



Corporate Tax Avoidance and the Cost of Debt Capital of Listed Manufacturing Companies in Nigeria

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Purpose: The study “Tax Avoidance and Cost of Debt Capital in Nigerian Manufacturing Companies” is empirical research that investigates the relationship between tax avoidance and cost of debt capital in Nigerian manufacturing companies.

Design/Methodology: The study uses a quantitative research design, which involves the collection of numerical data to test hypotheses. Specifically, the study uses a correlational design to establish the relationship between tax avoidance and cost of debt capital in Nigerian manufacturing companies. The study uses a purposive sampling technique to select 42 Nigerian manufacturing companies listed on the Nigerian Stock Exchange. The study collected secondary data from the annual reports and financial statements of the selected companies for the period 2011–2020.

Findings: The results of the empirical analysis include the fact that the cost of debt capital was found to have a strong and positive link with tax avoidance. As a result, tax avoidance is regarded as a symptom of rising information risk in Nigerian manufacturing firms, prompting investors to demand a high rate of return. Total accruals also showed a positive and significant relationship between tax avoidance and cost of debt.

Practical Implications: The findings of the study indicate that policymakers may need to implement measures to improve tax enforcement and increase transparency in financial reporting. This could involve increasing resources for tax authorities, strengthening legal frameworks for tax compliance, and promoting better corporate governance practices among companies.

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Introduction

For corporate entities, the choice between debt and equity financing is an important financial decision which affects the firm (Masri & Martani, 2014). Managers will, from time-to-time, make a decision as to the best source of funding for a particular investment. According to Modigliani and Miller (1963), firms that make use of debt financing usually result in an increase in the value of the firm as a result of tax shield. On the other hand, by considering the chances of bankruptcy from financial distress, it will be wise for the firm to reduce the amount of debt. The simple rule is that, firms with high business risk should take on less financial risk (debt) than firms with low business risk, an increase in financial risk will increase the likelihoods of financial distress. Direct bankruptcy costs may seem small, but there could be significant “indirect” cost of financial distress, which could occur even for companies that do not go bankrupt. These might come in the form of a damage to supplier-customer relationship, losses through distress sale of assets, loss of employee morale and managers’ temptation to omit or postpone desirable expenditures. As a result, managers employ optimal financing decisions through an ideal capital structure, taking into account the benefits of tax shelter as well as the risk of financial difficulty.

Corporate taxes is one aspect to consider because they form a significant burden on the firm. Companies utilize existing tax provisions in the tax laws to minimize paying taxes, which constitutes significant burdens to the company. Management, according to Noor et al., (2009), takes advantage of the current tax system to reduce their tax payments to the government. This results in a reduction in taxable income and thereby increases the company’s current profit and it’s after tax value (Noor et al., 2009& Salehi et al., 2019). Chen et al. (2010) pointed that a company’s drive to optimize profit, could lead it to capitalize on the loopholes in the existing tax laws to minimize its tax burden. Company owners may also push managers to engage in aggressive tax avoidance in order to lower their tax liabilities. Fuadah and Kulsum, (2021) however highlighted that, when the costs are directly related to the firm’s tax planning costs, such as adaptation and agency charges, tax avoidance can diminish the firm’s value. According to Graham and Tucker (2006), tax avoidance savings can be factored into productive financial plans as a source of capital, decreasing the firm’s reliance on equity financing or external borrowings.

Because it influences the risk of bankruptcy, agency costs, and information asymmetry costs, a company’s cost of debt is usually dictated by the characteristics of the entity issuing the debts (Bhojraj & Sengupta, 2003). According to Lim (2011), attempts to reduce taxes, such as tax shelter and tax avoidance, have a substitutive effect on debt financing. When a company engages in tax avoidance, it reduces the use of debt financing and thereby increasing the financial slack, lowering the cost and risks of bankruptcy, and improving credit quality, all of which has the effect of lowering the cost of debt (COD). This lends credence to the trade-off theory that tax avoidance will lower debt costs.

