

Corporate Effective Tax Rates in the Financial Services Sector: Evidence from Nigeria

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Abstract

This study determines the Effective Tax Rates (ETRs) being experienced by firms within the financial services sector. It also examines the neutrality and the determinants of these rates. The study adopts a micro-backward looking approach. Data were extracted from the annual reports of sample firms which cut across the sub-sectors of monetary intermediation, insurance and auxiliary services from 2010 to 2013. GAAP ETR and CASH ETR were separately regressed against firm size, firm leverage, capital intensiveness, nature of business and profitability in a Pooled OLS Multiple Regression Model. Finding suggests that both variants of ETR were below the Statutory Tax Rate through-out the period of study. It further shows that the monetary intermediation sub-sector bears a lower ETR than the insurance sub-sector while auxiliary services sub-sector pays the highest effective tax and that there is tax dispersion within the sector. The regression results show that profitability, firm leverage and capital intensiveness as the determinants of the both GAAP ETR and CASH ETR. The robustness checks in a Random Effect Model, to a large extent, confirm the OLS results. Findings also provide evidence to support the political clout theory. The policy implication of the findings lays in the need for further tax incentives for the auxiliary services sub-sector.

Keywords: Financial services, effective tax rates, profitability, micro-backward approach, determinants.

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1. Introduction

The issue of how much tax is payable is a prominent variable in the decision equation of which economy to invest in or which sector of the economy should the investment be put (Nicodeme, 2001). And it has long been recognized that the relevant tax rate in investment choice decisions is the Effective Tax Rate rather than the Statutory Tax Rate (Jacob & Spengel, 1999). In view of the importance of Effective Tax Rate to investors, the US Security and Exchange Commission (SEC) in 1973 in its Accounting Series Release (ASR) No 149 requires disclosure of information pertaining to corporate effective tax rate (ETR) in published financial statements of listed companies. This issue has also gained the interest of researchers across the globe, and many studies have investigated several aspects of this tax rate. For example Hullen and Wykoff (1981) investigate ETR on assets; Kiefer (1980), Hullen and Robertson (1984), Stickney and Tower (Jnr) (1978) in various types of industries; Rohaya, Mastuki and Bardai (2008), Wang, Campbell and Johnson, (2014), Sebastine (2012) in national economies while Jacobs and Spengel, (1999), Buijink, Jensen and Schols (1999), Collins and Shackelford (1995) did cross national investigations of ETRs.

However, most of these studies have not captured the financial sector in their samples. For example, Buijink et al (1999) exclude the financial services sector firms from their study on the ground of financial reporting requirements differences which make comparison with other companies difficult. The exclusion by Quinn and Shapiro (1991) is based on the low capital intensiveness of the sector. Undoubtedly, these reasons are not strong enough to preclude an examination of ETRs in financial services sector, at least exclusively. Especially that Kiefer (1980) examined it in public utilities; Hullen and Robertson (1984) in high technology industries and Stickney and Tower (Jnr.) (1978) in the petroleum industries. It has not come to our knowledge a holistic study of ETRs in the financial services sector. What has come to our notice, that is close, in this respect, is the study of Diaz, Rodrigwz and Ario (2011) that examines ETRs in the banking sector of the Spanish economy. Further, Ekoja and Jim-Suleimaan (2014) measure the impact of competition on tax avoidance, using ETR as a proxy for avoidance, in the banking sector in Nigeria. The need for this type of exercise in the financial sector can, therefore, not be over-emphasized.

This is reinforced in view of the facts that firms in this sector are usually subjected to a system of taxation different from other firms in most economies in addition to the important role it plays as financial intermediaries in any economy which oils economic growth and development. Indeed, Akabike (2014) opines that the special procedures prescribed for the taxation of firms within this sector by the Nigerian companies income tax law is due to the recognition of their unique and peculiar nature. Therefore, this study advances literature by focusing on ETRs (as compared to the Nominal or Statutory Tax Rate (STR) in the Financial Services Sector (FSS) of the Nigerian economy, as well, it studies the neutrality of taxation and the determinants of ETR in the sector.

The significance of this study lies, first, in the determination of the tax burden being experienced by firms within the FSS with its attendant effects on the amount of investments going in and out of the sector. Second, it provides an understanding of dispersion in ETR within the sector, the type of differences which are usually submerged in cross-sectional studies that most studies on ETR represent. Finally, the result of the studies is indicative of the tax policy reforms that may be required within the sector.

Further discussions in the study proceed as follows. Section 2 provides a review of the concept of ETR and related studies. Section 3 describes the data collected and methodology adopted. Section 4 discusses the results of the empirical investigation; and last section provides concluding remarks.

