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# Ownership Concentration, Profitability and Tax Avoidance of Listed Companies in Nigeria

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## **Abstract**

This study examined the relationship between concentrated ownership and tax avoidance of listed companies in Nigeria, exploring the potential role of profitability as a mediating variable. The study employed a correlational research design using data from the Nigeria Exchange Group (NGX) over the period of twelve years (2011-2022). Data was extracted from the annual report and accounts of the 121 out of 156 companies that were listed for the period. The data collected were analyzed using descriptive statistics, correlation and Structural Equation Modeling (SEM) as techniques for data analysis while Monte Carlo model was used to determine the level of significance of the indirect effects to hypotheses formulated. The study's findings demonstrate that ownership concentration affects tax avoidance behavior, implies that concentrated ownership encourages management to conduct tax avoidance as an effort to obtain additional capital for the firm's investment needs so that companies tend to shift current taxes to future taxes. Also, ownership concentration has negative and insignificant effect on profitability and profitability functions as a mediating factor in the correlation between concentrated ownership and tax avoidance of the listed companies in Nigeria. This study proves the existence of agency problems where concentrated ownership expropriates minority interests. Based on these findings, the study recommended that management of the listed companies in Nigeria should be encouraged to explore more avenues of tax avoidance strategies, as the schemes improve level of profitability and increase shareholders' returns on investment.

**Keywords:** Ownership concentration, profitability, tax avoidance, listed companies in Nigeria.

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## **1. Introduction**

Taxation is vital to the government's ability to achieve its objectives and plays a major role in providing the government with financial assistance. Although the government's goal is to maximize revenue from the company income tax and others taxes (ICT taxes, withholding tax, capital gain tax, education tax, import duties and value added tax among others), this is contrary to the objectives of the companies as taxpayers, where taxes are considered a liability that will reduce company profits shareable to stakeholders, especially shareholders. In the new global economy, tax avoidance has become a central issue for companies. Tax avoidance can be broadly seen as acts that are capable of reducing a firm's tax liabilities in the determination of profit before tax (Dyreg et al., 2010). Over and over again the Courts have said that there is nothing sinister in so arranging affairs as to keep taxes as low as possible. Everyone does it, rich and poor alike and all do right, for nobody owes any public duty to pay more than the law demands.

Shafer and Simmons (2008) explain that tax avoidance is a transaction scheme that aims to minimize the tax burden by taking advantage of loopholes in a country's taxation provisions legally so that it does not violate tax regulations. According to Putri and Lawita (2019), the

strategy that can be used to save or avoid taxes and still comply with tax regulations is tax avoidance. The deliberate attempt to legally reduce the amount of taxes paid is referred to as tax avoidance. It consists of strategies designed to minimize tax liability and the effects of cash flows on the business in terms of when it is most beneficial for a business to pay its tax liability without incurring any tax penalty (Salawu & Adedeji, 2017).

Ownership concentration is usually regarded as the fraction of shares owned by the largest shareholding with at least five percent (5%) of equity ownership. The company owner yearns for the company value to increase for an extended period because higher company value will also reflect higher level of owner's benefit. Company value is an economic term that signifies a company's market value and is based on the company's metrics utilized to measure business value (Sunarto et al., 2021). However, the obstacle to increasing the company value because of the internal company itself is how to manage the company well by using company resources to generate more profit. Companies with weak monitoring and supervising management will be underreporting profits, and this is due to a lack of policy oversight and operational management.

Business's owners encourage management to engage in tax avoidance practices to reduce tax burden in order to increase profit after tax, which will have an impact on increasing shareholders' returns on investment, assuming the benefits obtained are higher than the costs incurred on the tax avoidance activities.

Management performance in general is seen in the level of profit generated. If the level of profitability produced by the company is high, then the management is considered to have high performance. Firm profitability refers to the extent to which the firm achieves its financial objective of increasing earnings in excess of expenses (Aggreh et al., 2023). Hence, profitability is considered a rallying point for all stakeholders of a firm, be they management, shareholders, governments, potential investors, or regulators. These groups of stakeholders are interested in the structure and combination of ownership classes that will improve profitability, and they may take advantage of a loophole in tax law to reduce company tax liability.

In accounting and finance research, there is a widespread interest about magnitude, determines, and consequences of tax avoidances. Recently, researchers have shown an increased interest in the relation between ownership structure such as managerial ownership, institutional ownership, government ownership, family ownership as well as ownership concentration and corporate tax avoidance (Kinanti et al., 2024; Irri et al., 2021; Omesi & Appah 2021 and Din et al., 2021). There is also research about the influence of profitability on tax avoidance (Ikechukwu & Ogbodo, 2024; Ebire et al., 2024; Kusuma & Firnanti 2023; Putri & Halmawait 2023 and Rahayu et al., 2023) showed that firms with a high profit margin can engage in tax avoidance activities to reduce its tax liability (Chen et al., 2014).

While existing literature (Kinanti et al., 2024; Irri et al., 2021; Omesi & Appah, 2021; Chukwu et al., 2020 among others) acknowledges the influence of ownership concentration on tax avoidance strategies, this mean that ownership concentration has an incentive to minimize tax and enhance wealth of the shareholders. Hence, investors may encourage company management to engage in tax avoidance activities to increase net income. It means that the higher the profitability, the higher the tendency of corporations to engage in tax avoidance practices. It is because companies that has higher profits will be more independent to take advantage of gaps (loopholes) in tax laws to reduce their tax liabilities (Oktaviyani & Munandar, 2017). Companies that can manage their assets properly will benefit from tax incentives, transfer pricing, shifting income, and other tax breaks, and this can be classified as engaging in tax avoidance practices.

Furthermore, findings from most of the previous studies on the relationship between ownership concentration and tax avoidance have been relatively consistent strong across settings (in empirical sense). This consistency significant in findings has also been noted by

Kinanti et al., (2024), Tamburaka et al. (2022), Irri et al. (2021) and Sunarto et al. (2021). Therefore, in order to find out what mechanism explains a consistent relationship, Baron and Kenny (1986), with support of Memon et al. (2018), Mackinnon et al. (2012) and Zhao et al. (2010) suggested the introduction of a mediating variable. According to them, a mediator is introduced when there is a relatively consistent relationship between ownership concentration and tax avoidance across setting. It helps to understand the underlying mechanism or process through which the ownership concentration influences the tax avoidance.

