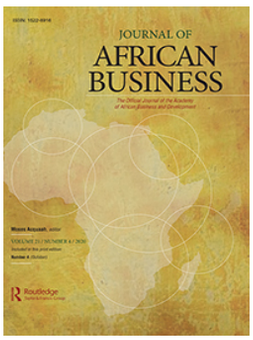

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Corporate Tax Avoidance Incentives of Banks in Ghana

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ABSTRACT

This study built on the tax avoidance literature in at least two main strands: 1) applying the tax avoidance theories and hypothesis to financial institutions which have been neglected in the empirical literature; and 2) assessing the possibility of tax avoidance persistence among banks, from a developing country perspective. Data from 18 commercial banks in Ghana from 2010 to 2014 were analyzed using systems generalized method of moments estimation technique. The study concluded that while the presence of non-executive directors on boards, aging banks, and liquidity condition motivate banks to engage in tax avoidance schemes, big banks and banks at their latter stages in their lifecycle are discouraged from undertaking tax avoidance activities. Thus, tax avoidance activities exist in financial institutions just like non-financial firms but no evidence exists to support the assertion that tax avoidance schemes persist among banks. Managers of financial institutions must take advantage of existing tax avoidance opportunities by designing appropriate policies that factor in relevant firm-level characteristics.

KEYWORDS

Tax avoidance; corporate governance; banks; Ghana

1. Introduction

Constraints to raising funds externally put pressure on firms to consider generating funds internally. Tax avoidance offers a good source of internally generated fund (IGF) by citizens, corporate entities or individuals, that are not mandated to pay more tax than required. In view of this, the empirical literature has seen a proliferation of studies in this area over the last decade. These studies, however, have concentrated largely on developed economies and explained tax planning incentives of non-financial corporate entities (Hassan, Al-Hadi, Taylor, & Richardson, 2017 ; Graham, Hanlon, Shevlin, & Shroff, 2013). Another strand of the literature has been devoted to linking tax planning to outcome variables such as firm profitability and value (Kportorgbi, 2013), cost of equity (Goh, Lee, Lim, & Shevlin, 2016), and the term structure of debt (Platikanova, 2017). with a few studies on financial institutions(Zimzim & Ftouhi, 2013). Thus, the findings of these studies may not be relevant to developing economies and financial institutions because the stage of development of an economy influences the type of fiscal policies and strategies

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pursued. Also, the extent of information opacity across industries is not homogenous because financial institutions are considered to be more informationally opaque. This implies that tax avoidance opportunities and their associated motivations would be more heterogeneous than homogenous across countries and industries. Furthermore, the neglect of the financial sector in the discussion on motivations for tax avoidance is not only detrimental to the development of the body of knowledge in this area but also inimical to the development of developing economies where the financial sector is bank-dominated. Meanwhile, differences in country tax laws and within-country industry differences in tax laws imply that cross-border and/or cross-industry application of findings from tax avoidance studies may be inappropriate. Thus, this study argued that the exclusion of financial institutions from tax avoidance studies done on non-financial industries, partly because of their specialized regulatory framework, should not lead to their neglect.

The banking industry has its own regulation and some of the tax avoidance opportunities available to non-financial firms may not be applicable to financial institutions and vice versa. For instance, in Ghana, financial institutions (except rural banks) are not allowed the opportunity to enjoy concessionary corporate tax rate of 1% (under the Income Tax Act, 2015 (Act 896) available to most non-financial firms at inception or locational tax advantages. Also, banks were not granted tax holidays under the defunct Internal Revenue Act 2000 (Act 592). However, financial institutions that derive income from loans granted to farming enterprises and leasing companies are allowed to pay a tax of 20% on that particular income instead of the general corporate tax rate of 25%. Additionally, financial institutions enjoy other tax planning opportunities available to other corporate entities like employment of fresh graduates allowance, capital allowances, engagement in community development activities, sponsorship, double taxation relief, etc. So, tax planning opportunities is not the preserve of non-financial institutions and some factors may be critical in explaining financial institutions' tax planning activities.