2. Literature Review

2.1. Corporate Effective Tax Rate

Three approaches have been used in determining effective tax rate; the micro-backward looking, the macro-backward looking and micro-forward looking approaches. The difference between the micro and macro approaches has to do with the type of data use. While macro approach uses macro-economic data such as National Income and Product Accounts, the micro approach uses company level financial statements either individual companies or aggregate industrial sector (Weiss, 1979; Nicodeme, 2001; Jacobs & Spengel, 1999).

The backward looking approach represents ex-post facto analyses which measure the effective tax burden in tax policies using tax rates derivable from existing firms' data (OECD, 1999). The micro-backward looking approach uses either company level data or consolidated data (Buijink et al, 1999). Prominent studies that have used this micro backward method to determine ETR include: Collins and Skackelford (1995, 2003), Rohaya, et al (2008), Dyreng, Hallon and Maydew (2008, 2010).

The drawback of this method lies in the lack of precise definition of the numerator and denominator in an ETR ratio. Nicodeme (2001) offers three options in this regard. The first option is to compute ETR as a ratio of tax paid to pre-tax profit before extra-ordinary items. This definition also known as Cash ETR seems to have received wide acceptance and has been used in various studies including Dyreng et al (2008, 2010), Wang et al (2014). The second option is to measure ETR as tax paid to turnover and as Nicodeme (2001) himself noted, the use of this measure leads to misinterpretation as information on cost is lost. The third option computes the ratio of tax paid to gross operating profit, that is, the operating profit before deduction of interest, depreciation, and other administration and selling costs. This may not be the best of definitions as a comparison with standard or nominal tax rate may not be appropriate since standard tax rate is levied on a profit after considering these items. Marinez-Mongay (2000) applied this formula in his study, so also Buijink et al (1999).

Some other definitions available in literature include that provided by Accounting Standard Report (ASR) 149 as the ratio of tax expenses divided by book income before tax. And tax expense has been defined by International Accounting Standard (IAS) No 12 as the addition of current tax expenses and deferred tax expenses. This is usually referred to GAAP ETR since it is a definition based on accounting standards. Other as used in Rohaya et al (2008) is current tax expenses divided by pre-tax income.

The macro-backward approach involves the determination of tax burden from tax rate derivable from national accounts which include gross domestic products, gross domestic profit of all companies operating in the economy and capital factor value added (Mendoza, Razin & Tesar, 1994; Jacobs and Spengel, 1999). Studies like Gordon and Tchilinguirian (1998); Mendoza et al (1994); Martinez-Mongay and Fernandez (1999) are based on this approach. Various yardsticks have also been used to measure ETR under this concept.

Mendoza et al (1994) and Gordon and Tchilinguirian (1998) suggest a measure that relates the summation of taxes on profits, income, capital gains to the summation of gross operating surplus of all companies, while Martinez-Mongay (1998) relates taxes on corporations to gross operating surplus of incorporated companies only. This method has been commended for easy access to data type needed for analyses as they are readily available (Nicodeme, 2001). More so, ETR from this concept serves as a good indicator on which economy to invest but it fails to show which sector of the economy to invest. The forward-looking approach assumes hypothetical situations and based on the theoretical features of the national tax system; determine the tax burden implicit in a project, investment or company. Prominent studies that have adopted this approach include Channel and Griffith (1997), Gruevski (2013) and Bretschger and Hettich (2005).

There are two measures of ETR under the forward-looking approach- the Effective Marginal Tax Rate (EMTR) and the Effective Average Tax Rate (EATR) (Nicodeme, 1999). On the one hand, the EMTR as advocated by King and Fullerton (1984), represents the measure of marginal rate of return on invested capital (in terms of cash inflow streams) that will equate the marginal cost, that is, the rate of return under which the Net Present Value (NPV) will be zero. This is the implicit Internal Rate of Return (IRR) from specific investment using specific source of capital that equates market rate of return (Jacobs & Spengel, 1999). The main assumption here is that there is no economic rent on the project. An EMTR ratio is the pre-tax return less post-tax return divided by the pre-tax return (King & Fullerton, 1984). On the other hand, EATR, as pioneered by Devereux and Griffith (1998), measures the tax burden of a project that exceeds the capital invested considering economic rent. It is calculated as the ratio of future tax liabilities of a project divided by the pre-tax profit over its expected life or the relationship of the present value (PV) of tax payment and projected profit (OECD, 1999). King (1985) and Klemm (2012) adopt this definition of ETR. This study is based on a micro-backward looking approach and adopts the CASH and GAAP variants of ETRs.