To this end, none of these studies considered the use of a variable that has a mediating effect on the relationship between ownership concentration and tax avoidance in Nigeria. As such, this study introduces profitability as a mediating variable to examine its multiplicative effect. There is no doubt that the ownership concentration and profitability of businesses can have an effect on the extent of corporate tax avoidance activity. Regardless of whether the effect is favorable or negative, it is worth noting that there is scarcity or absence of studies that determine whether or not a company's profitability can function as a mediating factor in the relationship between ownership concentration and tax avoidance strategies across the world. From the reviewed studies on the relationship between ownership concentration and tax avoidance, it is clear that, most of the studies were conducted in the developed countries while few were conducted in developing economies like Nigeria.

The review also shows that these countries have different corporate governance models and at the same time different in regulatory frame works and different statutory tax rate across the countries. As such, the findings cannot be appropriately applied to other countries especially Nigeria where different regulatory standards and practices exist. Hence, this study intends to fill this gap by conducting a study using listed companies that were listed on Nigeria Group Exchange (NGX) and also by employing additional test that have not been used by previous studies conducted on subject matter. The rest of the paper is structured as follows. The next section outlines the ownership structure and tax avoidance theories that inform most of the work in this field, then identifies the work done on mediating effect of profitability on the relationship between ownership concentration tax avoidance and finally links it with the literature on the topic to derive the theoretical basis for hypothesizes. Section 3 offers a description of the data and methodology used, which is followed by a discussion of our results in Section 4. Finally, section 5 concludes with outlining implications of our results for theory and practice.

## **2. Literature Review and Hypotheses**

There are theories of corporate governance that have interested scholars investigating mediating effect of profitability on the relationship between ownership concentration tax avoidance namely the agency theory, the Hoffman's tax planning theory and the political power theory. Agency theory was developed by Jensen and Meckling (1976). This theory emphasizes the separation of firm management and ownership. It is the alignment of interests between the agents and the principals. The theory was born as the consequence of conflicts of interest between agents (shareholders and managers) and due to problems in the separation of firm management and ownership (Abdul-Jamal et al., 2013). The agency theory posits a principal-agent view of the firm. The principal is the shareholder who has invested capital in the firm and expects a return (Ahmed et al., 2022). The agent is the manager of the firm who is tasked with running the business and providing returns to the principal. An obvious conflict of interest arises when the actions of managers benefit them more, which at the same time will not necessarily be best for the shareholders and the firm as a whole.

From the perspective of agency theory, separate ownership and management have created an imperfect work contract (Sari & Martini, 2010). This situation creates an opportunity for managers not to act fully for the benefit of the owners. Thus, the need for corporate governance

as a means of monitoring performance emerges. Tax avoidance is a profitable investment that provides profit in the economic sector by initiating a rise in cash flow and profit. Nevertheless, the owners do not expect their managers to initiate tax avoidance if the loss due to the act is greater than the benefit. Much of the literature on corporate governance and agency theory deals with how to align the interest of managers, or agents, with those of the principals, or shareholders (Shleifer & Vishny, 1997). The supervisory board, government regulations and courts are the main avenues available to the shareholder to exercise control over managers. Making use of these resources, shareholders explore how to ensure that managers do not divert funds for personal enrichment and thus do not waste the firm's capital and instead work to maximize profits (Ahmed et al., 2022).

There have been many approaches to achieve this goal, one of which is of interest in the context of tax avoidance which this study is focusing. The ownership concentration in a firm that gives major shareholders a controlling stake in the firm, this in turn means that they control the board of directors and can effectively monitor management, while reducing the costs of doing so (Ahmed et al., 2022). Based on the explanation, Jensen and Meckling (1976) posit that the agency relationship is a contract between one or more people (principals) who require other people (managers) to perform services by delegating decision-making authority to agents (Putri & Putra, 2017).

On the other hands, Hoffman's tax planning theory was developed by Hoffmann in 1961. The theory posits that taxation is mostly based on business or accounting concepts, and thus tax managers can capitalize on the gray area in tax law or modify such activities towards the attainment of a reduction in tax liabilities. These activities are desirable when there is a chance of producing lower tax liabilities without adverse effects on accounting profit (Kibiya, 2021). According to Omesi and Appah (2021) and Fagbemi et al. (2019), the Hoffman tax planning theory explains the need to minimize company income tax income and others taxes without affecting accounting income. According to Akintoye et al. (2020) and Ogundajo and Onakoya (2016), this theory enumerates the complexities and loopholes in tax laws due to hidden intentions and concludes that good tax schemes perform with precise legal concepts and corporate entity compliance with these laws provides tax savings.

In summary, this study draws its theoretical framework from agency theory that best identifying, explains and also resolved the disputes that arises between the managers and shareholders, due to problems in the separation of firm management and ownership (predict empirical relationship between ownership concentration and profitability). Also, the study used Hoffman tax planning theory to anchor the impact of profitability on tax avoidance because tax savings could be derived through deep understanding the legal concepts of a lot of ambiguity and loopholes in tax laws thus reducing tax liability and enhancing profit after tax. Thus, the study considers the role of tax management schemes which if successfully carried out would not only minimize tax companies tax liabilities but increase its to higher after-tax earnings.

