ FCCR_{it}, DBR_{it}, FMS_{it}) \quad (1)$$

Where:
ROA = Return on asset
FLV = financial leverage ratio
FCCR = fixed-charged coverage ratio;
DBR = debt ratio;
FMS = firm size
Thus, the panel data regression model is expressed as follows:

$$ROA_{it} = \beta_0 + \beta_1 FLV_{it} + \beta_2\ FCCR_{it} + \beta_3 DBR_{it} + \beta_4 FMS_{it} + \boldsymbol{\mu}_{it}\ .\ .\ . \quad (2)$$

The econometric form of the model after expressing the same in log-linear form is specified in equation 3:

$$lnROA_{it} = \beta_0 + \beta_1 lnFLV_{it} + \beta_2\ lnFCCR_{it} + \beta_3 lnDBR_{it} + \beta_4 lnFMS_{it} + \boldsymbol{\mu}_{it}\ .\ .\ . \quad (3)$$

t = 2014, … 2021 (annual time series)

Subscript $\boldsymbol{i}$ = 1, 2, …, 8 (individual multinational companies)
β_0 = intercept coefficient
β_1 = Partial slope coefficient of *FLV* for *ROA*
β_2 = Partial slope coefficient of *FCCR* for *ROA*
β_3 = Partial slope coefficient of *DBR* for *ROA*
β_4 = Partial slope coefficient of *FMS* for *ROA*

4. Results and findings

4.1. Descriptive statistics

Table (2) presents the summary statistics of the panel mentioned above series. The panel series, such as *DBR* and *FMS*, have standard deviations lower than their respective averages. This implies that the *DBR* and *FMS* seem to have some degree of moderate dispersions of values around the averages across the selected multi-national companies (MNCs) for the given sample period. On the contrary, *ROA*, *FLV* and *FCCR* have their standard deviations higher than their respective averages, thus, suggesting that the variables appear to have high dispersions of values around their averages across the selected multi-national companies (MNCs). Meanwhile, all the panel series appear to have positively skewed distributions judging by their positive coefficients of skewness. Judging by the coefficients of kurtosis, *ROA*, *FLV*, *FCCR* and *FMS* series are found to be leptokurtic, having their kurtosis coefficient above the threshold of 3 as a moment distribution. However, only *DBR* appears to have flat-topped distribution (platykurtic), having its kurtosis coefficient below the threshold of 3. The Jarque-Bera statistics for the test of normality reveal that only the *DBR* series demonstrate the

normal distribution assumption having their *p*-value above 5% level of significance, while other panel series do not exhibit the normal distribution assumption having their *p*-values below 5% level of significance

4.2. Model estimation results

The static panel data estimation methods such as random effect (RE) and fixed effect (FE) estimators were applied since the panel data structure of a short panel involving 8 cross-section units (multi-national companies), that is, $N = 8$ and period of 8 years ($T = 8$) between 2014 and 2021. Table (3) summarises the estimates and statistics obtained from the estimated static panel regression model using the random effect (RE) and fixed effect (FE) estimators. Based on the Hausman test result ($p = 0.002 < 0.050$), the fixed effect method is more efficient than the random effect estimator. This implies the rejection of the null hypothesis that the RE estimator is appropriate for the data being examined. Thus, the fixed effect estimator is considered more appropriate. Based on the foregoing, the fixed effect estimator is chosen to evaluate the study's objectives.

Table 2. Descriptive statistics panel data

Statistics	Variable				
	ROA	FLV	FCCR	DBR	FMS
Mean	7.505	1.872	100.595	0.568	158.388
Median	4.951	1.280	9.157	0.561	108.289
Maximum	32.615	13.512	1382.590	0.932	577.727
Minimum	-9.715	0.392	-12.821	0.281	4.916
Std. Dev.	9.728	2.026	253.566	0.153	154.636
Skewness	0.849	3.717	3.707	0.241	1.415
Kurtosis	3.429	19.863	16.856	2.595	3.940
Jarque-Bera	7.800	863.295	627.753	1.008	22.630
p-value	0.020	0.000	0.000	0.603	0.000
Observations	64	64	64	64	64