2.2. Related Studies

Kiefer (1980) traces the ETR in the primary sub-sectors of public utility sector of the US economy from 1954 to 1978. It adopted two variants of ETR: the actual and the inflated.

The findings suggest that both measures of ETR witnessed steadily decline from 1954 to 1978 for all the sub-sectors of electric utility, telephone, and gas with occasional increase in between. This study neither discloses the Statutory Tax Rate (STR) during the study period for the purpose of comparison nor produces the industrial average ETR of the sector for the period of the study. The study of Diaz et al (2011) analyses the determinants of ETR for the banking sector of the Spanish economy using panel data. It finds that the ETRs for the two sub-sectors (banks and saving banks) examined were 10% lower than the STR, and that the determinant of ETR to include type of entity, breakdown of assets and liabilities and that the capital structure plays prominent role in determining the ETR. Hullen and Robertson (1984) investigate the ETR in the manufacturing industry with special emphasis on the high-technology sector. Their findings show that the high-technology sector had the highest ETR in the industry and even higher than the industrial average during the period of the study.

Chowdhury (1988) examines the effective indirect tax rates for final products in Bangladesh for 1984/85 fiscal year, using country-wide input and output data. These he compares with STRs and finds that the ETRs on products are lower than the STR, at varying degrees between commodity groups. Within the framework of micro-backward looking approach, Sebastian (2012) determines the rate at which listed companies in Romania effectively pay tax. Albeit the result shows a declining ETRs (which were lower than the STR) during the study period, the STR was lower than the ETR in the last year of the study which the author attributed to the financial crisis that hit the country during that year. Although these studies find dispersion in ETR within products and sectors, they fail to investigate the factors responsible for these discrepancies.

In addition to ascertaining the ETRs between 1993 and 1996 in Australia, Haris and Fenny (2000) established that interest payment, Research and Development (R&D) expenditure, foreign operations, stock market listing, and a number of subsidiaries drive ETRs away from STR in Australia economy. Wang et al (2014) examine the ETR of listed companies in China and investigate the causes of differences of ETR in the various sector of the China economy adopting two measure of ETR (GAAP and CASH ETRs). Their findings show that real estate has highest CASH ETR, and GAAP ETR and the agricultural sector has lowest ETRs.

Leverage and asset mix are positively related to both measure of ETR, while state control is positively related to cash ETR but not GAAP ETR and firm size is positively related to GAAP ETR but not to CASH ETR. However, in an earlier study, Liu and Cao (2007) did not find any significant relationship between firm size and asset mix (capital intensiveness) and ETR while leverage has a negative impact on ETR. These conflicting results may be definition related. Liu and Cao define ETR as tax expenses less deferred tax provisions over earnings before interest and tax. The Nicodeme (2001)'s contention that different definitions of ETR produce different results would seem to have played out here. Dyreng et al (2008) document the positive effect of firm size, return on assets, leverage, R&D expenditure on cash ETR and negative effect of advertising expense. They also document the positive effect of individual executive on ETR in their 2010 study. In the study of Rohaya et al (2008) firm size and return on assets were found to be strongly related to both measures of ETR used in the study.

3. Methodology

3.1 Data

As a micro-backward looking study, data were extracted from the financial statements of firms listed within the Financial Services Sector (FSS) on the Nigerian Stock Exchange (NSE). The financial statements were obtained from the exchange and complemented for missing data from financial statements obtained from www.africanfinancials.com from 2010 – 2013. The scope of the study is so restricted in view of the consolidation exercise in the sector which finally ended in 2007. One effect of this exercise is the considerable reduction in the number of operators within the sector. Additionally, the Central Bank of Nigeria (CBN)'s directive to banks to prepare accounts to 31st December each year, which took effect from 2009, made some banks to prepare two sets of accounts in 2009. The importance of the exclusion of 2009 from the study lies in the avoidance of complicated calculations that may result from the need to merge and demerge accounting periods' results.

This study relies on company level panel data as unconsolidated data better captures the specifics of the firm and enhances comparability of data over the years (Sebastian, 2012),. In fact using such extends the amount of data available for the study since some companies report consolidated losses while there were unconsolidated profits.

