Abstract

**Research Background:** The complexities of taxes in business have a tendency of endangering investment decisions at every point in time, if such complexities are not strategically managed.

**Purpose:** This study therefore assesses the effect of corporate taxation on the investment policy of quoted manufacturing firms in Nigeria.

**Research Methodology:** Secondary data sourced from annual reports of the selected firms were analysed using descriptive and inferential statistics. Specifically, static panel least square regression techniques were used.
Introduction

The concept of taxation experienced a sharp momentum after the great world economic depression of the 1930’s, due to the need to raise capital for the provision of social amenities necessary for sustaining and promoting improved standards of living. Nigeria, like other developing nations of the world, has many forms of taxations in practice. These taxes afford communities to be relieved from external attack or aggression. According to M.F.C. Abiahu and N. Amahalu (2017), taxation is a civil responsibility of players in a society paid as a compulsory levy contributed by the populace towards societal administration and sustenance. To a greater extent, taxes influence investment decisions in an economy (Edame, Okoi, 2014). As such, it is imperative that decision makers, especially in the business world, must be able to manage any complexity in the existing tax system. This is because the complexities of taxes in business have the tendency of endangering investment decisions at every point in time, if such complexities are not strategically managed (Ibanichuka, Akani, Ikebujo, 2016). Leveraging on the dynamics of an effective tax rate is one of the ways the complexities in taxation can be managed without negatively impacting on investment decisions (Dagogo, Daibi, 2015). Effective tax rate is often used by policy makers to ensure that the effect of tax complexities on investment decisions is drastically reduced. It has been observed that investors relate tax burdens to investment decisions, given consideration to the political and economic stability of the country, the availability of

Result: The results of the study revealed that company income tax (CIT) is positively related to the investment decision of the quoted manufacturing firm (INV), and thus enhances the investment of the quoted manufacturing firm (INV) in Nigeria. The probability value revealed that company income tax (CIT) had a statistical significant correlation with the investment of the quoted manufacturing firm in Nigeria. This implies that higher corporate income taxes are associated with lower investment in manufacturing firms.

Novelties: This study digressed from examining the effects of corporate tax on financial performance as that was the major focused area in this context. However, this study assessed its effect on investment decisions. Hence, this study was able to recommend that the Nigerian government should encourage and enhance manufacturing investment decision by designing an appropriate corporate income tax policy.

An investment decision that is fostered on new capital, encourages the implementation of new production techniques and thus should be engineered for the development of manufacturing firms.

Keywords: corporate income tax, investment decision, manufacturing firms, panel data regression

JEL classification: G31, H20, M40
infrastructural facilities, the level of security and the trending cost of business transactions, to mention but a few (Simmons, 2000).

It has been observed that long term planning on taxation is always very difficult in many developing countries, due to the fact in most of them, reviews of tax laws are not clearly written and are also subject to review on a frequent basis (Pogge, Mehta, 2016). According to M.O. Olaleye, G.K. Riro and F.S. Memba (2016), taxation has been used on several occasions to stimulate saving and/or income redistribution in many countries of the world. Depending on the nature of tax, taxation may have either a negative or positive effect on an individual and an organization at large. With a high marginal rate of tax, in excess of 50%, tax will be a hindrance to work; while a low marginal rate of tax will be an incentive to work (Olaleye, Riro & Memba, 2016). The value added tax (VAT) is an incentive to save, while tax levied on interest earned on bank deposits is a deceptive ploy to save. Taxation, being a tool for government economic policy, may be used to achieve some objectives such as the redistribution of wealth, to effect changes in a country’s balance of payments with other countries, to effect the mobilisation of economic resources, to influence the level of economic activities and to combat inflation.¹ Despite all these benefits that are attracted by taxation, many limited liability companies do not know the effects of taxation and as such, do not consider the effects on their investment decisions.²