This research aims to look into the impact of corporate tax avoidance on debt costs in Nigeria. Tax avoidance and the cost of debt are two important factors that can significantly impact the financial performance of manufacturing firms in Nigeria. Tax avoidance is a common practice among companies in Nigeria, as they seek to minimize their tax liabilities and maximize their profits. Companies use various strategies to achieve this, such as transfer of profit to subsidiaries in tax havens, claiming tax credits and deductions and engaging in tax planning. However, tax avoidance can have negative consequences for the Nigerian economy, as it reduces the government’s revenue and affects its ability to provide public goods and services.

Our study used samples from manufacturing companies listed in Nigeria for a period of ten (10) years, hence it is divided into five sections. The first section offers an introduction and backdrop into the research, while the conceptual framework and hypothesis development are presented in the second section. The research technique is highlighted in the third section, which includes sample selection procedures and variable measurement. The fourth section also discusses the interpretation and analysis of findings as well as the implications for previously

developed research models. The final section discusses the study's conclusions, the implications of findings, the study's limitations and possible future research.

Literature Review

The cost of debt capital (COD)

There are various definitions of the cost of debt in the literature. The cost of debt is defined by Fabozzi et al. (2007) as the desired rate of return on a lender's investment in a company. The cost of debt is the cost usually associated with raising additional fund by issuing debt and is that effective rate, which a company is expected to pay on current debt obligations (Masri & Martani, 2014). In debt financing, a company makes use of either bonds, long and short-term loans or other forms of debt. When a corporation uses debt financing, the effective rate provides an estimate of the real rate that will be paid. According to Kraus and Litzenberger (1973), as debt levels rise, the cost of bankruptcy, financial distress, and agency cost rises as well. As a result, the company's worth will plummet.

Tax Avoidance

Tax avoidance is a concept that has been of interest to both accounting and non-accounting researchers for decades (Dyreng et al. 2019; Kim & Jang, 2018; Sikes & Verracchia, 2020). While Dyreng and Lindsey (2009) and Hanlon and Heitzman (2010) view tax avoidance as a decrease in a company's explicit tax liability, Chen et al. (2010) term it as a tax planning activity that is lawful, or that may fall into the gray area, as well as acts that are illegal. In contrast to tax evasion, which refers to minimizing tax responsibilities, including fraud, tax avoidance refers to minimizing tax liabilities within the framework of the law (Miller & Oats, 2014). Oyebamiji (2016) views tax avoidance as a process of taking the advantage of certain deliberate provisions in a country's tax laws with a clear intent to minimize the tax burden. Tax avoidance is done to lower the amount of tax or cash that a corporation must pay to the government through the tax authority. However, a growing body of research in financial economics stresses the agency cost implications of tax avoidance, implying that tax avoidance does not always boost the wealth of outside shareholders (Wang, 2010). According to this alternative viewpoint, tax avoidance may lead to management rent extraction, which can take many forms, ranging from theft of business earnings and earnings manipulation to exorbitant CEO compensation. Tax avoidance may diminish the firm's after-tax value since the company's total expenditures, which include costs directly related to tax planning efforts, additional compliance costs, and non-tax costs such as agency charges, may exceed the tax benefits for shareholders (Wang, 2010). Tax avoidance could lead to a decrease in the firm's value; if the firm's worth drops as a result of tax avoidance, creditors may be unable to collect principal and interest payments (Shin & Woo, 2017).

Theoretical Background

Agency Theory

Shareholders as the true owners of the company may not be able to oversee the day-to-day activities of the company. They, as such, appoint managers and delegate authority to them in order to make vital decisions for the wellbeing of the company on their behalf under a contractual agreement. One very important goal of firms is generating wealth for its shareholders, however, as a result of existing agency conflicts, it may sometimes be unrealistic, as managers pursue their own goals. The agency theory holds that there is an agency relationship between the principal (owners) and agents (managers) with both in a position to maximize profits (Jensen & Meckling, 1976). The agent frequently has more information than the principal, resulting in information asymmetry and increased monitoring, bonding, and even residual expenses. Tax avoidance and tax sheltering behavior is influenced by agency issues. There is a conflict of interest between shareholders as owners and managers as agents as a result of separation of ownership. Shareholders desire lower tax rates, managers want

higher pay, and creditors want the company to meet its debt commitments, such as paying interest and principal on time.