Governance and financial constraints may play exceptional roles in explaining tax planning incentives for banks. The banking sectors' informational opacity places a lot importance on its governance and the state of its financial well offness. Driven by shareholder wealth maximization and the monitoring of non-executive directors, foreign ownership, institutional ownership, appropriate employee compensation schemes and auditors (Jamil, 2017; Koester, Shevlin, & Wangerin, 2016; Ofoeda, 2017), managers of banking institutions may be keen to making enough cash savings, through tax planning among others, possible in order to facilitate the achievement of their core mandate. On the contrary, Desai and Dharmapala (2009) argued that, opportunistic managers employ tax planning strategies to advance managerial, rather than shareholders interest. Thus, good corporate governance practice is important in terms of firms' tax planning activities in order to ensure that gains from tax planning maximizes shareholder's wealth (Abdul-Wahab, 2010; Kanagaretnam, Lee, Lim, & Lobo, 2016; Koester et al., 2016; Taylor & Richardson, 2014). Bank financial constraints do not only lead to the collapse of the banking industry but may lead to the collapse of an entire economy due to loss of investment, increased cost of borrowing, unavailability of funds for viable investment projects and economic downturn. This explains why regulations of the financial industry place importance on liquidity risk. Cash savings from tax planning offers an opportunity for financial institutions to meet their liquidity requirements, generate enough loanable funds and prevent bank runs. Internal bank constraints may emanate from external sources (Edwards, Schwab, & Shevlin, 2013).

Meanwhile, the literature on tax avoidance is yet to consider whether the 2008 economic meltdown affected corporate tax avoidance. Ensuring bank liquidity for survival implies that banks consider financial constraints as paramount to their survival. Consequently, financial constraints may increase financial institutions' tax planning exploits, as was found for non-financial firms (Edwards, Schwab, & Shevlin, 2015).

The literature on tax planning motivations is extant (Amankwah, 2014; Edwards et al., 2015; Koester et al., 2016; McGuire, Wang, & Wilson, 2014) but to the neglect of financial institutions. In Africa, the only existing studies on tax planning on banks have concentrated on the relationship between tax planning and bank performance (Zimzim & Ftouhi, 2013) as if tax avoidance activities of banks are inexplicable or are of little concern to the banking industry. Meanwhile, banks are as much concerned about their corporate tax cost just like other businesses (Organisation for Economic Co-operation and Development [OECD], 2009). This study further enriches the existing literature by assessing whether tax avoidance activities of firms persist over time given the fact that some tax avoidance activities have a long-term effect on firms and the process for getting tax reliefs is not instantaneous in most developing countries such as Ghana. This study, therefore, sought to bridge the gap in the existing literature by examining the corporate tax avoidance incentives of banks from a developing country perspective.

2. Literature review

2.1. Theoretical review

The study dwelled on the agency theory (Kanagaretnam et al., 2016; Koester et al., 2016; McGuire et al., 2014), pecking order theory (Edwards et al., 2015, 2013; Goh et al., 2016; Platikanova, 2017), life-cycle theory (Dickinson, 2011; Hassan, Al-Hadi, Taylor, & Richardson, 2017) and Diamond's reputational theory (Graham et al., 2013) to explain bank tax avoidance motivations.

2.2. Agency theory

The agency theory posit that aligning managers' interest with that of the firm so that they pursue objectives that are in line with the objectives of the firm include involving non-executive directors on companies' boards, attracting institutional investors, tying employees' compensation with performance, involving employees in the ownership of the firm and monitoring the activities of employees (Agyei, 2010; Jensen & Meckling, 1976). Benefits from measures to reduce agency cost of the firm may lead management to pursue tax management. Employees' motivations from the opportunity to share in tax cost savings and the intrinsic reward of being good corporate managers may, as well, lead them to avoid needless taxes.

2.3. Pecking order theory

Managers of firms, due to information asymmetry, may use financial policies to convey information to markets and this is more profound in markets that do not exhibit strong form market efficiency. Capital structure and dividend changes are common signaling tools about the future performance of the firm used by managers. Issuing securities like

equity would be expensive for firms with high information asymmetry about its values (Myers, 1984) especially when the firms do not have public debt rating (Faulkender & Mitchell, 2006). From the forgoing, the pecking order theory predicts that firms should prefer cheaper sources of financing to more expensive ones. Thus, firms would prefer: internally generated funds to bank debt; bank debt to public debt; and public debt to equity. The drive for cheaper financing, internally generated funds, partly explains firm tax planning behavior as tax planning leads to cost savings.