Albeit data were retrieved for a period of four years, the analysis was only for three years. This is in view of the fact that tax paid, an element in a dependent variable of the study, on the result of activities of one year can only be ascertained in the following year since firms in Nigeria are assessed to tax on a preceding year basis (Ariwodola, 2005)

3.2 Sample Selection

Fifty-five quoted firms were listed in the FSS in the Nigerian Stock Exchange (NSE) Fact Book of 2012. This is made up of 16 firms in the banking sub-sector, 30 in the insurance carrier, brokers and services, 4 in the mortgage carrier, brokers and services and 5 in other financial institutions sub-sector. However, the examination of the impact of nature of business on ETR in this study necessitates a re-classification of firms within FSS to meet the International Standard Industrial Classification of Economic Activities so as to enable the allocation of the necessary double digit numbers. Hence, FSS firms were re-classified into three: Monetary Intermediation (banking services); Insurance, re-Insurance and Pension Funding except compulsory social security (insurance services) and Activities Auxiliary to Banking Services and Insurance Activities (mortgage and other financial institutions), (UN, 2008).

To be included in the sample a firm must have complete financial statements for the period of study and must have made profit during the period since, in the opinion of Wilkie and Limberg (1993) ETR is meaningless when profit is negative. Only 24 companies meet these conditions and they represent the sample of the study. This final sample is made up of 8 firms in the Monetary Intermediation (MI) sub-sector, 15 in the Insurance, re-Insurance and Pension Funding (IRP) sub-sector and 1 in Activities Auxiliary to Banking Services and Insurance Activities (ABI) sub-sector.

3.3 Measurement of Effective Tax Rate

The study employed two measures of corporate ETR, namely; the GAAP ETR (GETR) and the CASH ETR (CETR). Apart from improving the robustness of the results of the study as observed in Kim and Limpaphayom (1998), examining these two variants of ETR may suggest the better measure of ETR since arguments have been advanced for and against each measure. The ETR model with a better fit would seem to portend a better definition.

On the one hand, GETR is here defined as current tax expenses plus deferred tax provision divided by profit on ordinary activities before tax and is represented by:

$$\text{GETR}_{it} = \frac{\text{TE}_{it}}{\text{PBT}_{it}}$$

Where GETR_{it} is the GAAP ETR of the i th company at time t ; TE_{it} is the initial tax expenses which are comprised of the current tax expenses and deferred tax provision of the i th company at time t ; and PBT_{it} is the profit before tax of the i th company at time t .

On the other hand, CETR is defined as cash taxes paid on the year's results divided by the year's pre-tax accounting income (Wang et al 2014). CETR is represented by:

$$\text{CETR}_{it} = \frac{\text{TP}_{it+1}}{\text{PBT}_{it}}$$

Where CETR_{it} is the Cash ETR of the i th firm at time t ; TP_{it+1} is the cash tax paid by the i th company at time $t+1$ on the profit of time t ; PBT_{it} is the profit before tax on ordinary activities of the i th company at time t . Cash tax actually paid, which is different from the estimated tax expenses under GETR, may better represents tax burden and can be obtained from the statement of comprehensive cash flow and notes to the financial statements. Nicodeme (2001) commends this, CASH ETR, as the best measure of corporate ETR under micro backward looking approach and the noted flaw may not be applicable to this study since it is not a cross-national study.

Following the procedure established in Gupta and Newberry (1997), companies having negative ETR are scored as zero ETR and companies having ETR higher than 100 per cent are score 100 per cent.

GETR and CETR are computed for the individual year of the study period (2010 – 2012) and compared with STR for the period which had remained stable at 30% through the period. Comparing them with STR reveals whether there are tax incentives granted to operators within the financial services sector of the economy. Without tax incentives, the ETR and STR should be the same. The magnitude of the differences shows the significance of the tax incentives or the lack of it (Buijink et al, 1999).

3.4 Model Specification

From a review of various studies on determinants of ETR, the impacts of the following variables on ETR were investigated in this study.

Other commonly investigated determinants were omitted either because they are not applicable to financial sector firms or because they are not tenable in Nigerian environment. For example, Research and Development (R&D) was excluded because no firms in the FSS report R&D expenses during the period of study.

- i. Firm size (SIZ). Firm size is measured as a natural logarithm of net turnover, which is the equivalent of the addition of net interest and net commission of firms within the FSS. (Buijink *et al*, 1999; Liu & Cao, 2007)
- ii. Leverage (LEV). This is measured as total liabilities divided by total assets. (Liu & Cao, 2007; Noor *et al*, 2008)
- iii. Capital intensiveness (CAPIN). This is measured as the ratio of property, plant and equipment to total assets. (Noor *et al*, 2008; Wang *et al*, 2014)
- iv. Profitability is proxied by Return on Assets (ROA) and it is defined as the ratio of profit on ordinary activities before tax to total assets. (Liu & Cao, 2007; Noor *et al*, 2008)
- v. Nature of business, proxied by the industrial sub-sectorial classification of a particular firm, is in accordance with the two digits International Standard Industrial Classification of Economic Activities (SIC) by the United Nations (2008). (Buijink *et al*, 1999)

The firms are coded as follows:

Monetary Intermediation SIC code 64, Insurance, re-insurance and pension funding SIC code 65, and Activities auxiliary to banking services and insurance activities SIC code 66.