Therefore, this paper seeks to assess company income taxation and the investment decisions of quoted manufacturing firms in Nigeria, with a focus on how tax expenses measured in terms of income tax and value added tax influence the prospect of future investment of the quoted firms, as represented by their retained earnings. The study was driven by the fact one of the major problems facing Nigerian manufacturing sectors is excessive taxation which can come in the form of double, high or multiple tax (Uwuigbe, Uwuigbe, Adeyemo, Anowai, 2016). Tax positively impacts on the economy because it is a source of revenue, but it can also inversely impact on manufacturing sectors, if not properly managed to spur their investment opportunities. Also, the dearth of empirical studies on the connection between taxation and investment decisions at corporate level is also evident. Previous studies on corporate taxation either examined the impact of taxation on corporate performance in terms of dividend policy or profitability, or a firm’s value or other performance measures (see Abiahu, Amahalu, 2017; Kurawa, Saidu, 2018; Omodero, Ogbonnaya, 2018; Onwuka, 2019).

For easy navigation, the next subsection is the literature review which highlights the conceptual, empirical and theoretical underpinning of the study. This will be followed by the

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¹ https://www.sapling.com/7288080/advantages-taxes.
² http://www.mondaq.com/Nigeria/x/755646/Capital+Gains+Tax/Administration+Of+Taxes+In+Nigeria; https://home.kpmg/content/dam/kpmg/xx/pdf/2017/02/tnf-nigeria2-feb16-2017.pdf.
research method, as well as the analysis and discussion of findings. The last subsection entails the implication of findings, concluding remarks of the paper and suggestions for further research.

1. Literature Review

1.1. Conceptual Clarification

Taxation is an integral part of Public Finance; the proper role of government provides a starting point for an analysis of public finance. The expectation is that market forces distribute goods and services among individuals in a given society, in an efficient way that can guarantee that no one will be left out or resources wasted. In a condition that the market is able to attain this feat, such that distribution of income is generally accepted by stakeholders in society, intervention by a government becomes unnecessary. In most cases, market forces could not attain such level of efficiency for all classes of goods and services, especially in such a way that there will be non-rival and non-excludability in consumption. This observed deficiency of the operation of market forces calls for the need for a government to intervene, especially in the provision and distribution of public goods. In the same vein as market inefficiency called market failure, the provision of public goods by a government or voluntary association also experiences inefficiencies called government failure. The dual existence of market and government failure gave rise to the need for public goods to be provided from resources mobilised from members of society and this gave birth to the concept of taxation.

1.1.1. Tax and Investment Decisions

The cost of capital is the required rate of return that an investment project must earn, at least, for the project to break even. The tax system of an economy can influence the cost of capital in several ways: it may lower the rate of return of the project; change the cost of different forms of finance and change the cost of the investment. Capital allowance is often used as tax incentives to aid investment. However, in the absence of tax incentive company income tax, when it is deductible on an investment return, it tends to influence to a greater extent, the pattern and nature of investment transactions or decisions taken by investors. This is because tax often reduces the profitability of an investment to the degree of the tax rate in operation. For an investment project to be worth carrying out, it must be expected to earn a rate of return which is at least as high as the cost of capital. The significance of tax as one of the key determinants of investment decisions largely depends on government policies. The place of tax in the discourse of investment decisions has been analysed on empirical grounds and there is an established
interconnection between corporate taxation and investment, especially when measured in terms of capital formation (see Ahiabor, Amoah, 2013).

1.2. Theoretical Review

1.2.1. Agency Theory of Tax Incentives

L.T.J. Wells, N.J. Allen, J. Morisset and N. Pirnia (2001) argued that tax incentives offer an easy way to compensate for other government-created obstacles in the business environment. In other words, fiscal incentives respond to government failure as much as market failure. It is harder and takes longer to tackle the investment impediments themselves (low skills base, regulatory and compliance cost) than to put in place a grant or tax system that can cushion the effect of such impediments. Although it is the second-best solution to provide a subsidy to counteract an existing distortion, this is what often happens in practice. Agency problems also exist between government agencies responsible for attracting investment and those responsible for the more generic business environment. Whilst investment-promotion agencies can play an important role in coordinating government activities to attract investment, they also often argue for incentives without taking account of the costs borne by the economy (Zee, Stotsky, Ley, 2002). L.T.J. Wells, N.J. Allen, J. Morisset and N. Pirnia (2001) posit that governments may legitimately feel that strict horizontal equity with government taxation and expenditure does not adequately address policy objectives and inherent market failures in certain sectors. The policy objectives might include; increasing investment to a specific region, which does not receive as much investment as it should, given the economic fundamentals because of information asymmetries.

