

## **TRANSFER PRICING, ACCRUALS EARNINGS MANAGEMENT AND CORPORATE TAX AVOIDANCE OF LISTED MULTINATIONAL CORPORATIONS IN NIGERIA**

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### **ABSTRACT**

*The study envisages to ascertain the effect of the interaction of transfer pricing and accruals earnings management on corporate tax avoidance of Multinational Corporations (MNCs) in Nigeria. The specific objectives of the study are to ascertain the sensitivity of book-tax differences and effective tax rates to the interaction of discretionary accruals and the transfer price index of multinational firms. The study adopts the ex post facto research design. The sample was restricted to 50 Multinational Corporations (MNCs) selected using the purposive sampling technique. The data were analysed using the panel Estimated Generalized Least Squares (EGLS) technique, specifically the period random effects specification models. The results showed that the interaction of discretionary accruals and transfer price index negatively affect book-tax differences and effective tax rates. The study concludes that accruals earnings management and transfer pricing are significant determinants of corporate tax avoidance of MNCs in developing countries. Based on this, the study recommends that the Government reviews its tax policies to attract more inwards Foreign Direct Investment (FDI) and the Boards of MNCs should be wary of transfer price manipulation as these may be suggestive of managerial opportunistic behaviour for self-seeking actions. Lastly, a critical assessment of the host country peculiarities should be considered by local tax authorities in drafting local regulations..*

**Keywords:** *Accruals Earnings Management, Effective Tax Rates, Foreign Direct Investment, Corporate Tax Avoidance, Multinational Corporations, Transfer pricing, .*

### **1. INTRODUCTION**

Transfer pricing is achieved by manipulating prices of cross border transactions (Malik, 2006) between sub-firms of MNCs in different countries” (Keuschnigg & Devereux, 2013). Such manipulation is achieved by either enhancing (over-pricing or high) or reducing (under-pricing or low) (Malik, 2006). The goal is focused on the global maximization of profit and wealth retentiveness (Sikka & Willmott, 2010). Transfer pricing is facilitated because of differing tax rates across regions and jurisdictions thereby creating tax havens in some countries (Brock & Pogge, 2014; Cristea & Nguyen, 2016; Dyreng & Lindsey, 2009; Slemrod & Wilson, 2009). The practice is common to Multinational Corporations (MNCs), of which their rapid growth has been facilitated by globalization and technology (Tatum, 2019). MNCs are enterprises that partly or fully own, control and manage income-generating assets in more than one country/state (Tatum, 2019; Muchlinski, 1999). MNCs “are integrated, complex network of related firms that spans across multiple tax jurisdictions” (Eden, 2001, p. 597).

This often presents complex tax problems for the various national tax authorities. Liu, Schmidt-Eisenlohr, and Guo (2017) in the U.K. confirmed that the shift from a worldwide tax regime to a territorial tax regime increased the extent of transfer mispricing. The negative effect of transfer pricing strategies by MNCs is far felt in developing economies because of their human capital deficiencies and inadequate tax regulations to deal with the complex nature of such affiliated

transactions (Acquah, 2017). A preliminary report by United Nations Conference on Trade and Development (UNCTAD) estimates approximately USD100 billion annual tax revenue loss from international tax planning through offshore investment for developing countries (UNCTAD, 2015). Therefore transfer pricing by facilitating base erosion of profits, also erodes tax revenue to the host government. The tax has remained a crucial component of revenue to Governments in developed and developing countries (Garba, 2014). Therefore, tax avoidance is a deliberate attempt to reduce the amount of taxes payable by individuals or corporations. Such attempts range from acceptable (legal) tax avoidance to unacceptable (illegal) tax avoidance (Fadhilah, 2014).

There are several perspectives in support of or against corporate tax avoidance. For instance, to shareholders, it represents an increase in residual income and may ultimately lower the cost of debt (Lim, 2011). And, to the Government, it lowers the amount which is availed to them from tax revenue thereby hindering developmental activities (Schön, 2008). The issue of corporate tax avoidance often falls within the managerial purview (Lanis & Richardson, 2011) and is a reflection of the managerial policies (Franca et al., 2015; Tandean & Winnie, 2016). Thus, when discovered can lead to potential negative consequences such as reputational damage, decreased firm value (Hanlon & Slemrod, 2009), imposition of penalties and fines (Chen et al., 2010). Transfer pricing and tax avoidance are managerial decisions that aim to minimise global taxes, prior studies have justified the association between the two. And the issue of transfer pricing has taken prominence on the international tax horizon, for its potential facilitating of capital flight in host countries (Acquah, 2017; Sikka & Willmott, 2010). However, despite the wide plethora of studies on transfer pricing in developed countries; there is a paucity of studies in developing countries (Acquah, 2017; Sikka & Willmott, 2010; Christian-Aid, 2008).