Source: Researcher's computation, 2022

4.2.1. Static panel model results

4.2.1.1. Effects of financial leverage ratio on return on asset (ROA)

As shown in Table (3), changes in financial leverage ratio (*FLV*) exert positive but insignificant effects ($\beta = 0.239$, $p = 0.463 > 0.1$ or 10%) on the financial performance (*ROA*) of the selected multinational companies in Nigeria. Given the magnitude of the partial slope coefficient, *ROA* responds positively, on average, to every 1% change in *FLV* by about 0.24%. In other words, *ROA* appears to be *FLV* inelastic since the partial elasticity coefficient of *ROA* for *FLV* is less than one. However, financial performance responds positively but insignificantly to financial leverage. Thus, the null hypothesis that the "financial leverage ratio has no significant effect on the financial performance of the selected multinational companies" cannot be rejected judging by the p-value.

4.2.1.2. Effects of fixed-charge coverage ratio on financial performance (ROA)

As shown in Table (3), changes in fixed-charge coverage ratio (*FCCR*) exert a statistically significant positive impact ($\beta = 0.193$, *p*-value = $0.000 < 0.01$ or 1%) on the financial performance (*ROA*) of the selected multinational companies in Nigeria. Given the magnitude of the partial slope coefficient, every 1% rise (fall) in *FCCR*, on average, results in about a 0.19% rise (fall) in *ROA*. Hence, *ROA* appears to be *FCCR* inelastic since the partial elasticity coefficient of *ROA* for *FCCR* is less than one. Nevertheless, financial performance responds positively and significantly to the fixed-

charge coverage ratio. Thus, judging by the p-value, the null hypothesis that the "fixed-charge coverage ratio has no significant effect on the financial performance of the selected multinational companies" was rejected.

4.2.1.3. Effects of debt ratio on financial performance (ROA)

As shown in Table (3), changes in debt ratio (*DBR*) exert negative but insignificant effects (β = -1.049, p = 0.201 > 0.1 or 10%) on the financial performance (*ROA*) of the selected multinational companies in Nigeria. Based on the magnitude of the partial slope coefficient, *ROA* responds negatively, on average, to every 1% change in *DBT* by about 1.05%. In other words, *ROA* appears to be *DBT* elastic since the partial elasticity coefficient of *ROA* for *DBT* is greater than one. However, financial performance responds negatively but insignificantly to debt ratio (*DBT*). Thus, the null hypothesis that "debt ratio has no significant effect on the financial performance of the selected multinational companies" was accepted judging by the p-value.

Meanwhile, changes in firm size (*FMS*) exert a positive and statistically significant impact (p = 0.000 < 0.01 or 1%) on the financial performance (*ROA*) of the selected multinational companies in Nigeria with a partial regression coefficient of 0.8845. Thus, a 1% rise (fall) in *FMS* will, on average, result in a rise (fall) in *ROA* by about 0.88%. Hence, *ROA* appears to be *FMS* inelastic with a partial elasticity coefficient of less than one.

4.2.1.4. The goodness of fit of the estimated model

As shown in Table (3), the predictive power of the estimated panel model judging by the adjusted-R-square statistic of 0.760 indicates that the explanatory variables (*FLV*, *FCCR*, *DBR* and *FMS*) captured in the model account for about 76.01% of the variation in the financial performance (*ROA*) of the selected multinational companies in Nigeria. Thus, the explanatory power of the estimated panel regression model is somewhat high, judging by the adjusted R^2 statistic. This implies that the estimated fixed effect model has predictive power.

4.2.1.5. Global test of significance of the estimated ROA model

The F-statistics (15.690) indicate all the included variables (*FLV*, *FCCR*, *DBR* and *FMS*) appear to have a statistically significant joint impact on financial performance (*ROA*) of the selected multinational companies having a *p*-value (0.000) less than 1% level of significance as shown on Table (3). Thus, thin capitalization, based on the selected measures, is a significant determining factor of the financial performance of the multinational companies in Nigeria.