Trade-off Theory (TOT)

The trade-off theory says that company may choose between the debt and equity financing to keep the cost of capital at a minimum. The classical version of the hypothesis was formulated by Kraus and Litzenberger (1973) as they explained why businesses are often financed by both debt and equity. There is an advantage to debt financing, which is the tax benefit of debt, and there is a cost to debt financing, which includes the costs of financial distress, such as debt bankruptcy costs and non-bankruptcy costs, such as staff leaving, suppliers demanding unfavorable payment terms and losses from distressed asset sales. The marginal benefit of further increases in debt will decline as debt increases while the marginal cost increases. This means that managers could push for more debt financing for the firm as a means of avoiding tax in order to enjoy the advantage that accrues from tax benefits when financed with debt.

Hypothesis Development

The empirical studies of Lim (2011), Kholbadalov (2012), Ahmad and Amininia (2013), Kovermann (2018) and Fitria et al. (2020) examined the influence of tax avoidance on the cost of borrowed capital. These studies discovered a negative association between tax avoidance and debt cost. They show that when corporations participate in tax preparation, they use less debt. According to Kholbadalov (2012), tax savings obtained from tax avoidance activities can be used to fund firm projects without the usage of debt. According to the above-mentioned studies, tax avoidance can lessen a firm's tendency to owe, which will enhance the firm's financial slack, lower the risk of default, and minimize the likelihood of bankruptcy, all of which will have a negative influence on the firm's cost of debt. Since tax avoidance lowers the cost of debt, it supports the trade-off theory hypothesis that the higher the tax avoidance, the lower the cost of debt.

On the other hand, Masri and Martani (2014), Shin and Woo (2017) and Lastiati et al. (2020) all found a positive association between tax avoidance and the cost of debt. Masri and Martani (2014) highlighted that creditors view tax avoidance as a risk, and as a result, tax avoidance behavior raises the cost of debt. According to Shin and Woo (2017) and Lastiati et al. (2020), tax avoidance is viewed by lenders as having a stronger information asymmetry, resulting in higher cost of loan. In conclusion, the current study hypothesizes thus, in accordance with these studies:

Hypothesis 1: Ceteris paribus, tax avoidance has a significant positive effect on the cost of debt capital.

According to Desai and Dharmapala (2009), total accruals can be used to control for other factors such as earnings manipulation. The book tax difference (BTD) can increase by either earnings management, which is management's distortions of the financial records and the increase of opportunistic financial income or by a deliberate decrease of taxable income. This makes BTD not to adequately reflect a firm's corporate tax avoidance. In addition, the deliberate decrease in taxable income can affect the BTD, therefore BTD may not necessarily reflect corporate tax avoidance itself (Desai & Dharmapala, 2009; Kholbadalov, 2012). Based on this, the second hypothesis of the study is formed:

Hypothesis 2: Ceteris paribus, total accruals has a significant positive effect on the cost of debt capital

Material and Methods

The study used data from annual financial statements and reports of manufacturing companies listed on the Nigerian stock Exchange from 2011-2020 where 42 companies were sampled.

Research Model

Here the two hypotheses of the study are both examined. First, the main hypothesis of the study looks at the relationship between corporate tax avoidance and the cost of debt, with the second hypothesis testing the impact of total accruals on the cost of debt. In testing these hypotheses, regression model from Desai and Dharmapala (2009), Lim (2011), Masri and Martani (2014) and Lastiati et al. (2020) were considered. From available literature, the following model is constructed to test hypothesis 1 and 2:

$$COD_{i,t} = \alpha_0 + \alpha_1 BTD_{it} + \alpha_2 TA_{it} + \alpha_3 AGE_{it} + \alpha_4 SIZE_{it} + \alpha_5 ROA_{it} + \alpha_6 TANG_{it} + \epsilon_{it}$$

Where:

COD_{it} = Dividing annual interest expenses by the average short- and long-term debt held throughout the year.