Prior studies have linked MNCs transfer pricing to huge tax savings and benefits (Cristea & Nguyen, 2016; Flaaen, 2016; Vicard, 2015; Bernard, Jensen, & Schott, 2006). Secondly, studies have failed to document channels of transmission through via which transfer pricing may affect corporate tax avoidance. Empirically, Acquah (2017) employed discretionary accruals as an interaction term on the transfer pricing and corporate tax avoidance nexus in Ghana. This was supported by the fact that firms in an attempt to manage earnings, often structure their transaction in a way that creates differences in the taxable profit and the accounting income (Hanlon & Heitzman, 2010). The study employs alternative proxies of tax avoidance to measure the tax avoidance impact; first, the Book Tax Differences (BTD), which is the difference between a book income and taxable income may be caused by two main reasons, for instance, legitimate and illegitimate reasons (Noga & Schnader, 2013). The legitimate reasons for BTD are mainly attributable to the differences between the accounting and tax income reporting systems or sound tax planning; while, illegitimate reasons include financial statement manipulation, tax evasion, or illegal tax shelters (Noga & Schnader, 2013). Second, the higher the BTD, the higher the risk of deteriorating earnings quality, thus, BTD is a signal of earnings quality (Noga & Schnader, 2013). The study also utilized the Effective Tax Rate (ETR), the reason for the ETR as according to the United States Government Accountability Office (GAO) (2008b, p.1), is that the 'statutory tax rates fail to provide a complete measure of the burden that a tax system imposes on business income because many other aspects of the system, such as exemptions, deferrals, tax credits, and other forms of incentives also determine the amount of tax a business ultimately pays on its income'. The study extends this line of argument by ascertaining whether transfer pricing and tax avoidance nexus is strengthened or weakened in the presence of accruals earnings management. Against this backdrop, the paper focuses on the interaction of transfer pricing and discretionary accruals on corporate tax avoidance and its consequential effect on MNCs transfer pricing.

## **Objectives of the Study**

The main objective of the study is to ascertain the effect of the interaction of transfer pricing and accruals earnings management on corporate tax avoidance of Multinational Corporations (MNCs) in Nigeria. The study specifically examines the:

1. The sensitivity of book-tax differences to the interaction of discretionary accruals and transfer price index of multinational firms.
2. The sensitivity of effective tax rate to the interaction of discretionary accruals and transfer price index of multinational firms.

## **2. LITERATURE REVIEW**

### **2.1 Transfer Pricing (TP)**

TP originated from managerial accounting as far back as the '80s (Bradley, 2015). Primarily because companies were structured around divisions and segments; thus, a need for the management to design a system that internally allocates profit among different divisions and segments (Levey & Wrappe, 2010). The concept was originally adapted for taxation in the U.S. in 1928 when the IRS began to allocate profits among related parties to inhibit tax avoidance (Section 45, Revenue Act of 1928). The price of an intra-firm transfer is called *Transfer Price* (also known as internal prices or accounting prices or inter-corporate transfer prices)(Malik, 2006); and, the process utilized by firms' to establish such prices for intra-firm transactions is referred to as *Transfer Pricing* (TP). According to Liu *et al.* (2017, p.4) defined TP 'as the setting of prices for internal (intra-firm) transactions in goods, services, intangibles, and capital flows within an MNC'. Isau (2014) defined TP as the general term for the pricing of cross-border, intra-firm transactions between related parties. Oyedele *et al.* (2013), TP is the structuring and pricing of transactions between members of the same controlled group. Examples of intra-firm transactions include purchase or sale of raw materials, import and export of goods, capital equipment, patents, technology, management fees, copyrights and intercompany financing (OECD, 2001).

In the Nigerian context, transfer price regulation falls under the ambit of the Board of the Federal Inland Revenue Service (FIRS). The FIRS issued the revised Income Tax (Transfer Pricing) Regulations in 2018. The Regulations incorporated some of the revisions to the Organisation for Economic Co-operation and Development (OECD)'s Transfer Pricing Guidelines; as well as provisions contained in the African Tax Administration Forum (ATAF)'s Suggested Approach to drafting Transfer Pricing legislation (ATAFSA). The new Regulations commenced on 12 March 2018; and, expected to apply to basis periods beginning after that date (KPMG, 2018). The Regulations revoked and replaces the Income Tax (Transfer Pricing) Regulations 2012, and reflect some of the main TP related changes introduced to the 2017 edition of the OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations (OECD TPG) and the United Nations Practical Manual on Transfer Pricing for Developing Countries (UN TP Manual) (Ernst & Young, 2018). The new Regulations adopted "the modalities provided in the Organization for Economic Cooperation and Development TP Guidelines for determining the existence of intra-group services and intangibles, and compliance with the arm's length principle" (KPMG, 2018). The revised Regulations were expected to increase Nigeria's tax revenue and reduce tax evasion via the underpricing or overpricing of related party transactions (Templars, 2018).

TP is usually contrasted with the market or arm's length price which refers to the price of a similar transaction in an open market between unrelated third parties (Arnold & McIntyre, 2002). The OECD rules require corporations to use "arm's length" principles in setting costs and profits (Sikka, 2017). The principle requires that "transactions be valued as if they had been carried out between unrelated parties" (OECD, 2006, p.176). Thus, several frameworks, treaties and international guidelines are been developed to address the issue of transfer pricing (Organisation for Economic Co-operation and Development [OECD], 2009, 1979; European Commission, 2004). *Ipsa Facto*, there is a consensus that the price of assessing non-marketed transactions should be a comparable price of a similar arm's length transaction (Elitzur & Mintz, 1996).

TP has taken predominance globally and among various nation-states and policymakers because of the erosion of base revenue and illicit financial flows (Zucman, 2014; Sikka & Willmott, 2010). In the African context, interest is primarily driven by the tremendous growth of Foreign Direct Investment (FDI) inflows over the past decade (Blanas & Seric, 2018). Gravelle (2001, p. 592) opined that the subject “has spread from an obscure area to a subject of informed public knowledge”. According to Awodiran (2014), the four common transfer pricing methods in use in the organisation are as follows:

- a. The Cost-Based Transfer Method: Using this approach, the transfer price between the transferring division and the receiving division will depend on the actual cost of production to the transferring division (Adeniyi, 2008).
- b. The Market-Based Transfer Price: Using this approach, the transfer price between the transferring division and the receiving division will represent the prevailing market price within the market as of the date of the transaction (Awodiran, 2014).
- c. The Negotiated Transfer Pricing: Using this approach, the transferring division and the receiving division negotiate and agree on a mutually acceptable transfer price. Such a negotiated price arrangement is binding on all the parties, i.e., both the transferor and receiver (Rohatgi, 2002).
- d. The Arbitrary Transfer Pricing: Using this approach, the relevant transfer price charged between the selling and buying divisions is determined by the central management (or parent) with or without the consent of divisional managers (or subsidiaries).