4.3. Post estimation tests

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 (4) 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" cannot be rejected since the *p*-value (0.085) of the Pearson CD test statistic (1.720) is above the 5% level of significance. 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.

Table 3. Estimates of static panel model results panel data

	Estimator	
Independent Variable	**RE**	**FE**
Constant	2.216*** (0.004)	4.510*** (0.000)
FLV	0.136 (0.661)	0.239 (0.463)
FCCR	0.179*** (0.000)	0.193*** (0.000)
DBR	-0.671 (0.396)	-1.049 (0.202)
FMS	0.300** (0.022)	0.884*** (0.000)
Statistics:		
R-squared	0.293	0.811
Adj. R-squared	0.233	0.760
F-statistic	4.878*** (0.002)	15.690*** (0.000)
Diagnostics:		
Jarque-Bera stat.	2.307 (0.315)	4.097 (0.128)
Hausman Test:		
Chi-square stat.	16.809	
p-value	(0.002)	

Source: Researchers' computation

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.

Table 4. Post-estimation test results for FE method panel data

Cross-sectional dependence test:		**P-value**
Pearson CD test	**1.720**	**0.085**
Serial Correlation Test		
Durbin Watson Statistic	1.957	
Normality Test:		P-value
Jarque-Bera	4.097	0.128

Source: Researchers' computation

4.4. Discussion of Findings

The study showed that the financial leverage ratio does not significantly affect multinational companies' financial performance (ROA). 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). Meanwhile, the fixed-charge coverage ratio is found to have a positive and significant impact on the financial performance of multinational companies. This implies that the larger the proportion of a

firm's earnings relative to its fixed charges, the higher the firm's financial performance. These MNCs can meet their fixed charge without a negative effect on performance. The finding supports the work of Akabom and Ejabu (2018) but contradicts other studies (Okesola, 2018; Otuya and Omoye, 2021). Finally, the debt ratio has no significant effect on the financial performance of multinational companies. This finding indicated that the proportion of the companies' debt-financed assets is insignificant. This finding corroborates Ramadhan and Riandoko (2017), contrary to Clemente-Almendros and Sogorb-Mira's (2016) work.

5. Conclusion and recommendations

The study examined the effects of thin capitalization 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. Tax avoidance schemes (thin capitalization) can now be curbed due to the effect of the Finance Act 2019, which restricted the amount of interest expenses deductible from the income of multinationals. Based on the study's findings, which discovered that financial leverage and debt ratio do not affect the performance of these multinationals, but interest expense had the effect, it could be deduced that the amount of debt in the capital structure does not have a significant effect on performance. In contrast, the interest expense had an effect because these multinationals would have made more earnings to cover their interest due to the tax shield. Therefore, it can be concluded that thin capitalization does not significantly affect the performance of multinationals in Nigeria. Flowing from the findings and conclusion, the following is recommended:

i. A thin capitalization rule, which will limit the debt-equity ratio, should be introduced in Nigeria as it helps prevent tax avoidance.
ii. Multinationals should be mindful of excessive use of debt as leverage does not affect their performance.
iii. Federal inland revenue should ensure that all multinationals comply with the Finance Act 2019 on the interest deductible from profit restriction.

References

1. Ai, H., Frank, M. Z. and Sanati, A. (2020). The Trade-off Theory of Corporate Capital Structure. Oxford Research Encyclopedia of Economics and Finance, Working paper, Madison, United States. Retrieved from https://ssrn.com/abstract=3595492
2. Akabom, I.T. and Ejabu, F.E. (2018). Effects of thin capitalization and international law on performance of multinational companies in Nigeria. *Journal of Accounting and Financial Management*, 4(2), pp. 47-58.
3. Akenga, G.M. and Olang, M.A. (2017). Effect of mergers and acquisitions on financial performance of commercial banks in Kenya. *Journal of Commerce*, 19(8), pp. 84-90.
4. Clemente-Almendros, J.A. and Sogorb-Mira, F. (2016). The effect of taxes on the debt policy of Spanish listed companies. *Journal of the Spanish Economic Association, 7*(3), pp. 359-391.
5. Fagbemi, T. O., Olaniyi, T.A., and Ogundipe, A.A. (2019). The corporate tax planning and financial performance of systemically important banks in Nigeria. *Ekonomskihorizonti*, 21(1), pp. 15-28.
6. Heikal M., Khaddafi M. and Ummah, A. (2014). Influence analysis of return on assets (ROA), return on equity (ROE), net profit margin (NPM), debt to equity ratio (DER), and current ratio (CR) against corporate profit growth in automotive in Indonesian stock exchange, *International*