1.2.2. Normative Theory

D. Chua (1995) posited that every incentive has advantages and disadvantages; and it is therefore extremely difficult to determine one set of incentives which work for different economies with different challenges and circumstances. Therefore, determining what works depends on the circumstance of the economy, the competence of the tax administration, the type of investment being courted, as well as the budgetary constraints of the government which stimulates investment in the desired sector or location, with minimal revenue leakage and provides minimal opportunities for tax planning. R.W. Boadway, D. Chua and F. Flatters (1995) argued that any benefit such as an incentive allocated by public servants or politicians is potentially open to abuse and corruption. There is therefore a strong argument that incentives
should be automatically available to all investors who meet a set of open and transparent criteria. However, an alternative argument is that firms should receive just enough incentive to induce them to invest and no more. Each potential investment therefore needs to receive an incentive.

1.3. Empirical Review

A.J. Akinwunmi, A.E. Olotu and F.F. Adegbie (2017) examined the relationship between multiple taxes and Foreign Direct Investment inflow in Nigeria from 1996 to 2015. Among other objectives, the study evaluated the link between Company Income Tax and Foreign Direct Investment; investigated the relationship between Education Tax; value added tax and Foreign Direct Investment, and adopting an ex-post facto type of research design. The study made use of secondary data sourced from the central bank of Nigeria, as well as the national bureau of statistics. With Foreign Direct Investment being the dependent variable, Company Income Tax, Education Tax, Value Added Tax and Custom and Excise Duties were considered as proxies for multiple taxes including Inflation as a mediating variable of multiple taxes. A descriptive analysis and multiple regression analysis were used in the study. The study revealed that there is an inverse relationship between multiple taxes and Foreign Direct Investment (FDI) in Nigeria.

J. Edgerton (2011) examined the effects of taxation on business investment in the United States, using the data on the transaction prices of used aircraft, construction companies and tax incentives incidence on investment. It was found that the bonus depreciation is close to zero, thereby indicating that it had little value on investment. In the same manner, A. Onuorah and E.E. Chigbu (2013) analysed the impact of corporate taxation and retained earnings on the dividend pay-out policy in Nigeria. Specifically, the study evaluated the impact of earnings per share (EPS) on the dividend policy of firms, the effect of corporate taxation and retained earnings on the dividend policy of firms in Nigeria. Secondary data were sourced from diverse organizations, covering the period 2000–2011, as well as a CBN statistical bulletin (2009–2012). Employing a regression analysis, the study revealed that the banking industry has the highest performance of the selected industries, followed by breweries, petroleum and marketing, conglomerates, insurance, construction and allied, as well as food and beverages. It was also discovered that there is no granger causality among the variables.

S. Mayende (2013) analysed the effects of tax incentives on the performance of Ugandan manufacturing firms. The study used secondary data collected from the World Bank under the Regional Program on Enterprises Development for ten years and Uganda Manufacturers Association Consultancy and Information Services (UMACIS). The study sampled 392 firms over the period of three years and across four sectors including agricultural, construction,
manufacturing and tourism). Descriptive and inferential statistics (Regression Analysis) were employed in the study’s analysis. The results of the study revealed that tax incentives perform better in terms of gross sales and value added, than their counterparts.

O. Adelegan (2006) evaluated the effect of taxes on corporate financing decisions and firm value in Nigeria. The study mainly analysed the effect of tax changes on corporate financing decisions and assessed how the differential tax treatment of dividends and debt affects both the cost of capital and the value of a firm. Data used in this study were mainly sourced from the publications of the Nigerian Stock Exchange fact books, as well as annual reports of companies. The variables considered appropriate for the study included VCA (spread of value over cost) as the dependent variable, and the independent variables as ETA (current earnings), INTA (interest expense for a fiscal year) and DIV (dividend pay-out ratio). The Ordinary Least Square (OLS) method of data analysis was used in analysing data for the above variables. The results of the study showed that dividend is positively related to a firm’s value, while debt is negatively related to a firm’s value. The study also identified both earnings and investment as key determinants of a firm’s value in Nigeria.