### **2.1.2 Corporate Tax Avoidance**

According to the National Tax Policy (2017) “tax” is any compulsory payment to the government imposed by law without direct benefit or return of value or service whether it is called a tax or not. There is no universally accepted definition of corporate tax avoidance in the literature (Annuar, Salihu, & Obid, 2014; Hanlon & Heitzman, 2010). Terms such as “Tax Planning”, “Aggressive Tax Planning” and “Abusive Tax Planning” are common in the literature. According to Martinez (2017, p. 106) corporate tax avoidance involves “taking advantage of legitimate concessions and exemptions foreseen in the tax law; and, involves the process of organizing business operations so that tax obligations are optimized at their minimum amount”. According to Mgbame, Chijoke-Mgbame, Yekini, and Kemi (2017) tax aggressiveness refer to varying activities undertaken by management to reduce taxable income; such activities may be legal or illegal. Corporate tax avoidance refers to the reduction in explicit corporate tax liabilities (Annuar, Salihu, & Obid, 2014).

Dyrenge, Hanlon, and Maydew (2010, p. 1164) opine that corporate tax avoidance refers to “anything that reduces the firm’s taxes relative to its pretax accounting income”. According to Johansson, Skeie, Sorbe, and Menon (2016) tax planning refer to a situation in which there is a disconnection between the location of profits and the real activity generating them. Osuegbu (2007, p.1), defines tax avoidance as “the legal application of tax laws to one’s advantage, to reduce the amount of tax that is payable by means that are within the law.” Authors such as Hanlon and Heitzman (2010, p.137) described tax avoidance using a continuum of tax planning strategies which range from perfectly legal real transactions at one end (e.g., investments in tax-favoured assets, such as municipal bonds) to aggressive tax avoidance practices (e.g., tax shelters) on the other end.

Tax avoidance measures can be subdivided into three groups used in prior literature (Annuar, Salihu, & Obid, 2014, p.152). The first group includes measures that consider the multitude of the gap between book and taxable income. These comprise the total book-tax gap; residual book-tax gap and tax-effect book-tax gap. The second group includes ratios that measure the amount of taxes to business income. These comprise effective tax rates (with variants such as; Effective Tax Rate (ETR); current ETR; cash ETR; long-run cash ETR; ETR differential; the ratio of income tax expense to operating cash flow; and the ratio of cash taxes paid to operating cash flow). The third group includes measures such as discretionary permanent differences (PERMIDIFF)/DTAX; unrecognized tax benefits (UTB); and tax shelter estimates.

The literature documents several methods and/or schemes by which corporations engage in tax avoidance. According to Sikka (2010), they include the use of transfer pricing, royalty programs, offshore tax havens and structured transactions. Gravelle (2013) identified other methods such as debt allocation and earnings stripping, contract manufacturing, check-the-box, hybrid entities and instruments as well as cross crediting and sourcing rules for foreign tax credits.

### 2.1.3 Transfer Pricing (TP) and Corporate Tax Avoidance

Prior studies have shown a link between transfer pricing and corporate tax avoidance incentive. The study by Johansson *et al.* (2016) found that MNCs utilize several channels in profit shifting to reduce their corporate tax burden by locating in lower-tax rate countries their profit generated in higher-tax rate countries. Alternatively, MNCs exploit differences in tax treatments of entities, instruments, or transfers between countries to reduce their corporate tax burden (OECD, 2014a). Chang and Lin (2010) using a sample of Taiwanese MNEs found that the reasons for the MNEs to engage in TP was to achieve global profit maximization and enhance competitiveness. External motivations for setting TP includes such as; differences in corporate income tax rates between countries (which are exacerbated by tax havens and tax deferral), trade taxes (tariffs, export taxes), foreign exchange restrictions, among others (Eden & Smith, 2011; Vincent, 2004; Eden & Rodriguez, 2004). Taylor *et al.* (2015), using a sample of MNCs in the U.S., confirmed that MNCs manipulate transfer pricing among related entities by taking advantage of tax rates and incentives. Previously, Taylor and Richardson (2012) documented that the top two methods for tax avoidance were the use of thin capitalization techniques and transfer pricing manipulation. In Denmark, Cristea and Nguyen (2016) also found evidence of transfer-pricing using firm-level transaction data of MNCs. The authors found that a 10 percentage point decrease in the tax rate of a low tax country leads to a 5.7 per cent drop in the export unit values of multinationals.

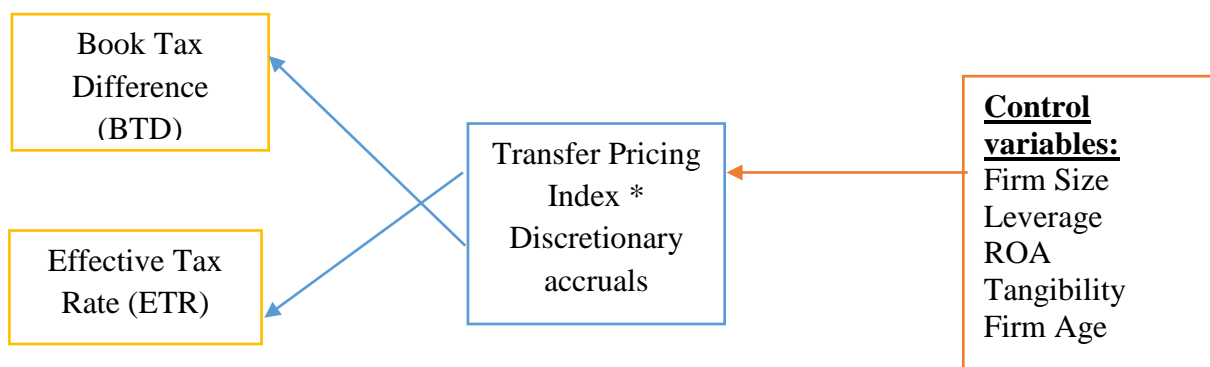
### 2.1.4 Sensitivity of Corporate Tax Avoidance to the Interaction of TP and Discretionary Accruals

