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Effect of Effective Tax Rate on Cash Flow of Manufacturing Firms in Nigeria and Ghana

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ABSTRACT

This study examined the effect of effective tax rate on cash flow of manufacturing firms in Nigeria and Ghana. Ex Post Facto research design was employed. A sample of consumer manufacturing firms was used and data for the study were extracted from annual accounts of the sampled firms of both countries, and the hypotheses were tested with Ordinary Least Square analysis. The result revealed that the sampled firms in Nigeria have a favourable impact on cash flow while that of Ghanaian has not, but their impact was not statistically significant at the 5% level of significance. Shareholders should better understand and weigh the advantages and disadvantages of corporate tax avoidance and make better choices to promote corporate value

Keywords: Effective tax rate, Cash flow and Manufacturing firms

INTRODUCTION

One of the motivating reasons for business decision-making behavior is the tax burden. Due to their size, finance situation, and competitive advantages, businesses have gradually cut their profit margins in response to the fiercer competition in the Chinese market. One of the most significant sources of income for a country is taxation, which is used to pay for both ordinary expenses and budgeting operations. In the meantime, taxes for businesses become a burden that would reduce net income, thus managers must reduce the tax burden as efficiently as feasible to boost competitive efficiency (Mangunsong, 2002). Manipulation is a method for reducing the amount of tax owed by taxpayers, whether it takes place within the parameters of taxes or outside of them. Tax planning is often characterized as the process of minimizing taxes (Rori, 2013). Tax avoidance can lessen tax liabilities in order to raise corporate entity cash flow and enhance firm value. Tax avoidance is a significant factor impacting corporate investment and financing activities and one method of modern business earnings management.

Existing research has also used various tax avoidance techniques using information from publicly traded companies and tabulated tax returns to give light on the topic (Wilson, 2009). These older studies focused on annual reporting assessments of avoidance. Others have also looked at the effects of tax evasion from the agency's point of view on the stock market. Desai and Dharmapala (2009) found no correlation between tax avoidance and firm value; although they argue that it can be advantageous in settings where management opportunism is effectively curbed by monitoring and supervision. Hanlon and Slemrod (2009) suggest that investors are concerned about the potential interrelationship between tax shelters, managerial diversion, and earnings manipulation as they find a negative market reaction to tax shelter disclosure in their study of the market reaction to news about a firm's involvement in tax shelters. On this note, this study examines the effect of effective tax rate on cash flow of manufacturing firms in Nigeria and Ghana.

CONCEPTUAL REVIEW

Tax evasion, which is the willful and illegal circumvention of tax regulations in order to reduce tax liability, is separate from tax avoidance (Bird & Davis-Nozemack, 2018). "Things like municipal bond investments are at one end of the continuum (lower explicit tax, perfectly legal), then terms like "noncompliance," "evasion," "aggressiveness," and "sheltering" are closer to the other end of the continuum," according to Hanlon and Heitzman's (2010) description of tax avoidance strategies.

The methods of tax evasion can be broadly categorized into three categories that have been used in previous studies (Annuar, Salihu, & Obid, 2014). Measures that take into account the wide range of the difference between book and taxable income are included in the first group. The overall book-tax gap, residual book-tax gap, and tax-effect book-tax gap are included in these. Ratios that gauge how much taxes are paid relative to business income are included in the second group. These include effective tax rates (including variations such as Effective Tax Rate (ETR)), ratios of income tax expense to operational cash flow, and ratios of cash taxes paid to operating cash flow. Measures including unrecognized tax benefits (UTB), tax shelter estimates, and discretionary permanent differences (PERMIDIFF)/DTAX are included in the third group (Eze, 2021).

The average tax rate for a firm or a person is known as the effective tax rate. The average tax rate on earned income is known as the effective tax rate for people, while the average tax rate on pre-tax earnings is known as the effective tax rate for corporations. (Jon 2012). The average rate of taxation on

earned income for an individual or the average rate of taxation on pre-tax profits for a corporation is known as the effective tax rate. This has been used to measure a reflection of tax planning that lowers a firm's tax liability without necessarily lowering its accounting income in earlier research including Rego (2003), Khaoula, Amor & Ayed (2013), and Seyram & Holy (2013). In essence, Corporate ETR evaluates tax performance. As a result, it is the most accurate indicator of the true costs of corporation taxes. ETR is a widely used indicator of a company's tax burden. The amount of taxes paid by a business in relation to its earnings before taxes is described by ETR as a fundamental summary statistic of tax performance. According to Khaoula, Amor & Ayed (2013), aggressive tax planning using permanent book tax differences, this measure Taxes paid/Profit before taxes are used to calculate the ETR.