E.A. Oliech (2013) analysed the effect of corporate income tax on the investment decisions of companies listed at the NSE. The following variables: corporate tax, depreciation tax, control variable and interest tax represented an independent variable and investment the dependent variables in the model structured for the study. Secondary data were sourced from the financial statements of companies listed at the NSE. Regression analysis, ANOVA and correlation analysis were done in the study. The findings from the study revealed that all the corporate tax variables affect the depended variables, the depreciation tax shield has a very small negative value; the interest tax shield, after tax cash flow and corporate tax, all affect investment.

G.A. Oloidi (2014) examined the effect of Company Income Tax [CIT] on the investment decisions of companies in Nigeria, with the objectives of finding out the effect of CIT on the rate of return, the appropriate rate accepted, the investment decision criteria and assessing tax relevance in investment decisions. The study employed a descriptive survey design with a universal set of all the small scale and medium scale enterprises in the south west zone as the population. A descriptive statistic was used to evaluate the research questions. The results showed that company income tax influences the investment rate of return, as well as investment evaluation.

S.A. Raza, S.A. Ali & Z. Abassi (2011) investigated the effect of Corporate Income Tax and Firms’ Size on Capital Investment made in tangible assets by the Manufacturing firms listed in the Karachi Stock Exchange for the period 2004–2009. A multiple regression analysis
was used to determine the regression parameters of Capital investment with two Predictors; Corporate income tax and Firm Size. The results showed that corporate income tax exerts a negative impact on investment, while the firm’s size exerts a positive impact on investment. It was also discovered that excess tax obligations in a firm’s specific sector discourages the corporate investor and total sales revenue was seen to increase the level of investment in a KSE listed firm and vice versa.

2. Research Method

2.1. Model Specification

The model of this study is in linear form and specified to express the relationship between investment decisions measured in terms of retained earnings, company income tax (CIT), as well as firm’s size (FZ) as the control variable. The model is specified thus:

$$\log \text{INVD}_{it} = \alpha_0 + \alpha_1 \log \text{CIT}_{it} + \alpha_2 \log \text{FZ}_{it} + \epsilon_{it}$$

(1)

The model was logged to reduce the unit of the data to a decimal, as they are all in huge Naira sum.

The definition of the variable is shown below:

INVD = Investment Decision (measured by retained earnings);
CIT = Company Income Tax;
FZ = Firm size;
$\alpha_0$ = regression constant or slope;
$\alpha_1$, $\alpha_2$ are the coefficients of the parameter estimate;
$\epsilon$ is the error term;
it denotes a panel data where i stands for the cross sections (companies) and t represents the time period (years).

2.2. Source of Data and Method of Analysis

Data used in this study were sourced from the annual reports of twenty (20) purposively selected quoted manufacturing firms due to inconsistency in the preparation of the financial statement by the companies. The companies used were Ag Leventis (AL), Cadbury Nigeria Plc. (CB), Denote Flour Plc. (DF), Flour Mills Nig. Plc. (FM), Guinnes Nig. Plc. (GN), Golden Guinea Breweries Plc. (GB); Nascom Allied Nigeria Plc. (NA), Nestle Nig. Plc. (NE), Nigeria
Breweries Plc. (NB), Pz Cusson Nig. Plc. (PZ), Union Dicon Salt Plc. (UN), Vitafoam Nig Plc. (VF), 7up Bottling Company Ltd (7UP), Coca-Cola Company Ltd (CC), Unilever Nigeria Plc. (UL), Champion Breweries Plc. (CH), Dangote Sugar Refinery Plc. (DS), Honeywell Flour Mill Plc. (HW), Mc-Nichols Plc. (MC) and Multi-Trex Integrated foods Plc. (TR).

The study covered a period of ten (10) years (2007–2016). Data collated were analysed using descriptive statistics (mean, standard deviation, minimum and maximum), correlation analysis, pooled OLS estimation, fixed effect estimation and random effect estimation, followed by post-estimation tests for evaluating estimations for consistency and efficiency.