Prior studies have established that managers manage earnings to reduce their bottom line profit and consequently pay less tax (Desai & Dharmapala, 2006; Dhaliwal *et al.*, 2004; Desai & Dharmapala, 2009). Recently, the study by Amidu *et al.* (2019) in Ghana using a panel data set from 2008 to 2015 established a form of interaction between transfer pricing, earnings management and tax avoidance. In conclusion, the results were suggestive that the sensitivity of tax avoidance to transfer pricing decreases as a firm increases its earnings management.

## 2.2 Conceptual Framework

The diagram below illustrates the interrelatedness of the dependent and independent variables in this study

Figure 1: Schematic representation of the relationship between the variables



Source: Author's Conceptualisation (2021)

The figure above shows the interrelationship between the variable of interest which is the main independent variable in the study (Transfer Pricing Index multiplied by Discretionary Accruals) and its effect on the the dependent variables (Book Tax Difference and Effective Tax Rate) which appears at the left hand side. The last box which points at the main independent variable in the study shows the vector of controls that were utilized in the study. The choice of control variables were premised on that which has been utilized in prior studies.

### 2.3 Theoretical Review

The study anchored on the agency and stakeholder theories. The justification is as follows: first, ‘agency theory’, explains the information asymmetry between principals and agents, thereby causing agents to act in their self-interest in the absence of an adequate monitoring mechanism. Agency theory was first formulated by Ross in the ’70s (Ross, 1973); and, associated with agency costs by Jensen and Meckling (1976). The theory is rooted in information economics (Turnbull, 1997). Jensen and Meckling (1976) define agency relationship in terms of a “contract under which one or more persons (the principal(s) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent”. The theory posits that an agency relationship exists when shareholders (principals) hire managers (agents) as decision-makers in corporations (Ruangviset *et al.*, 2014). The theory tries to resolve two problems that usually occur when shareholders (principals) hire managers (agents). The first is the conflict of goals between the principal and agent and the costs associated with the minimisation of such discrepancy; and, secondly, is the problem of sharing risk when the risk preference of the principal and agent differs (Eisenhardt, 1989).

Second, ‘stakeholder theory’, advocates a balance between the interests of several stakeholders. Stakeholder theory argues that tax avoidance represents a loss to society as funds that can be beneficial to the provision of public goods are withdrawn. The first use of the word ‘stakeholder’ occurred in 1963, in a memorandum from the Stanford Research Institute (Freeman, 1984). A stakeholder is defined as “any group or individual who can affect or is affected by the achievement of an organization’s objectives” (Freeman, 1984, p. 46). Scholars have identified two broad perspectives of stakeholder categorisation: the wide and narrow perspective. The wide view defines stakeholders as “any identifiable group or individual who can affect the achievement of an organization objective”; whereas, the narrow view includes any identifiable group or individual on which an organization is dependent for its continued survival (Freeman *et al.*, 2010). In other words, tax avoidance influences the responsiveness of the corporation to the needs of the stakeholders (such as government bodies (e.g., tax authorities), political groups, trade unions, communities, employees, customers, and the general public) (Lanis & Richardson, 2011). The multi-theoretical approach acknowledges the insufficiency of agency theory in explaining transfer pricing and corporate tax avoidance because of the presence of other external institutions and stakeholders that are affected by corporate tax avoidance (Kovermann & Velte, 2018; Lanis & Richardson, 2011).

### 2.2 Empirical Review

This section presents the details of empirical studies reviewed; the studies comprised local and international studies:

Amidu *et al.* (2019) undertook a study titled ‘Transfer pricing, earnings management and tax avoidance of firms in Ghana’. The sample comprised 320 firm-year observations for a period of 8 years from 2008 to 2015. The study relied on secondary data; obtained from annual reports and accounts. The data were analysed using panel regression procedures. The results showed that the sensitivity of tax avoidance to transfer pricing decreases as a firm increases its earnings management. Salawu and Ololade (2018) undertook a study titled ‘Corporate tax avoidance of listed firms in Nigeria’. The sample comprised of nineteen (19) firms from the Nigerian Stock Exchange 30 index selected using the purposive sampling technique. The study relied on secondary data; obtained from annual financial statements. The data were analysed using descriptive statistics. The results revealed that firms in the agricultural and construction & real estate sectors recorded the lowest average long-run cash effective tax rate of 10% and 4.5% respectively. Financial institutions had an industry



average of 17%; while, the healthcare and consumer goods sectors had the highest of 32% and 24% respectively.

Acquah (2017) conducted a study 'Transfer pricing, earnings management, and tax avoidance'. The study utilised a quantitative research design. The sample comprised forty MNCs in Ghana. The study utilised secondary data; obtained from the annual reports of the sampled firms. The data was analysed using panel regression techniques, specifically the Generalized Least Squares approach. The results showed that transfer pricing is positively related to tax avoidance for both financial and non-financial MNCs. The results also show that earnings management is positively related to tax avoidance for both financial and non-financial firms; however, it was only significant for financial firms. Lastly, the interaction of transfer pricing and earnings management was negative for both financial and non-financial firm categories.