BTD_{it} = Difference between reporting revenue and implied revenue derived from the tax payable and the corresponding tax rate

TA_{it} = Ordinary income minus cash flow from operations

AGE_{it} = Since its inception, the company's age

$SIZE_{it}$ = Natural logarithm of the company's total assets

ROA_{it} = Profit after tax to total assets

$TANG$ = Fixed assets to total assets

ϵ_{it} = Error term of the model.

Variables of the study and their measurement

Dependent Variable

Cost of debt is the dependent variable of the study. The cost of debt for a company occurs as a result of acquisitions of debt in the past (Fitria et al., 2020). Debt which is a source of capital to the firm is acquired from various creditors of the firm, and the firm is obliged to pay the agreed interest and the principal amount at a future date. The cost of debt is calculated by dividing annual interest expenses by the average short and long-term debt held throughout the year.

Independent Variable

The study's independent variable is tax avoidance, which is proxied by the book-tax difference (BTD) and is calculated as the difference between reporting revenue and implied revenue derived from the tax payable and the corresponding tax rate (Desai & Dharmapala, 2009; Masri & Martani, 2014). Total accruals (TA) will also be used as a sub-measure for detecting corporate tax avoidance. This is because other factors, such as earnings management, might have an impact on BTD (Desai & Dharmapala, 2009; Nguyen et al., 2022). Total accruals can be calculated as ordinary income minus cash flow from operations.

Control Variables

The first control variable which is the age of the firm is employed in this study because interest rate will fall over time as businesses build up strong credit histories (Lim, 2011). To measure firm age, the number of years since the firm went public was used. The research also used size as a control variable because there is a link between interest rates and firm size because creditors see larger firms as less risky and there are economies of

scale in loan production costs. As a result, the size of a company has an impact on debt pricing. The natural logarithm of total assets is used to calculate firm size (Lim, 2011). Return on assets (ROA) is a financial performance-based measurement and it is used as a control variable in this study. It is measured as profit before tax divided by total assets, as used by Saifullahi et al. (2015). Lastly tangibility is also used as a control variable and it is measured as fixed assets to the total assets of the firms.

Techniques of Analysis

The influence of tax avoidance on the cost of debt was investigated using descriptive quantitative and regression analysis on a panel data set in this study using STATA 13 software. The advantages of using panel data are contrasted with cross section and time series in order to identify the heterogeneity of individuals, such as the variation in individual characteristics and the impact of various years of observed variable observations. The trend of corporate behavior samples can be observed using this effectively.

Results

Descriptive Statistics

The descriptive statistics of the variables in the study is presented here. To fully understand the nature of the data, central tendency and spread/dispersion within the data are given. Table 1 presents the mean, standard deviation, minimum and maximum of the study variables.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev	Min	Max	Kurtosis	Skewness
COD	420	0.7650	0.9893	0	3.0034	0.1011	0.0000
BTD	420	-0.0259	0.1710	-1.8125	0.6305	0.0000	0.0000
TA	420	-0.2343	0.4705	-3.7068	1.2559	0.0000	0.0000
AGE	420	33.54762	13.27909	2	60	0.0840	0.0000
SIZE	420	10.1399	0.8227	7.7515	11.7897	0.0003	0.1395
ROA	420	0.0682	0.2001	-1.7952	1.3916	0.0000	0.1001
TANG	420	0.4405	0.3798	0	3.7069	0.0000	0.0000

Source: STATA 13 outputs based on the data generated (2022)

From Table 1, it can be seen that the number of observations for COD are 420. It shows that COD has an average mean value of 0.7650 which is the ratio of debt to equity of the sampled firms. When the mean value is compared to the value of standard deviation which is 0.9893, it shows how spread the mean is. The standard deviation of 0.9893 indicates that there is no significant variation in COD between the sampled firms during the period of study. Furthermore, COD has a minimum value of 0 and a maximum value of 3.0034. This indicates that during the study period there are firms that did not borrow for the said period of time.