## **2.1 Ownership Concentration and Profitability**

Ownership concentration can be inferred from the percentage of shares held by shareholders and the magnitude of the percentage provides information on who technically controls the company (Afni & Hermawan, 2016). Concentrated ownership indicates the proportion of the stocks that some major shareholders own. It is also identified by the percentage of shares owned by the five largest shareholders (Singh & Gaur, 2009). One major reason for concentration of stock ownership is based on the property protection right framework which predicts that economies with weak institution and legal frame such as in less developed countries would have concentration of ownership because these owners try to privately protect their cash flow rights (Bertrand et al., 2008). Two opposing arguments have discussed the relationship between the ownership concentration and the financial performance (Su et al., 2007). On one hand,

Bhagat and Bolton (2019) assert that the monitoring argument pushes significant shareholders to minimise agency costs and increase overall firm performance, especially when firms suffer from a weak governance mechanism. Another argument is that a controlling shareholder can monitor significant decisions and appoint management. Based on this, concentrated investors work to maximise their interests at the expense of minority shareholders (Hu & Izumida, 2008). Lepore et al. (2017) have argued that the concentration of ownership will enhance a firm's performance, especially in countries with inadequate protection of the investors; similarly, Alipour and Amjadi (2011) found that ownership concentration offers powerful incentives to control manager's behaviour in order to reduce the problems resulting from agency conflict. The number of shares that are concentrated in a few individuals will cause these shareholders to have the power to intervene in the company because their number of shares is so large that the company depends on them. To fulfill the interests of shareholders, the company will work optimally to increase its performance. Also, the concentration of ownership will increase supervision of management. Such supervision will prevent management from misbehaving. Mertzanis et al. (2019) found that ownership concentration positively affects company performance.

More so, Din et al. (2021), Ajao and Ejokehuma (2020), Dakhlalh et al. (2019) and Mertzanis et al. (2019) examined the impact of ownership structure on firm financial performance. These results showed that ownership concentration has significant impact on financial performance. This is simply consistent with the prediction of agency theory that concentration of insider ownership aligns the interest of shareholders with those of the managers and hence improves performance. On the other hand, among studies that revealed that ownership concentration has insignificant effect on financial performance includes Hussaini and Gambo (2021), Ogbada et al. (2021) and Abdullahi and Muhammad (2019). This is an indication that ownership concentration does not seem to affect profitability anymore compare to studies before now because ownership concentration is likely to affect profitability. In summary, the relationship between ownership concentration and profitability is influenced by two relatively conflicting problems as seen from the literature which is in line with Machek and Kubicek (2018) conclusions. On the one hand, low levels of ownership concentration are associated with agency costs as managers must be monitored which negatively affects profitability. On the other hand, highly concentrated ownership structures may induce controlling owners to pursue private benefits which also have a negative effect on profitability. It is therefore no wonder that a number of authors found evidence of a nonlinear relationship between ownership concentration and profitability. However, the exact nature of this relationship remains unclear and the literature offers conflicting findings. Based on the arguments stated above, this study proposes the following hypothesis:

H01: Ownership concentration has insignificant impact on profitability of listed companies in Nigeria.

## **2.2 Profitability and Tax Avoidance**

Profitable firms tend to engage in strategic tax avoidance to minimize their overall tax liability. This can be achieved by utilizing various tax incentives, deductions, and credits and this will reduce the amount of income subject to taxation. The positive implications of profitability on tax avoidance are multifaceted and can benefit businesses significantly. Previous studies such as Ikechukwu and Ogbodo (2024), Putri and Halmawait (2023), Ogbeide et al. (2022), Tansuria and Nelwan (2022) and Anangadipa and Sari (2021) documented positive impact profitability on tax avoidance. On the contrary, empirical studies such as Ebire et al. (2024), Kusuma and Firnanti (2023), Rahayu et al. (2023), Okerekeoti (2022) and Umar et al. (2021) concluded that profitability does not influence tax avoidance. This is an indication that profitability alone does not determine the extent or success of tax avoidance in any firm; several factors can contribute

to relationship. Other factors, such as the firm's tax strategy, industry norms, and the regulatory environment, also play crucial roles.

More so, since profitability is generally a positive aspect for firms, it can also negatively affect tax avoidance. This means the higher the level of the profitability, the higher the tax expense to be paid and the firms with high profitability are more likely to engage in tax avoidance behaviours than firms with low profitability. Ogbeide et al. (2022), Ida et al. (2021), Mariana et al. (2021) and Putu and Gunaasih (2021) results supported the existing studies that documented a negative relationship between profitability and tax avoidance. This means that profitability can increase the level of tax avoidance. The higher the profit generated, the more likely the company is to avoid tax, because the company wants to display a large profit, namely by minimizing its tax burden. Based on these outcomes, the hypothesis is stated thus:

H0<sub>2</sub>: Profitability has insignificant impact on tax avoidance of listed companies in Nigeria.

### **2.3 Ownership Concentration and Tax Avoidance**

Ownership or equity concentration is a way of solving the problem of agency between managers and shareholders; however, it created another type of conflict between minority shareholders and block-holders (Desai & Dharmapala, 2008). Badertscher et al. (2013) argued that tax avoidance has certain costs associated with it, which makes it a risky business decision. These costs include fees paid to tax experts, time devoted to the resolution of tax audits, reputational penalties, and penalties paid to tax authorities. In a firm where ownership and control is concentrated in the hands of a few, this would result in managers taking less risky decisions, such as less tax avoidance. Conversely, in firms where ownership is diversified and there exist less effective measures of control over management, managers are likely to make riskier decisions, namely more aggressive tax avoidance.

Some empirical works in this area include the work of Kinanti et al. (2024), Irri et al. (2021), Omesi and Appah (2021), Chukwu et al. (2020), Salawu and Adedeji (2017) and Tandean and Winnie (2016) who discovered that ownership concentration positively affects tax avoidance. This means that the supervision conducted by shareholders can effectively reduce tax avoidance actions, because shareholders expect the results of operations from the company not only to report increased profits from manipulation even though legally legal as well as tax evasion (Evertsson, 2016). The result of this study was in line with Badertscher et al. (2013), who concluded that companies that have a high level of ownership concentration tend to prefer to avoid tax avoidance practices.