Klassen *et al.* (2017) conducted a study titled 'Transfer pricing: Strategies, practices, and tax minimization'. They employed both survey and secondary data. The survey involved tax executives from multinational corporations in the U.S. The survey results showed that MNCs set their transfer pricing strategy to minimize tax payments. The COMPUSTAT data on the sampled firms confirm the survey-based inferences. The results also showed that transfer pricing strategies are higher were higher foreign income, tax haven use, and R&D activities are combined with a tax minimization strategy.

Liu *et al.* (2017) conducted a study titled 'International transfer pricing and tax avoidance: Evidence from linked trade-tax statistics in the UK.' The sample comprised one thousand two hundred and fifty-six companies (i.e. 931,773 observations) in manufacturing from the years 2005 to 2011. The study relied on secondary data; obtained from HMRC, the FAME ownership database of Bureau Van Dick, World Bank (World Databank, World Development Indicators) and PennWorld. They employed a triple-difference regression to analyse the data. The results showed evidence that MNCs shift more profits to low-tax jurisdictions. Second, transfer mispricing increases with a firm's R&D intensity. Third, transfer mispricing is concentrated in countries that are not tax havens but with low-to-medium-level corporate tax rates.

Marques and Pinho (2016) conducted a study titled 'Is transfer pricing strictness deterring profit shifting within multinationals? Empirical evidence from Europe'. They developed a framework to measure the transfer pricing strictness by country and year; while, tax rate differentials are used to capture profit-shifting incentives. The sample comprised European foreign subsidiaries. The results showed that the stricter the transfer pricing framework the lower the tax rate difference sensitivity of reported earnings.

Johansson *et al.* (2016) conducted a study titled 'Tax planning by multinational firms: Firm-level evidence from a cross-country database'. The sample comprised of unconsolidated financial accounts of firms in 46 countries: all OECD and G20 countries, Colombia, Latvia, Malaysia and Singapore. They utilised secondary data based on available unconsolidated financial account data from the ORBIS database. The period for the final sample was from 2000 to 2010. They employed multiple regression technique to analyse the data. The results showed evidence that MNEs shift profits to lower-tax rate countries; and, large MNEs also exploit mismatches between tax systems and preferential tax treatment to reduce their tax burden.

Taylor *et al.* (2015) conducted a study titled 'Multinationality, tax havens, intangible assets, and transfer pricing aggressiveness: An empirical analysis'. They specifically examined the individual and joint effects of multinationality, tax havens, and intangible assets on transfer pricing aggressiveness. The sample comprised two hundred and eighty-six (286) publicly listed U.S. multinational firms. The study employed secondary data (2,002 firm-year observations) for the years 2006 to 2012. The data were analysed using multiple regression. The results showed that multinationality, tax haven utilization, and intangible assets are significantly positively associated with transfer pricing aggressiveness. Thus, firms magnify their international transfer pricing aggressiveness through the joint effects of intangible assets, multinationality, and tax havens.

Olibe and Rezaee (2008) conducted a study titled 'Income shifting and corporate taxation: the role of cross-border intrafirm transfers'. The study relied on secondary data. The independent variable was proxied as the value of cross-border intrafirm transfers and the dependent variables were: return on investment, U.S. effective tax rate, and global effective tax rate. The study utilised secondary data and

multiple regression technique used to analyse the data. The results showed that return on investment and U.S. effective tax rate increased; while, the global effective tax rate decreased with the level of cross-border intrafirm transfers.

## 2.5 Gap in the Literature

Prior studies utilising firm-and-country level data have shown evidence that MNCs utilise profit shifting as a tax avoidance strategy. However, the bulk of studies have mainly concentrated on one specific country or group, such as the OECD, Europe, the U.S., U.K., Colombia, Latvia, Malaysia and Singapore. While the literature is not scanty on corporate tax avoidance in Nigeria; studies are yet to address tax avoidance practices by MNCs. Acquah (2017) focused on Ghanaian MNCs was among the foremost to address the possible link between transfer pricing and corporate tax avoidance. Thus, there is a paucity of studies in developing countries; and, specifically in Nigeria despite the high vulnerability of MNCs in using transfer pricing for tax avoidance (Acquah, 2017; Sikka & Willmott, 2010; Christian-Aid, 2008; Borkowski, 1997). The first and obvious gap is the paucity of studies on transfer pricing by MNCs in developing countries, and specifically, Nigeria which is premised on the lack of empiricism on the subject in Nigeria.

The second gap tackled in the Nigerian context, studies by Salawu and Adedeji (2017), Salawu, Ogundipe, and Yeye (2017), and Sani and Madaki (2016) among several others, that explored tax planning among quoted non-financial and oil and gas firm have mainly utilised the effective tax rate as the proxy of corporate tax avoidance. The use of alternative proxies yields interesting findings. Thus, the need for the inclusion of additional alternative corporate tax avoidance measures in subsequent studies. Lastly, in the Nigerian context, the literature fails to document channels of transmission through which transfer pricing may affect corporate tax avoidance. The study by Acquah (2017) in Ghana; study utilised earnings management proxied as discretionary accruals as an interaction term on the transfer pricing and corporate tax avoidance nexus.

## 3. MATERIAL AND METHOD

The study adopted the *ex post facto* research design, as they do not have direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulated. The population comprised of public quoted MNCs in operation in Nigeria as at end of the 2019 financial year.

The sample comprised fifty MNCs based on the availability of financial data for the relevant study period. The sample was drawn using a variant of non-probability sampling, i.e., purposive sampling technique as the sampling technique. The main limiting factor is the availability of annual financial statements of the MNCs for the duration of the study. The firms included in the sample were drawn from eleven sectors; thus, showing adequate heterogeneity of the sample which is feasible for drawing a causal inference based on the purpose of the study. The study relied on secondary sources of data, retrieved from the annual financial statements of the sampled companies.