2.4. Life-cycle theory

This theory postulates that a firm's financing needs changes with the stage of its business life cycle in response to developmental needs. Initially, Fluck (1999) propounded that firms will issue outside equity, short-term debt or convertible debt first, and then use their retained earnings, issue longer-term debt, or outside equity to satisfy subsequent financing needs. Even though Stenbacka and Tombak (2002) agreed with Fluck (1999), they argued that the order of financing used by a firm through its developmental stages should be leverage first, retained earnings next then new equities and debt as retained earnings accumulate. But La Rocca and La Rocca (2009) argued that in a bank-oriented financial market, firms are likely to finance their initial stages with debt, then at the maturity stages internal capital is used to re-balance the structure by substituting debt with equity. In spite of the conflicting views as to when which source of financing would be appropriate for a stage of a firm's development, researchers generally agree that internally generated funds would be needed at some point in the firm's development. It could, therefore, be deduced that the stage where management realizes the need or plans to utilize internally generated funds would coincide with the tax planning activities of the firm as predicted by the pecking order theory.

2.5. Diamond's reputational theory

The theory is developed from the notion that firm reputation could be built from their repeated engagement of the bank loan market and then leverage that to gain access into the public bond market (Diamond, 1991; Hale & Santos, 2008). The repeated activity in the bank loan market signals the banks creditworthiness which is an indication of the trust that the banking market has in the ability of the firm to defray its debt when they fall due. Consequently, subsequent bond market engagement would be successful partly because of the accumulated bank loan market reputation. Meanwhile, the acquisition and sustenance of creditworthiness-led firm reputation depends on the firm's ability to maintain adequate liquidity and solvency levels which in turn emanate from a firm's ability to generate enough internally generated fund (IGF).

3. Empirical literature review

3.1. Determinants of tax planning and hypotheses development

3.1.1. Corporate governance

The agency theory proposes good corporate governance structures to help align the manager's interest with that of the firm. Tax planning motivations from corporate

governance structures could have intrinsic and extrinsic sources. Non-executive directors, institutional investors, external auditors could help managers institute policies aimed at maximizing firm efficiency through cost reductions. Similarly, managers themselves could be self-motivated by the incentive or remuneration packages in place or by being part of ownership. This may lead them to push for efficiency in operations even though some scholars have reasoned that in the absence of effective monitoring system opportunistic managers may divert the rents from tax planning to themselves rather than to shareholders (Desai & Dharmapala, 2009).

Tax avoidance behavior of firms has been assessed from a number of corporate governance perspectives. Taylor and Richardson (2014) found, among listed Australian firms, that directors' tax expertise and performance-based remuneration incentives of a firm's key management personnel are significantly positively associated with tax avoidance but firms with board members who have at least one tax-related affiliation are significantly negatively associated with tax avoidance. Koester et al. (2016) revealed, from an investigation of whether executives with superior ability to efficiently manage corporate resources engage in corporate tax planning, that managerial ability acquisition is associated with a reduction in firm's cash effective tax rate through tax planning. Minnick and Noga (2010) found that incentive compensation drives managers to make investments into longer-horizon payouts such as tax management. Goh et al. (2016) revealed that firms with stronger outsider monitoring strengthens the lower cost of equity associated with tax-avoiding firms. Kanagaretnam et al. (2016) documented strong evidence that auditor quality is negatively associated with the likelihood of tax aggressiveness, even after controlling for other institutional determinants such as home-country tax system characteristics.

This study measured corporate governance by using the presence of non-executive directors on board and board size, as the use of remuneration of directors and employees is not possible because of how sensitive firms in Ghana consider such information. In spite of this, our measure of corporate governance would offer the desired effect since the quest of non-executive directors to protect shareholders' interests by ensuring their wealth maximization would lead to firms pursuing policies aimed at generating and protecting their cash flows. Similarly, we are of the view that bigger board size ensure better protection if they are efficient because it minimizes the possibility of connivance, collusion or conspiracy against shareholders.

$H_0$1: Corporate governance (non-executive directors and board size) has no effect on tax avoidance behavior of banks in Ghana.