However, contradictory results were presented by Farooq and Zaher (2020), Boussaidi and Hamed (2015) and Badertscher et al. (2013) who found that the ownership concentration negatively affect tax avoidance. This implies that the higher the concentrated investors of shares, the lesser the level of engaging in tax behaviours. This is in line with finding of Desai and Dharmapala (2008) who concluded that companies with concentrated ownership have greater incentives to avoid taxes. From the reviewed studies, it is clear that, most of the studies were conducted in the developed countries while few were conducted in developing economies like Nigeria. Conversely, Uniamikogbo et al. (2019) concluded that equity concentration has negative and insignificant impact on tax aggressiveness. This means the percentage of equity concentrated encourage manager to engage in tax aggressiveness. However, a different result could obtain if a similar study were carried out in listed companies in Nigeria.

The review also shows that these countries have different corporate governance models and at the same time different in regulatory frame works and different statutory tax rate across the countries. As such, the findings cannot be appropriately applied to other countries especially Nigeria where different regulatory standards and practices exist. In the same vein, there is conflicting evidence regarding whether the concentration of ownership has a positive or negative effect on tax avoidance. Hence, this study intends to fill this gap by conducting a study

using listed companies that were listed on NGX and also by employing additional test that have not been used by previous studies conducted on subject matter. Based on the aforementioned arguments, this study proposes the following hypothesis.

H0<sub>3</sub>: Ownership concentration has insignificant impact on tax avoidance of listed companies in Nigeria.

#### **2.4 Ownership Concentration and Tax Avoidance: The Mediating Effect of Profitability**

This sub-section provides empirical evidence on the intervening role of profitability on the relationship between ownership concentration and tax avoidance. Prior studies produce strong relationship, why some inconclusive and mix findings evidence. Ownership concentration with significant shareholding and voting rights can force management to prioritize the company's success over personal interests. Thus, ownership concentration can potentially erode the practice of thin capitalization and profitability in the face of tax avoidance.

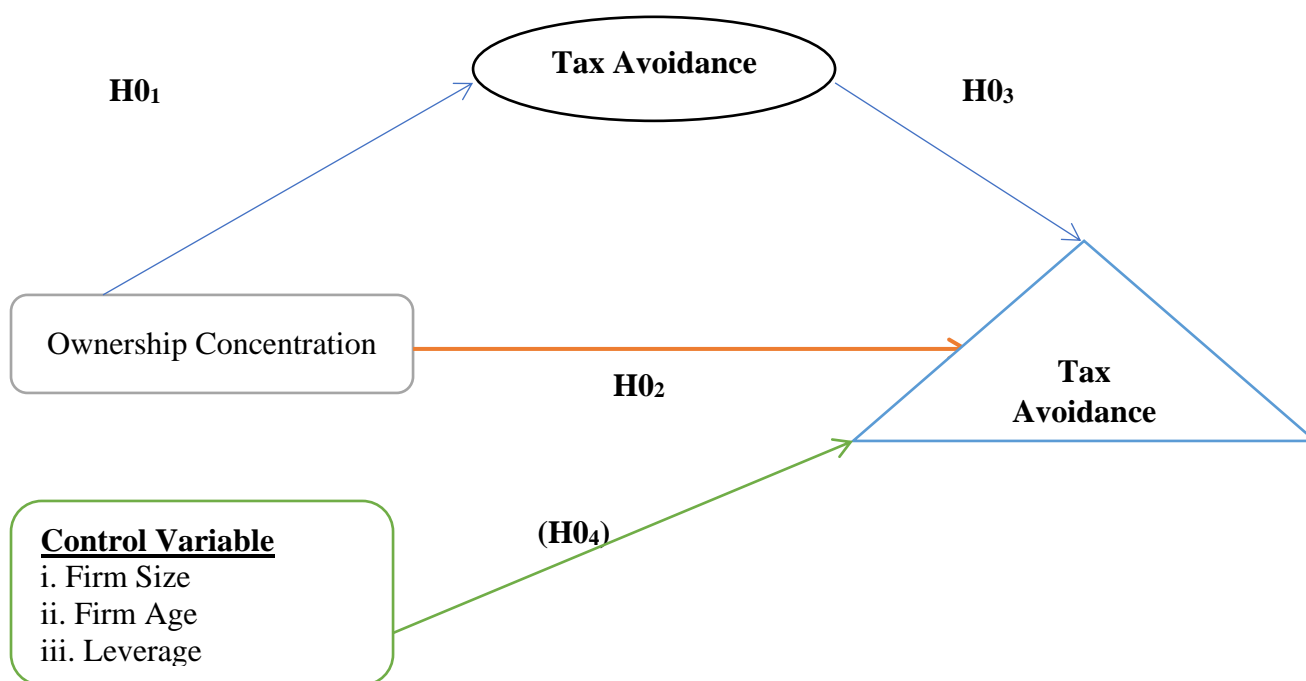
Those shareholders with significant shareholdings and voting rights can force managers to focus on the company's performance and avoid opportunities to attach importance to their interests (Widadi et al., 2022). Hence, ownership concentration can weaken the practice of thin capitalization and profitability against tax avoidance. Profitability is a factor in determining the tax burden because businesses that earn large profits can pay taxes consistently, while businesses that earn little profits and suffer losses pay minimal taxes (Fernández-Rodríguez & Martínez-Arias, 2012). According to agency theory, the agent will try to manage his tax burden in such a way that it does not reduce the compensation for the agent's performance due to reduced corporate profits due to the tax burden. Thus, agents will use company resources to maximize agent performance compensation, particularly by reducing the tax burden to maximize company profits. As profits grow, the amount of income tax payable increases proportionally and vice-vase. A profitable business may pay a higher tax rate than an unprofitable business (Widadi et al., 2022). Thus, it can be stated that companies with large profit margins will often do tax avoidance to reduce their tax liability. In the same vein, companies that committed to profit maximization will tend to practice lower tax avoidance and incline not to get involved in aggressive tax activities that may lead to tax evasion. This is assumed because profit realized from tax avoidance will be plough back to business or share as dividend to shareholders. Sari and Mulyani (2020) asserted that concentrated ownership influences decisions regarding tax avoidance policies, revealing that a lower percentage of concentrated ownership heightens the likelihood of tax avoidance.