The data for the study were analysed using *descriptive and inferential statistics*. The descriptive statistics comprises measures such as the mean, median, standard deviation, Skewness, Kurtosis, and the Jarque-Bera (J-B) statistic. The hypotheses were tested using the multiple linear regression techniques. This is particularly useful to examine the relationship between one dependent variable and multiple independent variables (Hair *et al.*, 2006). The data for the study fitted a panel data. Two widely used panel regression techniques are *Fixed* and *Random Effects* regression.

### 3.3.1 Model Specification:

$$BTD_{(i,t)} = \alpha_0 + DA * TPI_{(i,t)} + Size_{(i,t)} + Leverage_{(i,t)} + PROF_{(i,t)} + Tang_{(i,t)} + Age_{(i,t)} + \mu \dots \dots \dots (1)$$

$$ETR_{(i,t)} = \alpha_0 + DA * TPI_{(i,t)} + Size_{(i,t)} + Leverage_{(i,t)} + PROF_{(i,t)} + Tang_{(i,t)} + Age_{(i,t)} + \mu \dots \dots \dots (2)$$



**Table 1: Variables included in the models**

<b>Dependent Variable(s)</b>		
BTD <sub>it</sub>		Pretax book income – ([current tax expense/statutory tax rate] – [NOL <sub>t</sub> – NOL <sub>t-1</sub> ]) The Statutory Tax Rate is the official corporate tax rate; which presently in Nigeria is 30% of the assessable profit. NOL-Net Operating Losses
ETR <sub>it</sub>		This is a measure of the proportion of profit before tax is paid as tax. It is computed as tax paid divided by profit before tax.
<b>Independent Variable</b>		
TPI index	Transfer Pricing Index	The items utilised in the TPI index were selected based on the general criterion that they must involve intra-entity transactions that are not commercially justified or not of a commercial or arm's length (Richardson, Taylor, & Lanis, 2013).
<b>Moderator Variable</b>		
Discretionary accrual		This is measured as the difference between TAC <sub>it</sub> and NDA <sub>it</sub> This was estimated using the Jones-modified model (1995): $TA_{i,t} / A_{i,t-1} = a_0(1 / A_{i,t-1}) + a_1[(\Delta CA_{i,t} - \Delta CCR_{i,t}) / A_{i,t-1}] + a_2(PPE_{i,t} / A_{i,t-1}) + \epsilon_{i,t}$ <b>Where:</b> TA <sub>i,t</sub> : Total accrual in year t; A <sub>i,t-1</sub> : Total assets in year t-1; $\Delta CA_{i,t}$ : Change in sales; $\Delta CCR_{i,t}$ : change in receivables; PPE <sub>i,t</sub> : Gross property plant and equipment; $\epsilon_{i,t}$ : Residuals that represent the estimation of discretionary accruals.
<b>Control Variables</b>		
SIZE	Firm Size	This is measured as the natural logarithm of total assets.
LEVERAGE	Debt Ratio	Long-term debts/ total assets.
PROF	Profitability-ROA	Earnings before interest and taxes/total assets.
TANG	Tangibility	This is measured as the total value of property plant and equipment over the total assets.
AGE	Firm Age	This is measured as the difference between the year the firm commenced operation (was incorporated) and the current financial statement year considered

Source: Author's Compilation (2021)

## 4. RESULT AND DISCUSSIONS

### 4.1 Correlation Analysis

The descriptive statistics are shown in the Appendix. The Pearson's correlation results of the dependent, independent and control variables, is used to check for *collinearity*; and, a threshold of 0.8 for each coefficient is considered high.

**Table 2a: Correlation Matrix (BTD)**

	BTD	TPI	DA	SIZE	LEV	ROA	TANG	AGE
BTD	1.000000	-0.021334	0.004494	0.213268	0.003774	0.117389	-0.165111	0.02992
TPI	-0.021334	1.000000	0.311416	0.042839	-0.035733	-0.054364	-0.036458	0.025390
DA	0.004494	0.311416	1.000000	0.017538	0.041459	0.003310	-0.037610	0.049324
SIZE	0.213268	0.042839	0.017538	1.000000	0.027084	-0.054398	-0.038820	0.028612
LEV	0.003774	-0.035733	0.041459	0.027084	1.000000	0.009591	0.069369	0.105145
ROA	0.117389	-0.054364	0.003310	-0.054398	0.009591	1.000000	-0.251383	0.045766
TANG	-0.165111	-0.036458	-0.037610	-0.038820	0.069369	-0.251383	1.000000	0.042115
AGE	-0.02992	0.025390	0.049324	-0.028612	0.105145	-0.045766	0.042115	1.000000

Source: E-Views 9

**Table 2b: Correlation Matrix (ETR)**

	ETR	TPI	DA	SIZE	LEV	ROA	TANG	AGE
ETR	1.000000	-0.128079	0.036140	-0.077916	-0.053758	0.004629	-0.202632	-0.049286
TPI	-0.128079	1.000000	0.311416	0.042839	-0.035733	-0.054364	-0.036458	0.025390
DA	0.036140	0.311416	1.000000	0.017538	0.041459	0.003310	-0.037610	0.049324
SIZE	-0.077916	0.042839	0.017538	1.000000	0.027084	-0.054398	-0.038820	-0.028612
LEV	-0.053758	-0.035733	0.041459	0.027084	1.000000	0.009591	0.069369	0.105145
ROA	0.004629	-0.054364	0.003310	-0.054398	0.009591	1.000000	-0.251383	-0.045766
TANG	-0.202632	-0.036458	-0.037610	-0.038820	0.069369	-0.251383	1.000000	0.042115
AGE	-0.049286	0.025390	0.049324	-0.028612	0.105145	-0.045766	0.042115	1.000000