To establish the possible multivariate relationship between these variables and the two measures of ETR, the following model is estimated and tested in a Pooled OLS multiple regression models.

$$\text{ETR}_{it} = \beta_0 + \beta_1 \text{SIZ}_{it} + \beta_2 \text{LEV}_{it} + \beta_3 \text{CAPIN}_{it} + \beta_4 \text{ROA}_{it} + \beta_5 \text{SIC}_{it} + \epsilon_{it}$$

..... (i)

Where **ETR** means **GETR /CETR**, β_0 is the constant, $\beta_1, \beta_2, \dots, \beta_5$ are coefficients, **SIZ** represents firm size, **LEV** is firm leverage, **CAPIN** is capital intensiveness, **ROA** is return on assets, **SIC** is the industrial classification code, ϵ is the error term, i is the i th firm and t is the firm years between 2010 and 2012.

3.5 Robustness Test

A robustness test was conducted on the Pooled OLS results by re-estimating the relationship between the two variants of ETR and the independent variables in Random Effect Models (REMs). (The result of the Hausman Test conducted shows a preference to REM against Fixed Effect Model). REMs have the advantages of considering both observed and unobserved characteristics in the multiple regression models, consider the possibility of non-linearity in relationship between the dependent and independent variables and control for non-normality in distribution of data (Rohaya et al, 2008; Feeny, Gilman & Haris, 2006; Gupta & Newberry, 1997). The results of the Pooled OLS models and REMs were then compared as a robustness check.

4. Results And Discussion

4.1 Empirical Results

To address the first objective of determining the tax burden being experienced by firms within the financial services sector, the two variants of ETR (GETR and CETR) were calculated and compared with the respective Statutory Tax Rate (STR) of the period of study, 2010 – 2012. In 2010, the average GETR was 18.78% and the average CETR was 16.63% while GETR returned 21.48% and CETR 19.71% in 2011. In 2012, GETR was 15.58% while CETR was 14.31%. The ETRs between and amongst themselves do not appear to vary widely for the period of study.

The increase in ETRs in 2011 may be due to the combined directive, to banks, by the Central Bank of Nigeria (CBN) and the Nigeria Deposit Insurance Corporation (NDIC) which results in the writing off of loans to the energy sector. Some of these write-offs may not be tax allowable. Additionally, the drop in ETRs in 2012 may have resulted from the earnings from interest on Federal Government of Nigeria (FGN) Bonds held by firms within the sector being tax exempt from the year. Meanwhile, the STR remained 30% throughout this period. That the GETR and CETR were below the STR provide evidence for the existence of tax incentives within the FSS. Both variants of ETR record at least 9% decrease from the STR throughout the study period.

Figure 1 depicts STR and the average for GETR and CETR from 2010 to 2012. The figure shows that the annual average ranged from 15.58% to 21.48% for GETR and from 14.31% to 19.63% for CETR.