There is no empirical literature on the mediating effect of profitability on the relationship between ownership concentration and tax avoidance. From the foregoing, there is scarcity of research on subject matter at the local (Nigeria) and international levels. In conclusion, majority studies in the literature reviewed such as by Kinanti et al. (2024), Irri et al. (2021), Omesi and Appah (2021), Chukwu et al. (2020) and Salawu and Adedeji (2017) demonstrated that there is a relationship between ownership concentration and tax avoidance, however, that relationship may be driven by profitability and there are several variables used to measure both tax avoidance and profitability, effective tax rate and Henry and Sansing's measure were used to measure tax avoidance while ROA was used for profitability since there. The above discussion indicates that ownership concentration positively affects profitability, which, in turn, negatively affects tax avoidance. This enables us to posit the following hypothesis:

H0<sub>3</sub>: Profitability does not mediate the relationship between ownership concentration and tax avoidance of listed companies in Nigeria.

#### **2.5 Research Framework**

Figure 1 below shows the direct paths and the indirect paths.



The direct relationship between ownership concentration and profitability is in line with Hypothesis one (H0<sub>1</sub>). Hypothesis two (H0<sub>2</sub>), represents the impact of ownership concentration on tax avoidance while hypothesis three (H0<sub>3</sub>) in on the influence of profitability on tax avoidance. Lastly, the indirect effect of ownership concentration on tax avoidance through profitability represents by hypothesis four (H0<sub>4</sub>).

### 3. Methodology

#### 3.1 Design

The research design for this paper falls under empirical research, specifically adopting a correlational research approach. It aims to objectively expound upon numerical data obtained from an existing phenomenon. This is a suitable design for the study because all information on the variables of the study (ownership concentration, profitability and tax avoidance) can best be obtained from the annual reports and accounts of the target firms and the information would be effectively regressed and corrected for the variables to be effectively interrogated to obtain the desired results that could lead to expected findings. *The research aims to uncover the impact of ownership concentration on tax avoidance and examine whether profitability mediates the relationship within listed companies in Nigeria.*

#### Population and Sample Selection Method

The population of this study consists of listed companies on Nigerian Exchange (NGX) Group within the timeframe spanning from 2010 to 2022. *Hence*, for companies to be part of this study, some criteria were employing, which are: (i) **companies** must have been listed on the floor of the Nigerian Exchange Group throughout the period of the study, and (ii) the **companies** must have the requisite or complete set of data covering the study period. The essence of these filters is to get a reliable and complete set of data for the period covered by the study. Having applied the above filters, Table 1 presents the sample size for the study.



**Table 1: Population and Sample Size of Listed Companies for the Study**

S/No.	Sectors	Number of Firms	Sample Size	Percentage %	Removed
1	Agriculture	5	5	100	0
2	Conglomerates	5	5	100	0
3	Construction/Real Estate	8	6	75	2
4	Consumer Goods	20	15	75	5
5	Financial Services	49	37	76	13
6	Healthcare	8	7	88	1
7	ICT	10	6	60	3
8	Industrial Goods	13	11	85	2
9	Natural Resources	4	4	100	0
10	Oil and Gas	10	6	60	4
11	Services	25	19	76	6
<b>TOTAL</b>		<b>157</b>	<b>121</b>		<b>36</b>

**Source:** Authors compilation, (2024).

### 3.2 Method of Data Analysis

This research employs descriptive, correlation matrix and multiple linear regressions through the STATA Statistics 14 software. Multiple linear regressions serve to examine and analyze the connection between an independent variable and a dependent variable. The purpose of this regression analysis within this study is to assess the effect of ownership concentration on tax avoidance, while also investigating whether profitability intervenes or regulates the relationship. To prove the mediating variable, the MEDSEM approach developed by Zhao et al. (2010), Mackinnon et al. (2018) and Memon et al. (2018) was used to test the significant indirect effect.

**Table 2: Variables of the Study and their Measurement**

Variables	Proxies	Symbol	Measurement	Source/Justification
Tax Avoidance	Effective Tax Rate	ETR	Tax liability divided by profit before tax	Temitayo (2024), Putri and Halmawait (2023)
	Henry and Sansing's Measure	H & S M	Cash tax paid less the product of pre-tax income and statutory rate divided by total assets	Olanisebe et al. (2023), Gebhart (2017) and Henry and Sansing (2014).
	Ownership Concentration	MO	Block holders exceeded 5% divided by total of shares issued.	<i>Sari and Mulyani (2020)</i> , Dakhllalh et al. (2019) and Salaudeen and Ekeh (2018).
Profitability	Return on Assets	ROA	PBT to Total Assets	Ikechukwu and Ogbodo (2024), Sari et al. (2020)
Firm Size	Firm Size	FS	Natural Logarithms of Total Assets	Temitayo (2024), Olanisebe et al. (2023) and Ebimobowei (2022).
Age	Age	AGE	Number of years since the firm's establishment	Alkurdi and Mardini (2020) and Farooq and Zaher (2020)
Leverage	Debts Ratio	LEV	Total interest bearing debt divided total assets	Rahayu et al. (2023) and Kibiya and Aminu (2019)

### 3.3 Model Specification

To achieve the main objective of the study, the MEDSEM approach developed by Zhao et al. (2010), Mackinnon et al. (2018) and Memon et al. (2018) was used to test the significant indirect effect. Their approach suggested two models, model one tests the effect of ownership concentration on profitability while model two tests how profitability mediates the relationship between ownership concentration and tax avoidance of listed companies in Nigeria. These two models were formulated as proposed by Memon et al. (2018), Mackinnon et al. (2012) and

Zhao et al. (2010) in testing the mediation. The equation below was developed to examine the effect of ownership concentration on profitability of listed companies in Nigeria.

$$ROA_{it} = \beta_0 + \beta_1 OC_{it} + \beta_2 FS_{it} + \beta_3 AGE_{it} + \beta_4 LEV_{it} + \varepsilon \dots \dots \dots (i)$$

More so, equation two was developed to examine mediating effect of profitability on the relationship between the ownership concentration and tax avoidance of listed companies in Nigeria.