Source: E-Views 9

**Note:** BTD is Book Tax Difference; ETR is Effective Tax Rate; TPI is Transfer Pricing Index; DA is Discretionary Accruals (a proxy for Earnings Management); Size is Firm Size; LEV is Leverage; ROA is Return on Assets; TANG is Asset Tangibility; AGE is Firm Age

The magnitude of the relationship is determined by the absolute value while the sign indicates the direction of the relationship (Acquah, 2017). The correlation results from Table 2a show that TPI is negatively correlated with tax avoidance (BTD); while, DA is positively correlated with tax avoidance (BTD). The control variables, SIZE, LEV and ROA are positively correlated with tax avoidance; while, TANG and AGE were negatively correlated with tax avoidance. The variable TPI is positively correlated with DA; and, two control variables SIZE and AGE. While, three control variables, i.e., LEV, ROA and TANG were negatively correlated with TPI. DA is positively correlated with SIZE, LEV, ROA and AGE; and, negatively correlated with TANG. SIZE is positively correlated with LEV; and, negatively correlated with ROA, TANG and AGE. LEV is positively correlated with ROA, TANG and AGE. ROA is negatively correlated with TANG and AGE. TANG is positively correlated with AGE.

The correlation results from Table 2b show that TPI is negatively correlated with tax avoidance (ETR); while DA is positively correlated with tax avoidance (ETR). The control variables, SIZE, LEV, TANG and AGE are negatively correlated with tax avoidance; while, ROA is positively correlated with tax avoidance. The variable TPI is positively correlated with DA, and two control variables are SIZE and AGE. While, three control variables, i.e., LEV, ROA and TANG were negatively correlated with TPI. DA is positively correlated with SIZE, LEV, ROA and AGE; and, negatively correlated with TANG. SIZE is positively correlated with LEV; and, negatively correlated with ROA, TANG and AGE. LEV is positively correlated with ROA, TANG and AGE. ROA is negatively correlated with TANG and AGE. TANG is positively correlated with AGE.

#### **4.2 Test of Hypotheses**

The study used the Panel EGLS (Estimated Generalised Least Squares), which is a variant of GLS. The GLS technique is a generalization of OLS but relaxes the assumption that the errors are homoskedastic and uncorrelated (Kaufman, 2013). The EGLS procedure used the period random effects specification and white cross-section as the coefficient covariance method. This approach has also been used in prior studies; such as Amidu, Coffie, and Acquah (2019) and Acquah (2017) in Ghana. All statistical analysis was conducted using the E-Views 9 software.

#### 4.2.1 Hypothesis One

Ho<sub>1</sub>: The interaction of transfer price index and discretionary accruals has no significant effect on book-tax differences of multinational firms.

**Table 3: Interaction (of Transfer Pricing and Discretionary accruals) on BTD**

Dependent Variable: BTD

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.49E+09	3.36E+09	1.631456	0.1036
TPI*DA	-23492497	8864627.	-2.650139	0.0084
SIZE	0.006806	0.001309	5.198687	0.0000
LEV	51171651	1.48E+08	0.345975	0.7296
ROA	4.31E+09	1.52E+09	2.833350	0.0048
TANG	-3.06E+09	1.01E+09	-3.038238	0.0025
AGE	24130200	44485291	0.542431	0.5878
<b>Effects Specification</b>				
			S.D.	Rho
Period random			0.000000	0.0000
Idiosyncratic random			5.29E+10	1.0000
<b>Weighted Statistics</b>				
R-squared	0.078888	Mean dependent var	1.05E+10	
Adjusted R-squared	0.064570	S.D. dependent var	5.45E+10	
S.E. of regression	5.27E+10	Sum squared resid	1.07E+24	
F-statistic	5.509750	Durbin-Watson stat	0.737417	
Prob(F-statistic)	0.000017			
<b>Unweighted Statistics</b>				
R-squared	0.078888	Mean dependent var	1.05E+10	
Sum squared resid	1.07E+24	Durbin-Watson stat	0.737417	

Source: E-Views 9

#### Interpretation:

The model showed R squared values of .079 (*weighted statistics*) and .079 (*unweighted statistics*); these values describe the proportion of variance in the dependent variable which is explained by the independent and control variables. In other words, the model explains approximately 8% variation of the dependent variable. These results are consistent with prior studies by Acquah (2017) and Amidu, Coffie, and Acquah (2019) done in a similar West African country. The F statistic (ratio of the mean regression sum of squares divided by the mean error sum of squares) used to check the statistical significance of the model had a value of 5.509 ( $p < .05$ ); thus, the hypothesis that all the regression coefficients are zero is rejected. The *coefficient* and *t-statistic* of our variable of interest (TPI\*DA) are negative and statistically significant [*t-statistic* (-2.650139), *p* (0.0084,  $< .05$ )]. The control variables of SIZE and ROA showed a significant positive effect for the entire sample; while, TANG showed a significant negative effect. LEV and AGE were positive and not statistically significant.

**Decision:** Accept alternate hypothesis if *p* value is less than .05, if otherwise, accept the null. Thus, the alternate hypothesis is accepted and null rejected. The interaction of transfer price index and discretionary accruals has a significant effect on book-tax differences of multinational firms.

#### 4.2.2 Hypothesis Two

Ho<sub>2</sub>: The interaction of transfer price index and discretionary accruals has no significant effect on the effective tax rate of multinational firms.