3. Results and Discussion

This section presents the results of the analysis of the data obtained from the financial statement of the selected manufacturing firms quoted on the Nigeria Stock Exchange. The analysis of the data was done by using a descriptive statistical analysis, a panel least square which consists of a pooled, fixed and random effect model and various test and evaluation techniques, as follows.

Table 1. Descriptive Statistics

|        | INV       | CIT       | FZ        |
|--------|-----------|-----------|-----------|
| Mean   | 17,722,965.0 | 2,141,551.0 | 390,759.3 |
| Median | 8,484,575.0  | 740,849.0  | 16,21515  |
| Maximum| 1.04E+08    | 17,487,744 | 10,329,160|
| Minimum| 787,338.0   | 2872.000   | 3.343200  |
| Std. Dev.| 20,646,803 | 3,216,075  | 1,754,248 |
| Skewness| 2.036634    | 2.647114   | 4.491880  |
| Kurtosis| 7.439868    | 11.18536   | 22.21124  |
| Jarque-Bera| 302.5329 | 791.9084   | 3,748.165 |
| Probability| 0.000000  | 0.000000   | 0.000000  |
| Sum    | 3.54E+09    | 4.28E+08   | 78,151,858|
| Sum Sq. Dev.| 8.48E+16   | 2.06E+15   | 6.12E+14  |

Source: Researchers’ Computation (2018).

Table 1 shows the descriptive analysis results of taxation and the investment decision of manufacturing firms in Nigeria for the period 2007–2016. The manufacturing firms’ investment (INV) and taxation captured by company income tax (CIT) and the manufacturing firms size
(FZ) of the manufacturing firms under investigation. The results revealed that on average, the investment of the manufacturing firms (INV), company income tax (CIT) and manufacturing firms size (FZ) were 17,722,965, 2,141,551 and 390759.3 respectively. The maximum and the minimum: investment of the manufacturing firm (INV), company tax (CIT) and the manufacturing firm size (FZ) were: 1.04E+08 and 787,338, 17,487,744 and 2,872, 10,329,160 and 3.343 respectively. The standard deviation values of 20,646,803, 3,216,075 and 1,754,248 revealed the rate at which the investment of the manufacturing firms (INV), company income tax (CIT) and manufacturing firm size (FZ) were deviated from their respective average or expected value.

Also, it was found that the investment of the manufacturing firms (INV), company income tax (CIT) and manufacturing firms size (FZ) were positively skewed, with a skewness coefficient of 2.037, 2.647 and 4.491 respectively, thus implying the distribution of the variables under investigation have a long tail to the right. However, the kurtosis of the investment of the manufacturing firms (INV), company income tax (CIT) and manufacturing firm size (FZ) with the kurtosis coefficient indexes of 7.440, 11.185 and 22.211 respectively, were mesokurtic in nature. The Jarque-Bera and probability values revealed that the investment of the manufacturing firm (INV), company income tax (CIT) and manufacturing firms size (FZ) were statistically significant in examining the impact of taxation on the investment decision of the quoted manufacturing firms in Nigeria.

Table 2. Panel Least Square Pooled Effect Model

| Variable | Coefficient | Std. error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|-------|
| C        | 7,221,640.0 | 1,125,402.0 | 6.416945    | 0.0000 |
| CIT      | 5.004161    | 0.284764   | 17.57303    | 0.0000 |
| FZ       | -0.551079   | 0.522059   | -1.055588   | 0.2924 |

R-squared = 0.620, Adjusted R-square = 0.616, F-statistic = 160.712, Prob F-statistic = 0.000, Durbin-Watson Stat = 0.508

Source: Researchers’ Computation (2018).

Table 2 shows the result of the pooled panel regression output. It was discovered that a linear relationship exists between the taxation and the investment decision of quoted manufacturing
firms in Nigeria. Specifically, the results show that company income tax (CIT) of the quoted manufacturing firm is positively related to the investment decision of the manufacturing firm (INV), while a negative relation is evident between the manufacturing firms size (FZ) under consideration in Nigeria. This result further reveals that the company income tax (CIT) led to a 5 per cent increase in enhancing the investment decision of the quoted manufacturing firms. The manufacturing firm size value of –0.551 implies that the manufacturing firms size hindered the investment decision of the quoted manufacturing firms during the period under investigation.