$$ETR_{it} = \beta_0 + \beta_1 OC_{it} + \beta_2 ROA_{it} + \beta_3 FS_{it} + \beta_4 AGE_{it} + \beta_5 LEV_{it} + \varepsilon \dots \dots \dots (ii)$$

$$H\&SM_{it} = \beta_0 + \beta_1 OC_{it} + \beta_2 ROA_{it} + \beta_3 FS_{it} + \beta_4 AGE_{it} + \beta_5 LEV_{it} + \varepsilon \dots \dots \dots (iii)$$

Where:

- ETR<sub>it</sub> = Effective tax rate of firm “i” in period “t”
- H&S<sub>it</sub> = Henry and Sansing’s Measure of firm “i” in period “t”
- OC<sub>it</sub> = Ownership concentration of firm “i” in period “t”
- ROA = Return on Assets of firm “i” in period “t”
- FS<sub>it</sub> = Firm size of firm “i” in period “t”
- AGE<sub>it</sub> = Age of firm “i” in period “t”
- LEV<sub>it</sub> = Leverage of firm “i” in period “t”
- β<sub>0</sub> = Intercept or constant
- β<sub>1</sub> – β<sub>5</sub> = Regression coefficient of explanatory variables
- i = Firm
- t = Period
- ε = Error term of firm “i” in period “t”

## 4. Result and Discussion

### 4.1. Descriptive Statistic

The analysis covered listed companies in Nigeria selected based on some criteria to have complete data for the analysis. Table 3 depicts the descriptive statistics of the variables used in this study.

**Table 3: Descriptive Statistics Results**

Variables	OBS	Mean	Std. Dev.	Min.	Max.
<b>ETR</b>	1,452	0.1400	0.2371	-0.981	0.6793
<b>HS’M</b>	1,452	-0.0004	0.0234	-0.043	0.0574
<b>OC</b>	1,452	0.8049	0.1920	0	0.9966
<b>ROA</b>	1,452	0.0356	0.0955	-0.179	0.2261
<b>FS</b>	1,452	10.2167	0.9349	7.3708	13.0678
<b>AGE</b>	1,452	42.2959	19.3769	5	131
<b>LEV</b>	1,452	0.1396	0.1815	0	0.8622

**Source:** STATA Output, 2024

The descriptive statistics in Table 3 shows the average ETR value of 0.1400 indicates that 14% of the average company in the study pays lower tax costs than the tax rates set by regulations (ETR = 30%). The maximum ETR value of 68% indicates a scenario where the agency refrains from tax avoidance due to better ETR costs, while the minimum value of -98% highlights instances of tax avoidance by certain companies. The negative ETR indicates that companies have a negative tax preference. The standard deviation value is 24%, which is higher than the average ETR of 14%, indicating that there is quite a large variation in tax avoidance carried out by the companies sampled in this study. In the same vein tax avoidance proxied by Henry and Sansing’s Measure has an average value (mean) of -0.0004 with a standard deviation of 0.0235. The minimum value is -0.043 and the maximum value of 0.0574. The Henry and Sansing’s Measure has a negative mean revealing that companies have a

negative tax preference, meaning that companies that pay lower have a negative H & S value (Henry & Sansing, 2014; Gebhart, 2017). This is an indication that companies reduced their tax liability through tax avoidance practice. The standard deviation which measures variability is a bit high and lies between 0.04% and 2.35% for the annual measures. This implies that the data on the tax avoidance (H & S measure) points are spread out over a large range of values.

Concerning ownership concentration, Table 4 indicates a mean value of 80% with standard deviation of 19% signified a wide significant dispersion from the central value. The 80% ownership concentration suggests that on average 80% of the total shareholding in some listed companies in Nigeria is held by largest shareholders. The minimum ownership concentration is 0% (FBN Plc., Fidelity Plc., UBN Plc. among others) and maximum of 99.66% (Capital Hotel Plc. in 2013). The maximum value of 99.66% implies that the largest shareholders held close to 100% share capital in some of the listed companies. Similarly, the mean foreign ownership is approximately 18%. It indicates that 82% of the shares are owned by the citizens and institutions. The minimum foreign ownership is 0% with a maximum of 91% (Union Bank of Nigeria Plc. in 2019). The statistics show that profitability has a mean value of 4%. However, the standard deviation 10% shows a high level of dispersion in the ratio of profitability among the sampled companies. It means that ROA ratio of the entire sample has high data variations. It indicates that the profitability value of the sampled companies has high data variations, implies that the mean value recorded was not the true average for the companies as it was high above the mean. This is explained by the minimum loss of 18% for a company and the maximum of 23% for another. This means that, while some of listed companies are doing well in terms of return, others were not.

Firm size has a mean value of 10.2167 with a standard deviation of 0.9349 suggests a considerable level of dispersion in value of the assets during the period and this shows that firm size deviate from both sides. The figures reported is a pointer that the sampled firms invested heavily in total assets perhaps to enable them optimize the benefit of economy of scale and capital allowance. The implication of this is to reduce tax liability. The minimum and maximum is 7.3708 and 13.0678 respectively. Furthermore, the average firm age is approximately 42 years. This shows that on the average the sampled companies is 42 years with a standard deviation of 19 years and minimum and maximum values of 5 and 131 years respectively. This indicates that, whereas some of the listed companies are incorporated Nigeria in 2005, First Bank Plc. was incorporated since 1890, and this gives an insight as to whether being incorporated earlier will result in companies engaging tax avoidance activities.

In the case of debt-bearing interest of the sampled firms in Nigeria, the result shows that leverage has a mean of 14%, which implies that the firms that constitute the sample size are highly geared. This affords them to take advantage of tax shield arising from interest expenses to minimize tax liability since interest expense on leverage is tax deductible. It is also noteworthy that, some sampled companies do not have debt bearing interest as by 0% with a maximum value of 86% debt bearing interest ratio among the sampled companies. The standard deviation value is 0.1815, this value is above the mean, and this implies that the data is homogeneous.