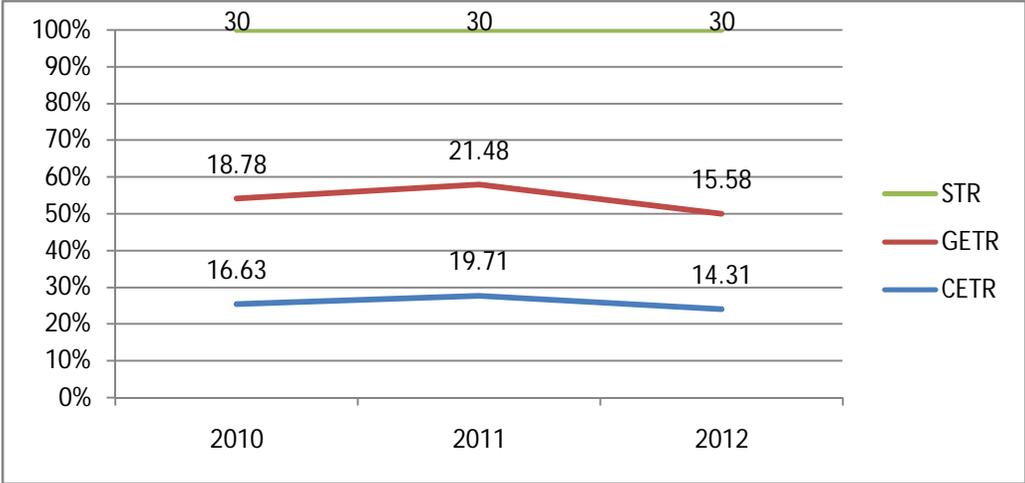


Figure 1: Average for GETR and CETR for 2010 – 2012

Figure 1 reveals a CETR trend line that is perpetually below the GETR trend line throughout the period of study. This may result from the inclusion of deferred tax provisions in the definition of tax expenses contained in GETR. The effect of the CBN and Nigeria Deposit Insurance Corporation (NDIC) directives and investment in the FGN bonds on both variants of ETR in 2011 and 2012 respectively are quite visible from this figure.

The examination of the GETR and CETR in the sub-sectors of Monetary Intermediation (MI) –banking; Insurance, Reinsurance and Pension Fund (IRP) - insurance services; and Activities Auxiliary to Banking Services and Insurance Activities (ABI)- mortgage and other financial institutions, within the FSS, from 2010 to 2012 reveals that the MI sub-sector bears a lower tax burden than the IRP sub-sector under both GETR and CETR. For example in 2010, the ETR for banking sub-sector was 17.18% and 14.08% respectively, while the insurance sub-sector was 19.88% and 18.17% respectively. This trend is repeated in the following two years.

The auxiliary sub-sector seems to experience the highest tax burden with respect to GETR which are 26.16% and 24.28% for 2011 and 2012 respectively; however, they seem to bear the least burden under CETR which are 16.05%, 12.69% and 14.74% for the respective years. These results are presented in Table 1.

Table 1: Sub-Sectarian GETR/ (CETR)

| | MI | IRP | ABI |
|------|----------------|----------------|----------------|
| 2010 | 17.18/ (14.08) | 19.88/ (18.17) | 17.48/ (16.05) |
| 2011 | 20.95/ (21.63) | 21.12/ (19.62) | 26.16/ (12.69) |
| 2012 | 9.31/ (10.51) | 17.92/ (16.42) | 24.28/ (14.74) |

Following Gupta and Newberry (1997) classification of ETR, firms within the FSS could be said to experience normal ETR, since they classified ETR of less than 10% as low, between 10% and the STR (in this case 30%) to be normal and above the statutory rate to be high.

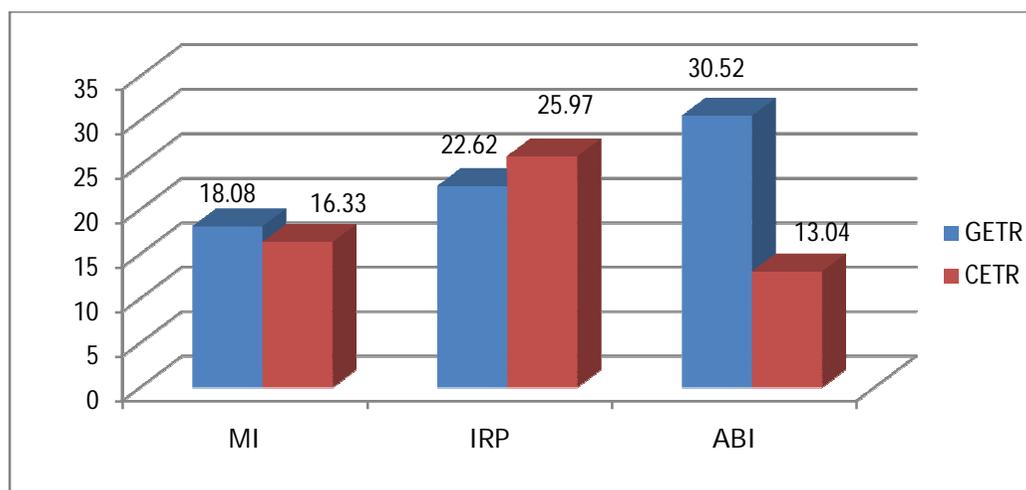


Figure 2: Average GETR and CETR by Sub-Sector 2010 – 2012

The average GETR and CETR of the sub-sectors for the period of study were also examined in order to determine the neutrality of taxation within the sub-sectors of the financial services sector. The results, as depicted in Figure 2, show that the GETR are 18.08%, 22.62% and 30.52% respectively for MI, IRP and ABI.

The average GETR for ABI seems to be the highest within the sector and even higher than the statutory tax rate probably because of the inclusion of only one company in the sample from this sub-sector. The average CETR for the period were 16.33% for MI sub-sector, 25.97% for IRP sub-sector and 13.04% for the ABI sub-sector.