3.1.2. Financial constraints and performance

In order to operationalize the pecking order theory, we test for the effect of financial constraints on tax planning behavior of banks. Due to information asymmetry, firms' first option will be to optimize internally generated funds. Financial constraints could come from internal sources (firm-level drivers) and external sources (industry and macroeconomic factors which may also reflect global economic shocks). Banks' response to financial constraint situation is likely to be profound because of the importance of bank liquidity to its continued existence. *Apriori*, banks that face financial constraints would turn to the option of cost reduction which includes tax planning since financial

constraints decreases the supply of external funds but increases the cost of external funds Edwards et al. (2013). Edwards et al. (2015) predict that an increase in financial constraints leads firms to increase internally generated funds via tax planning and this effect is bigger with firms with low cash reserves. Goh et al. (2016) argue that the low level of cost of equity associated with tax planning is bigger for firms with higher information quality. Informational quality benefits associated with the stock market listing may make it easier for listed firms to raise funds externally and put a lesser burden on managers to engage in tax avoidance schemes. In this study, financial constraint is operationalized as the ratio of current assets to current liabilities as well as a dummy for listing. As the ability of banks to meet their short-term obligations worsen, they are expected to undertake tax planning as a cost-saving measure. Thus, the study tests the hypothesis that:

$H_0$2: Financial constraint (internal or external) has no effect on tax avoidance behavior of banks in Ghana.

3.1.3. Bank life cycle

Existing literature shows a lack of consensus on the exact stage at which firms need funding internally. Recently, Hassan et al. (2017) found results consistent with the dynamic resource-based theory. They explain that tax avoidance is significantly positively associated with the introduction and decline stages and significantly negatively associated with the growth and mature stages using the shake-out stage as a benchmark. Possible reasons for this behavior may emanate from bank financial needs for market entry and market sustenance common with the introduction and decline stages of a firm's life cycle. The study operationalizes bank life cycle with bank age. Following from the general lack of consensus on life-cycle financing theory, our intention is not to specifically assign bank tax avoidance behavior of specific stages of the bank's life cycle but to assess whether differences exist in the bank tax planning behavior as it progresses through its life. Thus, the study tests for the linearity and non-linearity of the bank age variable as a proxy for the bank life cycle. The following hypothesis was set to test this effect:

$H_0$3: the stage of a bank's development has no effect on its tax avoidance behavior in Ghana.

3.1.4. Bank reputation

The study tests for the hypothesis that firm reputational concerns are the reasons why managers do not engage in tax planning. In other words, can it be proven empirically that firms that undertake tax planning may lose their reputation because the public may see them as not good corporate citizens? Graham et al. (2013) underscored the difficulty in assessing firm reputation from archival data and recommend using primary sources which is also not without a fault. The difficulty of dealing with biases in the responses survey method studies coupled with the occasional non-compatibility of survey responses with archival data (with time series and panel properties) leaves one with the option of resorting to archival data. In this study, bank size and market share were used as proxies for bank reputation. The study argued that accumulated bank image can be gauged from its size relative to the market. Based on responses of corporate executives,

Graham et al. (2013) argued that most corporate executives agreed with the assertion that firms may not pursue tax planning strategies because of reputational concerns and this factor was considered as the second most important factor. This notwithstanding, reputational concerns hypothesis may not hold if managers and the public know and accept the fact that tax planning is not an illegality. Similarly, and based on Diamond's reputational theory, it could be postulated that banks that want to build a reputation for future bond market or stock engagement may opt to use short-term bank loans as evidence of their creditworthiness. Platikanova (2017) found support for the argument that creditors are likely to extend debt with a shorter maturity to tax-avoiding firms so that they can frequently reevaluate tax-related risk in debt contracting. Consequently, the study used market share and the size of short-term debt to total asset as image incentive proxies for tax planning.

$H_0$4: bank reputation has no effect on its tax avoidance behavior in Ghana.

3.1.5. Bank performance

Effect of bank performance on tax planning could be positive or negative. When profitability translates into acceptable levels of liquidity the incentive for tax planning may be minimal but where sustaining current good performance levels or improving on current performance levels is desirable tax planning activities would increase. Minnick and Noga (2010) argue that investment into tax management benefits shareholders in the form of higher returns. Graham et al. (2013) report that the quest to increase earnings per share is a good incentive for pursuing tax planning strategies by corporate executives. On the contrary, cash savings from good bank performance, *cetaris paribus*, implies that the extent of tax planning engaged by a bank would be minimize because of the reduced need for internally generated funds.