The probability values of 0.000 < 0.05 revealed that the estimated parameter for the company income tax in the model was statistically significant in determining the investment decision of the quoted manufacturing firms. However, the probability values of 0.292 > 0.05 revealed the statistical insignificance of manufacturing firm size in examining the investment decision of the quoted manufacturing firms in Nigeria, thus, the need for the management and the quoted manufacturing firms to regulate and control their firm size in order to enhance their investment decision. The adjusted R-squared of 0.616 showed the 61.6 per cent variation or improvement in the investment decision of the quoted manufacturing firms in Nigeria can be explained by the company income tax and manufacturing firm size. Thus, it implies the relevance of company income tax and manufacturing size in enhancing the sustainability of the investment decision of the quoted manufacturing firms in Nigeria. Above all, the probability of the F- statistics 0.000 < 0.05 showed that the pooled panel regression fitted was valid, reliable, appropriate and acceptable for determining the impact of taxation on the investment decision of the quoted manufacturing firms in Nigeria.

In Table 3, the results of the fixed effect panel model on the impact of taxation on investment decisions of the quoted manufacturing firms is presented and it reveals that company income tax (CIT) and manufacturing firm size (FZ) positively relates to the investment decision of the quoted manufacturing firms (INV) and thus, enhanced the investment of the quoted manufacturing firms (INV) in Nigeria by 3.88 and 0.24 per cent respectively. The probability value 0.000 < 0.05 revealed that the company income tax (CIT) had a statistical significance impact on the investment of the quoted manufacturing firms in Nigeria.

A thorough examination of the result on the individual selected firms showed that company income tax (CIT) and manufacturing firm size (FZ) influence the investment of the Flour Mills (FM), Guinness Nigeria (GN), Nestle (NE), Nigerian Breweries (NB), PZ Cussion (PZ), 7up Bottling (7UP), Dangote Sugar (DS), Cocoa-Cola (CC), Multi-Trex (TR), Honey Well (HW) and Mc-Nichols (MC). While, company income tax (CIT) and manufacturing firm size (FZ) under consideration hindered the investment of the AG-Leventis (AL), Cadbury (CB), Dangote...
Flour (DF), NASCOM (NA), Vita-foam (VF), Unilever (UL), Union (UN), Champion (CH) and Golden G. Breweries (GB) in Nigeria. The proportion of improvement in the investment of the quoted manufacturing firms that can be explained by the company income tax and manufacturing firm size in this model was 65.6 per cent, as revealed by the Adjusted R-square. The probability of the F-statistic value $0.000 < 0.05$ revealed that the fixed effect panel regression model was statistically significant and thus valid, reliable, appropriate and acceptable for determining the impact of taxation on the investment decision of the manufacturing firms in Nigeria.

In Table 4, the results of the random effect panel model on the impact of taxation on investment decisions of the quoted manufacturing firms is presented and it shows that company income tax (CIT) positively relates to the investment decisions of the quoted manufacturing firms (INV) and thus enhanced the investment of the quoted manufacturing firms (INV) in

Table 3. Panel Least Square (Fixed Effect Model)

| Dependent Variable: INV |
|-------------------------|
| Method: Panel EGLS (Cross-section weights) |
| Periods included: 10 |
| Cross-sections included: 20 |
| Total panel (balanced) observations: 200 |

| Variable | Coefficient | Std. error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|-------|
| C        | 9,315,282.0 | 1,678,246.0 | 5.550607 | 0.0000 |
| CIT      | 3.883006   | 0.550236   | 7.056977 | 0.0000 |
| FZ       | 0.235513   | 2.134184   | 0.110353 | 0.9123 |