4.2 Descriptive Statistics

Table 2 presents the descriptive statistics of the two variants of ETRs (GETR and CETR) used in the study. The mean for GETR is 18.61% and CETR is 16.88% while their median is 21.48% and 19.71% respectively. Both the means and the medians are lower than the statutory tax rate during the period. Table 2 shows that the mean and median of GETR is slightly higher than that of CETR. This may be due to the inclusion of deferred tax in the numerator of the former. The standard deviations do not vary considerably between the ETR of the firms in the sample for both GETR and CETR.

Table 2: Descriptive Statistics of Dependent Variable, 2010-2012

| | GETR (%) | CETR (%) |
|--------------------|----------|----------|
| Mean | 18.61 | 16.88 |
| Median | 21.48 | 19.71 |
| Standard Deviation | 2.95 | 2.71 |
| Minimum | 15.58 | 14.31 |
| Maximum | 21.48 | 19.71 |

GETR is current tax expenses plus deferred tax provision divided profit before tax and extra-ordinary item CETR is tax paid divide by profit before tax and extra-ordinary item

Table 3 presents the descriptive statistics of the investigated determinants of ETRs while Table 4 presents their Pearson correlation co-efficient matrix.

Table 3: Descriptive Statistics for Determinants of ETR (2010 – 2012)

| Variable | Min. | Max. | Mean | Std Dev. |
|----------|---------|----------|---------|----------|
| SIZ | 13.5212 | 19.0735 | 15.8300 | 1.5684 |
| LEV | 9.8100 | 91.0735 | 52.8370 | 28.2423 |
| CAPIN | 0.2833 | 103.2627 | 9.5064 | 13.1254 |
| ROA | 0.0976 | 22.2841 | 4.9472 | 4.1744 |
| SIC | 64.0000 | 66.0000 | 64.7080 | 0.5422 |

Table 3 shows the mean values determinants of ETR portray wide variations and the standard deviations also varying widely.

Table 4: Pearson Correlation Matrix of Determinants of ETR

| | SIZ | LEV | CAPIN | ROA | SIC |
|-------|-----|---------|----------|----------|----------|
| SIZ | 1 | .746*** | -.395*** | -.229** | -.725*** |
| LEV | | 1 | -.372*** | -.349*** | -.637*** |
| CAPIN | | | 1 | .060*** | -.271*** |
| ROA | | | | 1 | .313*** |
| SIC | | | | | 1 |

*** Significant at 1% level, ** significant at 5%.

The Pearson correlation results shown in Table 4 produce moderate correlation between the independent variables, all of whom are significant at 1% except ROA with SIZ which is only significant at 5%. The highest correlation is reported between firm size and firm leverage followed by size and industrial classification. The least correlated is between ROA and capital intensiveness.

4.3 Regression Results

To identify the drivers of ETR within FSS, the GETR and CETR were separately regressed against the independent variables in a Pooled OLS Multivariate Regression Model; the results are presented in Table 5.

Table 5: Pooled OLS Regression Result

| Model: $ETR_{it} = \beta_0 + \beta_1 SIZ_{it} + \beta_2 CAPIN_{it} + \beta_3 ROA_{it} + \beta_4 SIC_{it} + \epsilon_{it}$ | | |
|---|------------------------|------------------------|
| Variable | GETR | CETR |
| | Co-efficient (t-value) | Co-efficient (t-value) |
| SIZ | -3.147(-1.444) | -.456(-.201) |
| LEV | -.222(-1.877)* | -.446(-2.816)*** |
| CAPIN | -.349(-2.145)** | -.280(1.654)* |
| ROA | -1.431(2-834)*** | -1.510(2.878)*** |
| SIC | -2.552(-.473) | -.698(-.124) |
| R squared | 23.4% | 22.4% |
| Adjusted R ² | 17.6% | 16.5% |
| F-value | 4.041 | 3.81 |
| p-value | .003 | 0.004 |
| n = 24, t = 3, N = 72 | | |

***significant at 1%, **significant at 5%, *significant at 10%.

GETR is measured as current tax expenses plus deferred tax provision divided by profit before tax and extra-ordinary item

CETR is defined as tax paid divided by profit before tax and extra-ordinary item

SIZ is the natural logarithm of net interests and commissions

LEV is the firm's leverage which is total liability divided by total assets

CAPIN is capital intensiveness and is defined as fixed assets divided by total assets

ROA is profitability and measured as profit on ordinary activities before tax divided by total assets