#### **4.2 Analysis of Correlation**

Table 4 displays the correlation matrix for the variables used to investigate the association between explanatory variables and the tax avoidance (dependent variable), as well as among the explanatory variables.

**Table 4: Correlation Matrix Result**

Var.	ETR	HSM	OC	ROA	FS	AGE	LEV	VIF
OC	-0.0603	-0.0445	1.0000					1.05
ROA	0.4381	-0.8381	-0.0050	1.0000				1.14
FS	0.0541	-0.2468	0.0502	0.1923	1.0000			1.04
AGE	-0.0322	0.0199	-0.1832	-0.0086	0.0316	1.0000		1.04
LEV	-0.1250	0.2568	-0.0808	-0.2294	-0.0732	-0.0009	1.0000	1.11

**Source:** STATA Output, 2024

The explanatory variables' correlation coefficients range from (-0.0009 to 0.4381), indicating the relative strength of the linear association between them. Multicollinearity, according to Gujarati (2004), is only a problem if the pair-wise correlation coefficient among regressors is more than 0.80. Table 4 shows that the majority of cross-correlation terms for the explanatory variables are modest, indicating that there is minimal basis for concern regarding multicollinearity among the explanatory variables. The results in Table 4 also show that ownership concentration, firm age and leverage have negative relationship with ETR while return on assets and firm size have positive relationship with ETR. More so, OC, ROA and FS have positive relationship with HSM while AGE and LEV have positive relationship with HSM of the listed companies in Nigeria. To check the multicollinearity, Variation Inflation Factor (VIF) test was conducted and the result shows that the VIF values among all the variables are less than 10%, and this indicates the absence of multicollinearity problems in the regression models (Gujarati, 2004).

#### 4.2.1 Structural Equation Modeling (SEM) Results

This sub-section presents the regression result of the effect of ownership concentration on tax avoidance of listed companies in Nigeria mediating effect of profitability, using Structural Equation Modeling (SEM). Table 5 showed the estimation result of direct effects (ownership concentration and profitability).

**Table 5: Model I – Direct Effects (OC and ROA)**

Path	Coefficient	Z-value	P-value
OC→ ROA	-0.0204	-1.63	0.104
FS→ ROA	0.0178	7.03	0.000
AGE→ ROA	-0.0001	-0.87	0.385
LEV→ ROA	-0.1511	-11.60	0.000
_CONS	-0.1036	-3.67	0.000
R-square	0.1192		
P-value	0.000		
Likelihood	-5893.113		
Obs	1,452		

**Source:** STATA 14.0 outputs (2024).

Table 5 presents the regression estimates of the direct effect of ownership concentration on profitability. The test reveals a cumulative R<sup>2</sup> of 0.1192 (12%), this means that variables that were included in the model explain about 12% of the variation in ROA, and other variables not included in the model carry about 88% of the variation in dependent variable. The likelihood ratio (F-statistics), which statistically is significant (0.000), indicates that the model is fit to describe the change in the explanatory variables (OC, FS, AGE and LEV) and mediating variable (ROA).

The SEM regression shows that ownership concentration has negative and insignificant effect on profitability of the listed companies in Nigeria. However, the outcome is contrary to the prior expectation of the study that, as specific number of individuals hold a large portion of

a company’s share, they would be able to influence the decision making in the company and they would influence the decisions of managers toward achieving the shareholders’ expectation/ objective of wealth maximization and thereby increasing the performance of the firm in terms of profitability. The finding is however consistent with prior studies by Hussaini and Gambo (2021), Ogbada et al. (2021), Abdullahi and Muhammad (2019) and Hamza and Suman (2018). This finding is contrary to the finding of Din et al. (2021), Younus et al. (2021), Mertzanis et al. (2019) and Mohammed (2018) that found ownership concentration to be positive and significantly affecting the firms’ performance. Furthermore, firm size and leverage influence profitability while firm age has insignificant impact on profitability as shown in the Table 4.

**Table 6: Total Effects (OC) and Tax Avoidance (ETR and HSM)**

Paths	ETR			Paths	HSM		
	Coef.	Z-value	P-value		Coef.	Z-value	P-value
ROA—>ETR	1.0998	17.64	0.000	ROA—>HSM	-0.2006	-54.64	0.000
OC—>ETR	-0.0792	-2.66	0.008	OC—>HSM	-0.0052	-2.95	0.003
FS—>ETR	-0.0067	-1.11	0.269	FS—>HSM	-0.0022	-6.03	0.000
AGE—>ETR	-0.0005	-1.64	0.101	AGE—>HSM	0.0009	0.55	0.586
LEV—>ETR	-0.0010	-1.03	0.974	LEV—>HSM	0.0004	0.22	0.822
CONS	0.2539	3.78	0.000	CONS	0.0325	8.21	0.000
R <sup>2</sup>		0.1976		R <sup>2</sup>		0.7120	
P-value		0.000		P-value		0.000	
Lokelihood		-5893.113		Lokelihood		-1787.0358	
Obs		1,452		Obs		1,452	

**Source:** STATA 14.0 outputs (2024).

Table 6 shows the result of the two models, in general, the two models seem to be a good fit, as they explain a significant proportion of the independent variables on tax avoidance (ETR and HSM), with an R<sup>2</sup> of 20% and 71% respectively, and with a positive and significant value for the F-statistic. From the Table 6, the results of Model 1 (ETR), ROA influence ETR positively while in Model 2 (HSM), ROA affect HSM negatively. This implies that profitability has significant impact of tax avoidance (ETR and HSM) as proxies. This is an indication that companies with higher profitability may be more likely to engage in tax avoidance strategies. This is because companies with higher profits have more resources and incentives to minimize their tax liabilities to improve the profits (Olanisebe et al., 2023).