BTD shows a mean score of -0.0259, a minimum of -1.8125 and a maximum value of 0.631. This suggests a difference between accounting profit and the taxable income of the listed manufacturing firms in Nigeria. The maximum value signifies that the differences between the two incomes of some listed manufacturing firms is 63%. The data deviates from the central figure by 0.171. This indicates a high dispersion among the sampled companies.

Correlation Analysis

The research presents the Pearson's correlation matrix of the dependent and the explanatory variable. Correlation matrix describes the extent of the association and the direction of the relationship among the variables of the study. The value of the correlation coefficient ranges from -1(perfect negative correlation) to 1

(perfect positive correlation). The sign of the coefficient indicates the direction of the relationship and the absolute value of the correlation coefficient indicates the strength of the relationship.

Table 2: Correlation matrix

	COD	BTD	TA	AGE	SIZE	ROA	TANG	VIF
COD	1.000							
BTD	0.127	1.000						1.25
TA	0.348	-0.043	1.000					3.51
AGE	-0.029	-0.035	-0.168	1.000				1.05
SIZE	0.123	0.309	0.125	0.003	1.000			1.16
ROA	-0.072	0.307	0.039	-0.024	0.177	1.000		1.22
TANG	-0.061	0.079	-0.829	0.119	-0.168	-0.171	1.000	3.65

Source: Generated from annual reports and accounts of the sample firms (2022)

The correlation coefficient presented in Table 2 shows that there is a positive association between book tax difference (BTD), Total accruals (TA) and size (SIZE) with the cost of debt (COD) with coefficient of 0.127, 0.348, and 0.123 respectively. Table 2 also shows that age (AGE), return on assets (ROA) and tangibility (TANG) have a negative relationship with cost of debt (COD) with coefficient of -0.029, -0.072 and -0.061.

From Table 2, the result suggests the absence of a multicollinearity problem, as the highest correlation coefficient is 0.079, which is less than the 0.8 threshold (Gujarati, 2004), This is further confirmed by the variance inflation factor (VIF) test carried out which showed a mean of 1.97, as the result of the test is within the acceptable range of less than 5. Hence, the data does not suffer from multicollinearity problems.

Regression Analysis

In order to determine which model to use, ordinary Least Squares (OLS) was carried out, random effects model (REM) and fixed effects model (FEM) tests were also carried out. The results of the Hausman test, Prob > chi2 = 0.0004, shows that FEM is a better fit for the research model. However, the Wald test (Prob > chi2 = 0.0000) result shows evidence of heteroscedasticity. This defect in the model is addressed using the linear regression, correlated panels corrected standard errors (PCSEs) method which is presented in Table 3.

Table 3: Result of the Linear Regression (PCSEs) method

Variable	Expected signs	Coef.	Std. Error	Z	p-value
BTD	-	0.4944	0.2287	2.16	0.031**
TA	+	2.0418	0.1696	12.04	0.000***
AGE	+/-	0.0060	0.0027	2.19	0.028**
SIZE	+/-	0.1311	0.0331	3.96	0.000***
ROA	-	-0.1067	0.1749	-0.61	0.542
TANG	-	1.9414	0.1995	9.73	0.000***

Obs: 420

Number of groups: 42

Time period: 10

Wald chi2(6): 204.89

Prob > chi2: 0.0000

Source: Generated by the author from the annual reports and account of the sampled firms (2022)

From the regression result conducted, book tax difference (BTD) has a coefficient of ($\beta = 0.4944$, $p = 0.031$) this shows that book tax difference (BTD) has a positive and significant impact on cost of debt (COD) at 5% significance level, so also does age (AGE). While total accruals (TA), size (SIZE) and tangibility (TANG) were both positive and significant at 1% level respectively, return on assets (ROA) was negative and insignificant.