Journal of Academic Research in Business and Social Sciences, 4(12), pp. 101-114 http://dx.doi.org/10.6007/IJARBSS/v4-i12/1331.

7. Kaluarachchia, D.G.P., Fernandob, A.A.J. and Mallawarachchic, R. (2021). The relationship between financial leverage and the performance of Sri Lankan listed manufacturing companies. *Journal of Accounting, Finance and Auditing Studies, 7*(4), pp. 99-118.
8. Modigliani, F. and Miller, M. H. (1963). Corporate income taxes and the cost of capital: a correction. *American Economic Review,* 53(2), pp. 433–443.
9. Myers, S.C. (1984). The capital structure puzzle. *Journal Finance,* 39, pp. 575–592.
10. Ogundajo, G.O. and Onakoya, A.B. (2016). Tax planning and financial performance of Nigerian manufacturing companies. *International Journal of Advanced Academic Research,* 2(7), pp. 64 – 80.
11. Okesola, O. (2018). Impact of thin capitalization rules on tax revenue in an emerging economy. Case study: Latvia. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3246637
12. Olusola B.E., Mengze H., Chimezie M.E., and Chinendum A.P. (2022). The Impact of capital structure on firm performance- evidence from large companies in Hong Kong stock exchange. *Open Journal of Business and Management,* 10(3), pp. 1332-1361.
13. Organization for Economic Cooperation and Development (OECD) (2012). Thin capitalization legislation: A background paper for country tax administration. Retrieved from http://www.oecd.org/
14. Otuya, S. and Omoye, A.S. (2021). Thin capitalization, effective tax rate and performance of multinational companies in Nigeria. *Accounting and Taxation Review,* 5(1), pp. 45-59.
15. Palomino, F., Paolillo, S., Perez-Orive, A. & Sanz-Maldonado, G. (2019). The information in interest coverage ratios of the US nonfinancial corporate sector. Retrieved from https://www.federalreserve.gov/econres/notes/feds-notes/information-in-interest-coverage-ratios-of-the-us-nonfinancial-corporate-sector-20190110.htm
16. Prastiwi, D. and Ratnasari, R. (2019). The influence of thin capitalization and the executive's characteristics toward tax avoidance by manufacturers registered on ISE in 2011-2015. *AKRUAL: Jurnal Akuntansi,* 10(2), pp. 119-134. https://doi.org/10.26740/jaj.v10n2.p119-134
17. Ramadhan, M. R., and Riandoko, R. (2017). The effect of thin capitalization rule to corporate capital structure in Indonesia. *Jurnal Manajemen Bisnis Dan Inovasi,* 4(3), pp. 155-161. https://doi.org/10.35794/jmbi.v4i3.17992
18. Siahaan, E., Gultom, P., and Lumbanraja, P. (2016). Improvement of employee banking performance based on competency improvement and placement working through career development (case study in Indonesia). *International Business Management,* 10(3), pp. 255-261. http://repository.usu.ac.id/handle/123456789/58139
19. Singh, A. and Hamid, J. (1992). Corporate Financial Structure in Developing Countries, 1. *World Bank-International Finance Corporation*. https://ideas.repec.org/p/fth/wobafi/1.html
20. Tijjani, B. and Peter, Z. (2020). Ownership structure and tax planning of listed firms: Evidence from Nigeria. *Journal of Accounting and Taxation,* 12(3), pp. 99-107. https://doi.org/10.5897/JAT2020.0412