Cash Flow

Coins, foreign currencies, checks held by the business, and bank account balances are all included in the definition of cash (Nwarogu & Iormbagah, 2017). The importance of cash flows cannot be overstated, according to Narkabtee (2000), primarily because accounting information users are particularly interested in the cash of the company that is disclosed in its financial statements. The net amount of money and money equivalents coming into and going out of a business is called cash flow. The "pool of funds that the company commits to its fixed assets, inventory, account receivables, and marketable securities" are referred to as the cash flows of an organization (Uremadu, 2004). Harahap (2007) states that activities included in this group include the primary activity for generating income as well as additional activities like transactions and events that are not considered to be investments or sources of finance. Included in this operation are production, delivery, and service. The primary sources of cash flow for this operation are transactions and other activities that increase income (Udeh & Eze, 2021).

Empirical Review

In their study from Gina, Ogbodo, and Nwant (2021) looked at how business characteristics affected the tax-aggressiveness of listed commercial banks in Nigeria. A random sample of 13 listed commercial bank companies that are mentioned on the Nigerian Stock Exchange makes up the sample size. The study employed secondary data that was taken from the annual reports and financial statements of the chosen banks over a nine-year period between 2012 and 2020. Descriptive statistics, correlation, and a panel data regression technique that was dual estimated to capture the samples were used to evaluate the panel data. The results of the Nigerian model demonstrated that, while firm leverage and profitability have strong positive connections, has negligible positive correlations to tax evasion. Gina and Ekwueme (2021) used firm size and firm age as a proxy for firm attribute to evaluate the impact of firm attributes on tax aggressiveness of publicly traded Commercial Banks in Nigeria and South Africa. The study used a cross-country comparative analysis approach using a longitudinal research design. The sample size is made up of an equal number of the 13 commercial banks listed on the Johannesburg Stock Exchange in South Africa and the 13 commercial banks listed on the Nigerian Stock Exchange. The study employed secondary data that was taken from the annual reports and financial statements of the chosen banks over a nine-year period between 2012 and 2020. In order to fully represent the samples from both countries, the panel data were examined using descriptive statistics, correlation, and panel data regression. The results of the Nigerian model demonstrated that while firm size had strong negative effects on tax aggression, firm age shown significant positive connections with this trait. The results of the South African model demonstrated that tax aggression has a substantial positive connection with firm size but a large negative link with firm age. Eze (2021), studied the effects of corporate tax evasion on the cash flow financing performance of listed manufacturing businesses in Nigeria Ex-Post Facto study design was selected as the investigation's method. The sixty-two (62) companies for the study were selected through purposeful sampling with the underlying premise that they were manufacturing firms (based on the nature and description of activities). The multiple regressions were used to validate the hypothesis. E-Views, a statistical program, was employed in the analysis. The analysis discovered a statistically significant correlation between the financing cash flows of listed manufacturing firms and the book tax difference, effective tax rate, and correlation. The impact of CEO duality on the effective tax rate of listed food and beverage companies was examined by Ezejiofor and Ezenwafor (2021). During the data gathering phase, nine (9) companies were chosen using a purposive sample technique. Data were gathered from the sampled companies' annual reports and accounts, from 2013-2019. With the use of the e-view, the study's data were analyzed using descriptive statistics and regression with a 95% confidence level at five degrees of freedom (df). The findings demonstrate that CEO duality had a positive coefficient and was significant for Nigerian food and beverage companies' tax planning. Nweze, Ogbodo, and Ezejiofor (2021) looked at how tax revenue in Nigeria affected per capita income from 2000 to 2019. This study made use of time series data and an ex-post facto research methodology. According to the study, tax revenue significantly increased Nigeria's per capita income. A study named "Effect of cash flow management on financial performance of listed companies at Nairobi Securities Exchange, Kenya" was undertaken by Stom and Wepukhulu in 2019. The study uses correlational and haphazard research designs. 54 companies listed on the Nairobi Securities Exchange made up the sample. The study was based on secondary data from the 2013 to 2017 financial statements of the companies. The technique of multiple linear regression was used to evaluate the data. The findings indicated a considerable positive association between financial performance and cash flow from financing activities. Erhirhie, Oraka, and Ezejiofor (2018) used a sample of manufacturing firms registered on the Nigerian Stock Exchange to assess the impact of corporate tax on financing decisions of manufacturing firms (NSE). Data were taken from the annual reports and financial statements of three particular manufacturing enterprises, using an ex post facto research design, and were then analyzed using a linear regression model. Their research revealed no conclusive link between corporate tax, dividends paid by Nigerian Breweries Plc, Dangote Cement Plc, and PZ Cussons Plc, and the issuing of new common shares, retained earnings, and long-term debt. A study named "Empirical analysis of the relationship between cash flow management and financial performance of the Jordanian insurance businesses" was undertaken by Alslehat and Al-Nimer (2017). The study uses a descriptive analytic methodology. 23 insurance firms made up the sample. Secondary data from annual reports and accounts from 2009 to 2013 were used in the study. The technique of multiple regression was used to analyze the data. The findings revealed that ROA was not significantly negatively impacted by net cash flows from financing operations. The impact of the Tertiary Education Tax Fund (TETFUND) on management in Nigerian tertiary education is examined by Oraka, Ogbodo, and Ezejiofor (2017). The study specifically aimed to ascertain whether the enrolment ratio at Nigerian Tertiary Institutions is considerably impacted by ETF fund allocations to Nigerian Tertiary Institutions. In companies listed on the Tehran Stock Exchange, Hossein and Gaskari (2016) examined the impact of cash flow volatility and financial leverage on earnings management