$H_0$5: bank performance has no effect on its tax avoidance behavior in Ghana.

4. Materials and methods

This study used data from 18 universal banks from Ghana over the period of 2004 to 2014. The selection of the banks was based on data availability for most of the variables for the study period. The data were sourced from the Supervision Department of Bank of Ghana and it covers the annual financial reports of all banks included in the study. The systems general method of moments (GMM) panel estimation was used to assess the determinants of bank tax avoidance. Equation (1) is the basic model, while Equation (2) introduces a dummy variable that separates the banks into listed and non-listed basically to assess the effect of external financial constraints on the tax avoidance drive of those entrusted with the management of banks. The models used for the study based on the reviewed literature were formulated as follows:

$$\begin{aligned} InETR_{it} = {} & \gamma_0 \ln ETR_{it-1} + \gamma_1 NED_{it} + \gamma_2 \ln BS_{it} + \gamma_3 \ln AGE_{it} + \gamma_4 \ln BAGESQ_{it} \\ & + \gamma_5 LEV_{it} + \gamma_6 \ln SIZE_{it} + \gamma_7 \ln LIQ_{it} + \gamma_8 GRO_{it} + \mu_i + \varepsilon_{it} \end{aligned} \tag{1}$$

$$InETR_{it} = \gamma_0 \ln ETR_{it-1} + \gamma_1 NED_{it} + \gamma_2 \ln BS_{it} + \gamma_3 \ln AGE_{it} + \gamma_4 \ln BAGESQ_{it} + \gamma_5 LEV_{it} + \gamma_6 \ln SIZE_{it} + \gamma_7 \ln LIQ_{it} + \gamma_8 GRO_{it} + \gamma_9 LISTD_{it} + \mu_i + \varepsilon_{it} \quad (2)$$

where the variables, their measurement and the theories they represent are as explained in Table 1

The use of panel data methodology allowed the researchers to control for individual heterogeneity which may lead to biased results when not accounted for in time series and cross-sectional studies. This enriches the study of cross-sectional observation over several time periods in panel studies. The Arellano-Bond dynamic panel estimation was used to assess whether bank tax planning activities persist over time. Equation (1) specifies that in addition to the basic factors included as tax avoidance drivers, the previous year's tax avoidance activities explain current year's tax avoidance activities, allowing us to subject our assumption that tax avoidance activities may persist to empirical test. The autoregressive nature of Equation (1) makes the ordinary least squares, random effects and fixed effects model inappropriate for estimating such a model. Arellano and Bond (1991) proposes a general method of moments approach that first takes the first difference of the regressors to eliminate the individual effects and then uses all past information of the dependent variable as an instrument. This approach is generally considered to give consistent and efficient results. Subsequently, the autocorrelation test was conducted.

Both the random and fixed effects estimations assume that the firm-specific characteristic is strictly exogenous but differ on the basis that while the random effects considers the firm-specific variable to be randomly selected and uncorrelated to the general error term (white noise), the fixed effects considers it to be a nuisance parameter. Consequently, the use of the general least squares regression for the random-effects model could yield consistent and efficient results. Through the

Table 1. Variables, Measurement Theories, and Expected Signs.

Variable	Meaning	Measurement	Theories	Expected sign
$lnETR_{it}$	Effective tax rate	Tax expense – deferred tax/Profit before tax *100 of bank *i* at time *t*.		N/A
NED_{it}	Non-executive directors	Non-executive directors/Total number of directors serving on the board of bank *i* at time *t*.	Agency theory	–
$lnBS_{it}$	Board size	The natural log of the number of directors serving on the board of bank *i* at time *t*.	Agency theory	–
$lnAGE_{it}$	Bank age	Natural logarithm of the bank age of bank *i* at time *t*.	Life cycle theory	±
$lnAGESQ_{it}$	Bank Age squared	Natural logarithm of the square of bank age of bank *i* at time *t*.	Life cycle theory	±
LEV_{it}	leverage	Ratio of total current liabilities/total assets of bank *i* at time *t*.	Diamond's reputation	+
$lnSIZE_{it}$	Bank Size	The natural logarithm of the total assets of bank *i* at time *t*.	Reputational hypothesis	+
$LnLIQ_{it}$	Bank Liquidity	Natural logarithm of the ratio of current assets to current liabilities of bank *i* at time *t*.	Pecking order theory	+
GRO_{it}	Bank Growth	It is the year on year change in bank interest income of bank *i* at time *t*.	Life cycle theory and bank performance	–
$LISTD_{it}$	Listed Dummy	A dummy of 1 if bank *i* is listed at time *t* otherwise 0.	A measure of banks' external financial constraints	+