From the Table 6, the SEM regression result shows that ownership concentration has negative and significant impact on tax avoidance (ETR and HSM). The proportion of director ownership concentration as revealed in the descriptive statistic is 99.66%. This translates to the evidential effect that of ownership concentration at reducing tax liability, leading to conclusion that the greater the proportion of the ownership concentration, the lower the likelihood of tax avoidance usage. A high percentage of director ownership is presumed to reduce agency problem, information asymmetry and promote effective operation of the firm, including employment of aggressive strategies to minimize tax expense. Thus, ownership concentration is the major determinant of tax avoidance activities. The finding is consistent with the stewardship and stakeholders’ theories as suggested in the literature review. The findings support the work of Chukwu et al. (2020), Farooq and Zaher (2020), Ogbeide and Obaretin (2018), Salawu and Adedeji (2017) and Tandean and Winnie (2016). The findings contradict Uniamikogbo et al. (2019).

#### 4.2.2 Ownership Concentration and Tax Avoidance: The Mediating Effect of Profitability

To tests the mediating effect of profitability on the relationship between ownership concentration and tax avoidance of listed companies in Nigeria, Monte Carlo approach was adopted to assess the indirect effects as shown in Table 7:

**Table 7: Indirect Effect Using (MEDSEM-Monte Carlo)**

Path	IE Coef	z-value	P-value	Decision	Mediation
OC→ROA→ ETR	-0.018	-1.640	0.101	As the Monte Carlo test above is not significant and STEP 1 is significant you have direct-only non-mediation.	No Mediation
OC→ROA→H&SM	0.034	1.650	0.099	As the Monte Carlo test above is not significant and STEP 1 is significant you have direct-only non-mediation.	No Mediation

**Source:** Zhao, *et al.*, (2010) Procedure for STATA 14.0 outputs (MEDSEM-Monte Carlo) Based on Data Generated (2010-2021).\*, \*\*, \*\*\* indicate significance level at 10%, 5% and 1% respectively

Table 6 presents the mediation procedure describe by Zhao et al. (2010) to test the significant of the indirect effects. The study employed the Monte Carlo z-test using MEDSEM as recommended by Tofighi and Mackinnon (2016). Tofighi and MacKinnon (2016) find that both the percentile bootstrap confidence intervals and the Monte Carlo method provide good tests with good Type I error rates and statistical power but that the Monte Carlo approach had somewhat better power. Also, a 5,000 mcreps (Monte Carlo replication) and Confidence Intervals (CI) 95% was utilized to assess the indirect effects in line with the position of Zhao et al. (2010), Mackinnon et al. (2012) and Memon et al. (2018) contended that the necessary condition to establish mediation effect is that path (a\*b) should be significant which is the indirect effect.

The result also shows that the mediating effect of profitability on the relationship between ownership concentration and tax avoidance is insignificant. This implies that the relationship between ownership concentration and tax avoidance of listed companies in Nigeria does not mediate by profitability. This implies that higher ownership concentration has the voting power to regulate and monitored the manager’s action to concentrate on the interest of all stakeholders by taking decision that optimize firm performance which suppresses corporate tax avoidance behavior in the listed companies in Nigeria.

#### 4.3 Testing of Hypotheses

The above results were used to test the three null hypotheses developed in the literature review as follows:

**Table 8 Summary of the Tested Hypotheses**

Hypotheses		Coef.	Z-value	P-value	Decision
OC—>ROA	1	-0.0204	-1.63	0.104	Supported
ROA —>ETR	2a	1.0998	17.64	0.000	Not Supported
ROA —>HSM	2b	-0.2006	-54.64	0.000	
OC—>ETR	3a	-0.0792	-2.66	0.008	Not Supported
OC—> HSM	3b	-0.0052	-2.95	0.003	
OC—>ROA—>ETR	4a	-0.018	-1.640	0.101	Supported
OC—>ROA—> HSM	4b	0.034	1.650	0.099	

**Source:** Researcher’s Compilation, 2024

**Note:** \*\*\*, \*\* and \* indicate 1%, 5% and 10% significant levels respectively.

**HO<sub>1</sub>:** The study fails to reject the hypothesis one; this indicates that ownership concentration has insignificant impact on profitability of listed companies in Nigeria.

**HO<sub>2</sub>:** The study rejects the hypothesis two; this implies profitability has significant impact on tax avoidance of listed companies in Nigeria.

**HO<sub>3</sub>:** The study fails to accept the hypothesis three; therefore, ownership concentration affects tax avoidance of listed companies in Nigeria.

**HO<sub>4</sub>:** The study fails to reject the hypothesis four; thus, profitability does not mediate the relationship between ownership concentration and tax avoidance of listed companies in Nigeria.

## 5. Conclusion and Recommendation

This research presented data and empirical evidence regarding the mediating effect of profitability on the relationship between ownership concentration and tax avoidance of listed companies in Nigeria spanning the period of thirteen (13) years (2010-2022). The study's hypothesis testing reveals several key findings: firstly, concentrated ownership positively influences profitability. Secondly, profitability affects tax avoidance. Thirdly, concentrated ownership influences tax avoidance of the sampled companies in Nigeria for the period under the study. Lastly, profitability does not serve as a mediator on the relationship between ownership concentration and tax avoidance of listed companies in Nigeria. This outcome suggests that when concentrated ownership aligns with profitability that is when the aim is to maximize profit, companies are inclined to engage in tax avoidance to generate more profit, because tax is burden to companies that diminishes shareholder welfare. The study provides evidence to shareholders, management and government that ownership concentration contributes significantly towards tax avoidance practices. Percentage of share held by concentrated ownership above 5% share encourage tax avoidance activities because ownership concentration has a significant negative relationship with tax avoidance, majority shareholders tend to hijack control and influence management to engage in tax avoidance for their own interest instead of minimizing it.

The following recommendations are put out in light of research findings: the management of the listed companies in Nigeria should be encouraged to explore more avenues of tax avoidance strategies, as the schemes improve level of profitability and increase shareholders’ returns on investment. Also, it's important for companies to carefully evaluate and prioritize their use of tax savings in alignment with their overall business strategy, financial goals, and legal requirements. Consulting with tax advisors and financial professionals can provide valuable insights and guidance in effectively utilizing tax savings while ensuring compliance with tax laws and regulations.

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