**Table 4: Interaction (of Transfer Pricing and Discretionary accruals) on ETR**

Dependent Variable: ETR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.691783	0.109105	6.340513	0.0000
TPI*DA	-0.002040	0.000354	-5.764674	0.0000
SIZE	-5.35E-14	8.45E-15	-6.332101	0.0000
LEV	-0.005575	0.006480	-0.860296	0.3902
ROA	-0.047286	0.004757	-9.940578	0.0000
TANG	-0.091670	0.029750	-3.081356	0.0022
AGE	-0.001625	0.001518	-1.070319	0.2851

Effects Specification		S.D.	Rho
Period random		0.000000	0.0000
Idiosyncratic random		0.985338	1.0000

Weighted Statistics			
R-squared	0.055389	Mean dependent var	0.513123
Adjusted R-squared	0.040706	S.D. dependent var	1.009433
S.E. of regression	0.988675	Sum squared resid	377.3063
F-statistic	3.772313	Durbin-Watson stat	1.257792
Prob(F-statistic)	0.001157		

Unweighted Statistics			
R-squared	0.055389	Mean dependent var	0.513123
Sum squared resid	377.3063	Durbin-Watson stat	1.257792

Source: E-Views 9

#### Interpretation:

The model showed R squared values of .055 (*weighted statistics*) and .055 (*unweighted statistics*); these values describe the proportion of variance in the dependent variable which is explained by the independent and control variables. In other words, the model explains approximately 5% variation of the dependent variable. These results are consistent with prior studies by Acquah (2017) and Amidu, Coffie, and Acquah (2019) done in a similar West African country. The F statistic (ratio of the mean regression sum of squares divided by the mean error sum of squares) used to check the statistical significance of the model had a value of 3.772 ( $p < .05$ ); thus, the hypothesis that all the regression coefficients are zero is rejected. The *coefficient* and *t-statistic* of our variable of interest (TPI\*DA) are negative and statistically significant [*t-statistic* (-5.764674), *p* (0.0000,  $< .05$ )]. The control variables of SIZE, ROA and TANG showed a significant negative effect for the entire sample; while, LEV and AGE showed a non-significant negative effect.

**Decision:** Accept alternate hypothesis if *p* value is less than .05, if otherwise, accept the null; thus, the alternate hypothesis is accepted and null rejected. The interaction of transfer price index and discretionary accruals has a significant effect on the effective tax rate of multinational firms.

## 5. CONCLUSION AND RECOMMENDATIONS

The results of the two hypotheses tested above showed that the interaction of transfer price index and discretionary accruals affect the direction of the relationship. This finding shows that the presence of the moderator variable alters the direction of the relationship; however, its presence changes the magnitude of the transfer price element. The first hypothesis showed that the interaction of transfer price index and discretionary accruals has a significant effect on book-tax differences of multinational firms. This finding is consistent with the study by Amidu, Coffie, and Acquah (2019) using a sample of firms in Ghana reported that the sensitivity of tax avoidance to transfer pricing decreases as a firm increases its earnings management. Another study that also supported this finding was that of Acquah (2017) in Ghana revealed that interaction of transfer pricing and earnings management was negative for both financial and non-financial firm categories. The second hypothesis showed that the interaction of transfer price index and discretionary accruals has a significant effect on the effective tax rate of multinational firms. This finding is consistent with the study by Amidu, Coffie, and Acquah (2019) using a sample of firms in Ghana showed that the sensitivity of tax avoidance to transfer pricing decreases as a firm increases its earnings management. Acquah (2017) using a sample of MNCs in Ghana also showed that interaction of transfer pricing and earnings management was negative in both the financial and non-financial samples.

The study concludes that tax avoidance is sensitive to the interaction of discretionary accruals and the transfer price index of multinational firms. The empirical results revealed that the interaction of transfer price index and discretionary accruals had a significant negative effect on book-tax differences and the effective tax rate of the MNCs. This depicts the sensitivity of tax avoidance to the interaction of transfer pricing and discretionary accruals. Based on this, the study makes the following recommendations:

1. The country's high tax rate of 30%, maybe a plausible reason why MNCs are exploiting transfer pricing while shifting revenue to lower tax jurisdictions. Therefore it is highly recommended that the Government reviews its tax policies to attract more inwards FDI.
2. The study also recommends that Boards of MNCs should be wary of transfer price manipulation as these may be suggestive of managerial opportunistic behaviour for self-seeking actions. These may be achieved by implementing the following approaches:
  - a. The approval of the Board on issues bothering on transfer price for related party transactions. And where possible expert consultations should be made before such approval. This would ensure the adequate monitoring of managerial actions eliminates the manipulative behaviour of managers.
  - b. Tax authorities should also follow international best practices (such as OECD Guidelines) in setting prices for related party transactions to avoid base erosion of profits in the host country and attract Foreign Direct Investment (FDI).
  - c. It is also recommended that recognition of host country peculiarities be assessed by local tax authorities in drafting local regulations.

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## Appendix I

### Transfer Price Index

The items utilised in the TPI index were selected based on the general criterion that they must involve intra-entity transactions that are not commercially justified or not of a commercial or arm's length (Acquah, 2017; Amidu, Coffie, & Acquah, 2019; Reineke & Weiskirchner-Merten, 2018; Richardson, Taylor, & Lanis, 2013) as follows:

1	The existence of interest-free loans between related entities.
2	The existence of debt forgiveness between related entities.
3	The existence of impaired loans between related entities.
4	The provision of non-monetary consideration (e.g. services or non-liquid assets without commercial justification between related entities),
5	The absence of formal documentation held by the firm to support the selection and application of the most appropriate arm's length methodologies or the absence of formal documentation relating to transfer pricing between related entities.
6	The disposal of capital assets to related entities without commercial justification.
7	The absence of arm's length justification for transactions between related entities.
8	The transfer of losses between related entities without commercial justification.

Source: Authors' compilation (2021)