Discussion

Based on the result from the table 4.3, book tax difference (BTD) has a coefficient value of ($\beta = 0.4944$, $p = 0.031$) implying that when tax avoidance activities increase, the interest rates of firms will be higher by 3.1%, leading to a higher COD. This result suggests that corporate tax avoidance activities by firms is associated with higher COD, as creditors view tax avoidance activities a risky action, that impairs a company's accounting transparency which further increases the level of information asymmetry caused by agency problems. This result is consistent with agency theory, and with Masri and Martani (2014) and Shin and Woo (2017). The result therefore supports the first hypothesis of the study.

Total accruals (TA), the sub-measure of corporate tax avoidance which is a proxy for earnings management has a coefficient value of ($\beta = 2.0418$, $p = 0.000$) indicating a positive and significant impact. This result suggests that the accruals impact the cost of debt of the sampled firms. When firms engage in earnings management which is the manipulation of financial statements by managers, the participants of the capital market will underestimate the reliability of the accounting information of the company and this causes the cost of debt to increase. This result is in contrast with the result of Kholbadalov (2012) and Nguyen et al. (2022).

The variables under control are age, size, roa and tang. The result indicates a correlation between the control variables (age, size and tang) and COD for the sample firms, while roa indicated a negative relationship with COD. The result therefore supports the second hypothesis of the study.

Conclusion

This research examined the relationship between corporate tax avoidance and cost of debt capital in listed Nigerian manufacturing firms for the period 2011-2020. Using fixed effect model (FEM) with linear regression, correlated panels corrected standard errors (PCSEs) estimation in the research model, tax avoidance is estimated using book tax difference (BTD) and Total accruals (TA) as used in the empirical works of Desai and Dharmapala (2009), Kholbadalov (2012) and Nguyen et al. (2022). While the cost of debt was estimated using annual interest expenses divided by the average short- and long-term debt held throughout the year (Shin & Woo, 2017).

The results of the empirical analysis include the fact that the cost of debt capital was found to have a strong and positive link with tax avoidance. As a result, tax avoidance is regarded as a symptom of rising information risk in Nigerian manufacturing firms, prompting investors to demand a high rate of return. Total accruals also showed a positive and significant relation between tax avoidance and cost of debt. This indicates that accruals of the sampled firms impact on the cost of debt (COD). The findings of the study will have implications for policy makers, investors, and companies operating in Nigeria. Companies may use tax avoidance as a strategy to reduce their cost of capital, but they should also consider the potential costs of tax avoidance, such as reputational damage and regulatory scrutiny. Policy makers should design tax policies that balance the need to raise revenue with the need to attract investment. Investors should consider the level of tax avoidance when making investment decisions and factor it into their risk assessment. The study also recommends that government should implement several measures to curb tax avoidance, such as strengthening tax administration, increasing transparency and introducing anti-avoidance rules. In addition to this, also providing adequate resources and capacity among tax authorities, reducing the complexity of the tax system and providing access to credit.

It has been demonstrated that tax avoidance results in higher debt payment because creditors view the behavior as risky. These findings suggest that Nigeria has not had many tax breaks for manufacturing businesses that could be used as tax havens. Creditors view earnings management for tax purposes, which is carried out prior

to the tax rate reduction, as a natural occurrence and an integral part of tax planning by businesses. In order to address tax avoidance behavior, creditors must take a cautious approach.

Future studies should look into a number of issues regarding corporate tax avoidance and cost of debt in Nigeria as it is known that no study is ever completely conclusive. Future studies should, for instance, look into how tax avoidance affects equity prices at the firm and corporate levels. Future studies might also focus on the connection between institutional ownership, corporate transparency, and corporate tax avoidance. These studies are essential to fully comprehend the effects of corporate tax avoidance.

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