(TSE). The standard deviation of cash flows is used to calculate cash flow volatility, and a modified Jones model is used to calculate organizations' rates of earnings management. For evaluating the link between variables and testing the research's hypotheses, For the period 1386–1390 (2007–2011), the data of 90 companies registered on the Tehran Stock Exchange (TSE) were used as a sample, and multivariable regression was used to analyze the combined data. Chow and Hausman tests were utilized to estimate the appropriate models of hypothesis testing in combined data. The findings of model estimate typically point to the validation of research hypotheses. Accordingly, "cash flow variations" in the investigated organizations have a substantial positive effect, while "leverage ratio" has a big negative influence on managing earnings. They used a survey and a time series study design. Financial ratios were used to gather data from the National Bureau of Statistics, which were then tested using regression analysis and the SPSS statistical software version 20.0. According to the data, there is no relationship between the allocation of ETF funds to Nigerian tertiary institutions and their enrolment rate.

METHODOLOGY

Ex post facto research design which is the aspect of statistic that involves the various techniques of describing data collections has been adopted for the purpose of this research. This design enabled the researcher to describe and summarize the data collected for the purpose of this study.

Population of the Study

The population of the study comprised quoted consumer goods manufacturing firms on the Nigerian Stock Exchange (NSE) as at end of 2019 financial year. This quoted consumer goods manufacturing firms are twenty one (21)

Source of Data

The data were obtained from financial statements of quoted consumer goods sector companies. Data extracted includes: Effective tax rate, book-tax – difference and cash flow for the period 2012 to 2020 (nine years).

Model Specification

In testing for the value relevance of corporate tax avoidance and in testing for the moderating effect of agency cost mitigating variables on the nexus, the study adapted firm-value model originally derived from Ohlson (1995) and have been widely used in value relevance studies including those that relates to tax avoidance as used by Abdul Wahab and Holland (2012). Their model centered on Tax Planning, and given as:

The study modifies the above model to reveal moderating effects of corporate governance on the impact of tax planning on firm value.

FMV = β0+ β1 BVEit + β2 CTAit-1 + β3COGit + β4 PFTit + β5 CAPINTit + β6 LEVit

+ β7 EXGit + β8 CTA it-1 *COGit + β8 MVEit DIV + AGE + εit 1

The model was modifies thus:

$CFL_{it} = \beta_0 + \beta_1 ETR_{it} + \mu_{it}$ - - - - - - i

Where:

CLF= C ash flow

ETR =Effective tax rate

Method of Data Analysis

Regression analysis was used to analyze the data collected for the study. This was done with aids of the E-view 9.0. The hypotheses were tested at 95% confidence level.

Decision Rule

The alternative hypotheses is to be accepted if the p-value is less or equal than the alpha and to be rejected the if the p-value is greater than alpha at 5% significance level.

ANALYSIS OF DATA

	CFLG	ETRG	CFLN	ETRN
Mean	40062889	0.087889	7117362.	0.769000
Median	10924000	0.031000	8905100.	0.770000
Maximum	3.33E+08	0.627000	71950349	2.230000
Minimum	-2.08E+08	-0.636000	-1.24E+08	0.110000

Std. Dev.	1.70E+08	0.355675	63247087	0.691865
Skewness	0.325744	-0.517560	-0.939924	0.948700
Kurtosis	2.189355	3.294770	3.016377	3.170252
Jarque-Bera	0.405593	0.434385	1.325286	1.360916
Probability	0.816445	0.804775	0.515487	0.506385
Sum	3.61E+08	0.791000	64056262	6.921000
Sum Sq. Dev.	2.32E+17	1.012035	3.20E+16	3.829412
Observations	9	9	9	9

Source: Researcher's computation (2022) using E-Views 9.0

Interpretation

This study considered descriptive statistics (mean, standard deviation, minimum and maximum) for Nigerian companies from 2012 to 2020. Table 2 depicts cash flow (CFLN) to have an average mean of 7117362.0 with a minimum of -0.125, a maximum of 71950349.0 and at a standard deviation of 63247087.0.book tax difference (BTDN) has an average mean of 0,060 with a standard deviation of 0.82 a minimum of 10.0 and a maximum of 1.375.