Effects Specification

| Cross-section fixed (dummy variables) |
|-------------------|
| AL                | –6,597,630 | UL                |
| CB                | –5,223,263 | 7UP               |
| DF                | –909,448   | UN                |
| FM                | 11,786,663 | CH                |
| GN                | 8,726,371  | DS                |
| NA                | –7,694,060 | CC                |
| NE                | 4,014,289  | TR                |
| NB                | 11,770,890 | HW                |
| PZ                | 4,921,909  | MC                |
| VF                | –7,679,658 | GB                |

R-squared = 0.692, Adjusted R-square = 0.656, F-statistic = 19.062, Prob F-statistic = 0.000, Durbin-Watson stat = 0.503

Source: Researchers’ Computation (2018).
Nigeria by 4.77 per cent, while, manufacturing firm size (FZ) negatively relates to the investment decision of the quoted manufacturing firms (INV) and thus hindered the investment of the quoted manufacturing firms (INV) in Nigeria by 0.56 per cent. The probability value $0.000 < 0.05$ revealed that company income tax (CIT) revealed its statistical significance impact on the investment of the quoted manufacturing firms in Nigeria.

Table 4. Panel Least Square (Random Effect Model)

| Variable | Coefficient | Std. error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|-------|
| C        | 7,732,222.0 | 1,497,455.0| 5.163576    | 0.0000|
| CIT      | 4.768161    | 0.348733   | 13.67281    | 0.0000|
| FZ       | −0.564325   | 0.698792   | −0.807573   | 0.4203|

Effects Specification

| S.D. Rho |
|----------|
| Cross-section random | 4,067,620.0 | 0.1014 |
| Idiosyncratic random  | 12,111,724 | 0.8986 |

Cross-section random (dummy variables)

| AL        | −2,767,984.00 | UL       | −4,617,821.00 |
| CB        | −2,138,902.00 | 7UP      | 1,493,891.00 |
| DF        | 234,084.40    | UN       | −3,369,235.00|
| FM        | 6,332,422.00  | CH       | −371,010.90  |
| GN        | 3,749,615.00  | DS       | 444,372.90   |
| NA        | −3,587,418.00 | CC       | 1,475,879.00 |
| NE        | 1,578,345.00  | TR       | −65,707.75   |
| NB        | 1,873,423.00  | HW       | 921,686.30   |
| PZ        | 3,081,016.00  | MC       | 2,646,373.00 |
| VF        | −3,325,609.00 | GB       | −3,587,418.00|

R-squared = 0.492, Adjusted R-square = 0.487, F-statistic = 95.368, Prob F-statistic = 0.000, Durbin-Watson stat = 0.533

Source: Researchers’ Computation (2018).

A thorough examination of the results on the individual selected quoted firms showed that company income tax (CIT) and manufacturing firm size (FZ) influence the investment...
of the Dangote Flour (DF), Flour Mills (FM), Guinness Nigeria (GN), Nestle (NE), Nigerian Breweries (NB), PZ Cussion (PZ), 7up Bottling (7UP), Dangote Sugar (DS), Cocoa-Cola (CC), Honey Well (HW) and Mc-Nichols (MC). While, company income tax (CIT) and manufacturing firms size (FZ) under consideration hindered the investment of the AG-Leventis (AL), Cadbury (CB), NASCOM (NA), Vita-foam (VF), Unilever (UL), Union (UN), Champion (CH), Multi-Trex (TR) and Golden G. Breweries (GB) in Nigeria.

The idiosyncratic random error term with the rho value of 0.899 revealed a strong correlation between the individually selected manufacturing firm and cross-sectional error term. The proportion of improvement in the investment of the quoted manufacturing firms that can be explained by company income tax and manufacturing firms size in this model was 48.7 per cent, as revealed by the Adjusted R-square. The probability of the F-statistic value 0.000 < 0.05 revealed that the random effect panel regression model was statistically significant and thus valid, reliable, appropriate and acceptable for determining the impact of taxation on the investment decisions of the manufacturing firms in Nigeria. Therefore, this result led to the Hausman Test that is presented below in Table 5.