SIC is the two digit standard industrial classification

Table 5 shows firm profitability, as measured by ROA, as the dominant determinant of GETR in the FSS with a co-efficient of -1.431 and t-value of -2.834 and *t*-probability of .006. The negative co-efficient suggests that the more profitable a firm within the FSS is, the less is its tax burden. This is supported by the fact that some interests which form a considerable proportion of the income of firms within the sector are tax exempt especially on loans granted to companies engaged in agricultural, fabrication of local plant and machinery and export businesses (Ariwodola, 2005). Profitability is followed by the rate of capital intensity since capital allowances are grantable on fixed assets employed by companies. Expectedly, firm leverage also exerts considerable influence on GETR within the sector. Albeit firm size has a strong co-efficient, it has no significant relationship with GETR, nonetheless, its negativity suggests the presence of political clout theory in the Nigerian tax climate. Under the CETR, results still portray profitability as the strongest causation of ETR which is closely followed by firm leverage. Also capital intensiveness has a negative and significant relationship with ETR. The regressions of GETR and CETR have produced the same result, identifying the same variables as determinants of ETR in the FSS. The combined effects of the independent variables on the dependent variable seem to be higher in the GETR model than the CETR model and although both are weak, it is possible to see GETR as a better definition of ETR since its model is better fitted.

4.4 Robustness Test

Table 6 shows the results of the robustness checks performed on the Pooled OLS model results in a Random Effect Model.

Table 6: Random Effect Model Regression Result

Model: $ETR_{it} = \beta_0 + \beta_1 SIZ_{it} + \beta_2 CAPIN_{it} + \beta_3 ROA_{it} + \beta_4 SIC_{it} + \epsilon_{it}$

| Variable | GETR | CETR |
|-------------------------|------------------------|------------------------|
| | Co-efficient (t-value) | Co-efficient (t-value) |
| SIZ | -3.321(-1.25) | -1.251(-.45) |
| LEV | -.238(-1.785)* | -.34(-2.453)** |
| CAPIN | -.2609(-1.5)* | -.227(-1.261) |
| ROA | -1.448(-2.678)*** | -1.403(-2.507)** |
| SIC | -4.303(-.632) | -3.011(-.422) |
| R squared | 18.54% | 17.89% |
| Adjusted R ² | 17% | 16.4% |
| F-value | 2.996 | 2.873 |
| S-value | 0.01 | 0.02 |

unbalanced panel: n = 25, t=1-3, N=72

***significant at 1%, **significant at 5%, *significant at 10%

It is evident from Table 6 that the random effect models of GETR and CETR behave in similar manners with the models under the Pooled OLS in identifying similar determinants of ETR. However, capital intensive has been found to be insignificant under a REM for CETR and the strength of its significance has also reduced in a REM for GETR.

5. Conclusions

This study sets out to determine the effective tax burden being experienced by firms in the financial services sector using Nigerian data. It further examines the neutrality of taxation and the determinants of effective tax rate within the sector. Two variants of ETR (the GETR and CETR) were examined in line with five common causality of ETR; firm size, leverage, capital intensiveness, profitability and industrial sector.

Results from the study show that firms within the FSS pay tax at an effective rate ranging between 15.58% and 21.48% in respect of GETR and at an effective rate ranging from 14.31% to 19.71% as regard CETR during the period of study. During this period, the Statutory Tax Rate remained at 30% and thus firms within the sector can be said to enjoy normal taxation. Furthermore, the results show that ETRs vary amongst the firms and within the three sub sectors, which translate to dispersion of taxation within the sector.

Additionally, it was found that firms within monetary intermediation sub-sector bear the least tax burden as regards GETR while firms engaged in activities auxiliary to banking services and insurance activities bear the highest tax burden. Under the CETR, firms engaged in activities auxiliary to banking services and insurance activities seem to experience the least tax burden while firms within the insurance, reinsurance and pension fund sub sector seem to pay the highest amount of effective tax.

The results of Pooled OLS regressions suggest that profitability, firm leverage and capital intensiveness are the determinants of ETR (both GETR and CETR) in the FSS, with profitability exerting the greatest effect under both variants of ETR. This is followed by capital intensiveness and firm leverage under GETR and by firm leverage and capital intensiveness under CETR. These are, to a large extent, confirmed by the REM robustness check. Moreover, results also confirm the presence of the political clout theory in the Nigerian tax climate. The policy implication, as suggested by this study, is the need to increase tax incentives in activities auxiliary to banking services and insurance activities sub sector of the financial services sector where the mortgage firms belong. This is in view of the wide deficiency in the housing needs of inhabitants of Nigeria.

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