On the average in Ghanaian, cash flow (CFLG) stood at 40062889.0, the minimum of -2.09 while the maximum stood at 3.34 and standard deviation is 1.71. Similarly, on book tax difference (BTDG), the results showed that on the average, the mean value of 4.67 with a standard deviation of 0.92, a minimum value of 2.82 while the maximum value stood at 5.67.

Test of Hypotheses

Table 2: Regression analysis between Nigerian ETR and CFL

Dependent Variable: CFLG
Method: Least Squares
Date: 08/28/22 Time: 23:10
Sample: 2012 2020
Included observations: 9

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	27890093	59995843	0.464867	0.6561
ETRG	1.39E+08	1.73E+08	0.800273	0.4499

R-squared	0.283822	Mean dependent var	40062889
Adjusted R-squared	-0.247061	S.D. dependent var	1.70E+08
S.E. of regression	1.74E+08	Akaike info criterion	40.98137
Sum squared resid	2.12E+17	Schwarz criterion	41.02519
Log likelihood	-182.4161	Hannan-Quinn criter.	40.88679
F-statistic	0.640437	Durbin-Watson stat	1.913045
Prob(F-statistic)	0.449854		

Source: Researcher's computation (2022) using E-Views 9.0

Table 3: Regression analysis between Ghanaian ETR and CFL

Dependent Variable: CFLN
Method: Least Squares
Date: 08/28/22 Time: 23:11
Sample: 2012 2020
Included observations: 9

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	19226198	34320923	0.560189	0.5928
ETRN	-15746211	34035352	-0.462643	0.6577

R-squared	0.229670	Mean dependent var	7117362.
Adjusted R-squared	-0.308949	S.D. dependent var	63247087

S.E. of regression	66603384	Akaike info criterion	39.05954
Sum squared resid	3.11E+16	Schwarz criterion	39.10337
Log likelihood	-173.7679	Hannan-Quinn criter.	38.96496
F-statistic	0.214038	Durbin-Watson stat	3.100485
Prob(F-statistic)	0.657658		

Source: Researcher's computation (2022) using E-Views 9.0

In Table 2, R-squared and adjusted Squared values were (0.284) and (0.247) respectively. This indicates that the independent variable, effective tax rate (ETRN) jointly explain about 25% of the systematic variations in dependent variable, cash flow (CFLN) of our samples companies in Nigeria over the nine years periods (2012-2020).

Test of Autocorrelation: using D.urbin-Waston (DW) statistics which we obtained from our regression result in table 2, it is observed that DW statistics is 1.913 and an Akika Info Criterion and Schwarz Criterion which are 40.981 and 41.025 respectively also further confirmed that our model is well specified. In addition to the above, the specific finding from the explanatory variable is provided below.

Based on the Coefficient value of 1.390, t-value of 0.800 and p-value of 0.450 was found to have a positive effect on our sampled Nigerian companies and this effect was not statistically significant as its p-value is higher than 0.05 values.

In Table 3, R-squared and adjusted Squared values were (0.230) and (0.309) respectively. This indicates that the independent variable, effective tax rate (ETFG), jointly explain about 31% of the systematic variations in dependent variable, cash flow (CFLG) of our samples companies in Ghana over the nine years periods (2012-2020).

Test of Autocorrelation: using Durbin-Waston (DW) statistics which we obtained from our regression result in table 3, it is observed that DW statistics is 3.100 and an Akika Info Criterion and Schwarz Criterion which are 39.060 and 39.103 respectively also further confirmed that our model is well specified. In addition to the above, the specific finding from the explanatory variable is provided below.

The Coefficient value is -15746211.0, t-value of -0. 462643 and p-value of 0.658, was found to have a positive effect on our sampled Ghanaian companies and this effect is not statistically significant as its p-value is less than 0.05 values.

This result from table 2 and 3 shows that effective tax rate of the sample companies in Nigeria has a positive effect on cash flow while that of Ghana has a negative effect on cash flow, however, their effect was not statistically significant at 5% level of significance. Therefore, the study accept our null hypothesis which states, that effective tax rate has no significant different between Nigerian and Ghanaian companies cash flow.

CONCLUSION AND RECOMMENDATION

This study examined the effect of effective tax rate on cash flow of manufacturing firms in Nigeria and Ghana. To ascertain whether there was a significant difference between the variables, the data were extracted, and hypotheses were tested with Ordinary Least Square analysis. The hypotheses result revealed that the sampled firms in Nigeria have a favourable impact on cash flow while that of Ghanaian has not, but their impact was not statistically significant at the 5% level of significance. This is partly in line with a study by Ogbeide and Akanji (2017) who found a non-significant positive effect of financing cash flow. Shareholders should better understand and weigh the advantages and disadvantages of corporate tax avoidance and make better choices to promote corporate value.

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