Table 5. Correlated Random Effects – Hausman Test

| Test Summary | Chi-Sq. statistic | Chi-Sq. d.f. | Prob. |
|--------------|-------------------|--------------|-------|
| Cross-section random | 4.430262 | 2 | 0.1091 |

Cross-section random effects test comparisons:

| Variable | Fixed | Random | Var(Diff.) | Prob. |
|----------|-------|--------|-----------|-------|
| CIT      | 3.883006 | 4.768161 | 0.181145 | 0.0376 |
| FZ       | 0.235513 | –0.564325 | 4.066431 | 0.6916 |

Source: Researchers’ Computation (2018).

Table 5 shows the results of the Hausman Test for the cross-section random effect. The chi-square value 4.430 < 5.991 and the probability value of 0.109 > 0.05 revealed that the random effect model fitted for the study of taxation captured by company income tax and manufacturing firm size was not better than the fitted fixed effect model in this study. Also, the probability value for the variance different for the estimated parameter for company income tax of 0.038 < 0.05 revealed its statistical significance in fitting and appropriateness of the random effect model, while the probability value for the variance different for manufacturing firm size of 0.692 > 0.05 affirmed the inappropriateness of the random effect model. Thus, the use of the fixed effect
model as the most efficient, consistent, sufficient and unbiased model led to the residual cross-sectional dependence test presented below in the Table 6.

Table 6. Residual Cross-Section Dependence Test

| Test                      | Statistic | d.f. | Prob. |
|---------------------------|-----------|------|-------|
| Breusch-Pagan LM          | 994.4612  | 190  | 0.0000|
| Pesaran scaled LM         | 40.24201  |      | 0.0000|
| Bias-corrected scaled LM  | 39.13090  |      | 0.0000|
| Pesaran CD                | 27.76628  |      | 0.0000|

Source: Researchers’ Computation (2018).

In Table 6, the result of the residual cross-section dependence using the Breusch-Pagan LM is presented. Thus, the Breusch-Pagan LM, Pesaran scale LM, Bias-corrected scale LM statistic value of 994.461, 40.242 and 39.131 respectively with the probabilities value of 0.000 < 0.05 showed that cross-section dependence can be rejected. Hence, it implies that there was no cross-section dependence between company income tax, manufacturing firm size and the investment of the quoted manufacturing firms selected for this study in Nigeria.

4. Implication of the Findings and Conclusion

A thorough examination of corporate taxation and investment decision of the quoted manufacturing firms in Nigeria revealed that company income tax (CIT) positively related to investment decisions (INV) and thus enhanced the investment of the quoted manufacturing firms (INV) in Nigeria. This result is contrary to the one obtained by S.A. Raza, S.A. Ali and Z. Abassi (2011) on their study on the effect of corporate income tax and firms’ size on capital Investment made in tangible assets by the manufacturing firms listed in the Karachi Stock Exchange, where it was revealed that corporate income tax had a negative impact on investment. However, the result affirmed the position of the studies conducted by E.A. Oliech (2013) and G.A. Oloidi (2014), who also examined company income tax and investment decisions of companies in Nigeria and found that company income tax influenced investment decisions.
The probability value in this study revealed that company income tax (CIT) is significantly correlated with the investment of the quoted manufacturing firms in Nigeria. The adverse effect of company income tax (CIT) on some of the examined manufacturing firms confirms the results of the study conducted by S.A. Raza, S.A. Ali and Z. Abassi (2011), which revealed the negative correlation of corporate income tax with investment. This implies that higher corporate income taxes inadvertently lead to lower investment in manufacturing firms. Hence, this study recommends that the Nigerian government should encourage and enhance manufacturing investment decisions by designing an appropriate corporate income tax policy. Proper means of tax avoidance by the firms should also be approved by the government. The investment decision that fosters new capital encourages the implementation of new production techniques should be engineered for the development of manufacturing firms. Also, greater reliance on debt, as opposed to equity finance as a result of high corporate income taxes, should be discouraged to enhance and improve a manufacturing firm’s investment decisions.

4.1. Suggestions for Further Research

There are three major decisions in an organisation, financing, investing and dividend decision. Most studies have examined the nexus of corporate tax on financing decisions; this study has succeeded in establishing its nexus with investment decisions. Future studies should examine the nexus of corporate tax on the dividend decisions in firms. Thus, the comparison of its effect on the three decisions can be established by carrying out further studies.

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