within transformation, the fixed effects could be removed and the estimations done to give consistent and efficient results. The introduction of the lag dependent variable in Equation (1) violates the assumption by both the random and fixed effects that the regressors are strictly exogenous and uncorrelated with the white noise. It is not possible to achieve consistency with the traditional within transformation because of the correlation between the lagged dependent variable and the random error (Hsiao, 1986). One way of dealing with the endogeneity introduced by the inclusion of the lagged dependent variable is to first difference the model to remove the firm-specific effects and then use the past two or more years' lagged values of the dependent variable and other exogenous variables as instruments in a general method of moments estimation (GMM). The standard Arellano and Bond (1991) dynamic panel specification allows for the use of lagged depend variable and first difference of the other independent variables as instruments, but this approach has been criticized on the grounds that the differencing procedure could introduce biases especially for small samples (Roodman, 2009a, 2009b).

The study used the systems GMM estimation technique even though the correlation between the dependent variable (tax avoidance) and its lag (0.221) was below the threshold of 0.800, which is the rule of thumb, because of the following reasons. The number of banks (18) is significantly more than the number of years (5) in each cross-section; panel data GMM allows researchers to observe cross-sectional variations; it controls for unobserved heterogeneity as well as account for endogeneity by using instrumental variable approach; and the systems estimator corrects for biases in the difference estimator (Asongu & Acha-Anyi, 2018; Doyle, 2017). Following (Asongu & Nwachukwu, 2016; Baltagi, 2008; Boateng, Asongu, Akamavi, & Tchamyou, 2018; Love & Zicchino, 2006). Roodman (2009a, 2009b) empirical approach was used because of its additional benefits of reducing overidentification and accounting for cross-sectional dependence. The systems GMM estimation procedure used followed the general format specified in Equations (3) and (4). Equation (3) is the level empirical equation while that of Equation (4) is the first-differenced equation.

$$InETR_{it} = \gamma_0 + \gamma_1 \ln ETR_{it-\tau} + \sum_{h=1}^{9} \gamma_h W_{h,it-\tau} + \theta_i + \mu_t + \varepsilon_{it}. \tag{3}$$

$$InETR_{it} - InETR_{it-\tau} = \gamma_1 (InETR_{it-\tau} - \ln ETR_{it-2\tau}) + \sum_{h=1}^{9} \gamma_h (W_{h,it-\tau} - W_{h,it-2\tau}) + (\mu_t - \mu_{t-\tau}) + \varepsilon_{it-\tau}, \tag{4}$$

where *InETR* is the effective tax rate of bank *i* in time *t;* γ_0 is a constant; *W* is a vector of control variables (non-executive directors, board size, age, age squared, leverage, size, liquidity, growth and listed); τ represents the coefficient of autoregression which is one for the specification, μ_t is the time-specific constant, θ_i is the bank-specific effect, and ε_{it} the error term.

Following Boateng et al. (2018); Asongu and Nwachukwu (2016) all explanatory indicators are defined as suspected endogenous or predetermined and only time-invariant variables are considered to be strictly exogenous (Roodman, 2009b). The results from Sargan overidentification test reported in Table 4 supports the strict exogeneity of the time-invariant variables.

5. Discussion of results

5.1. Descriptive statistics

Table 2 provides details of the descriptive statistics of the variables used to assess the tax avoidance drivers of banks in Ghana. From the Table, generally, banks in Ghana do not take advantage of the tax planning opportunities available to them. The results show that the effective tax rate of banks (26.90%) was greater than the corporate tax rate of banks (25%) in Ghana. Managers of banks must pay attention to the tax cost reduction opportunities available to them by consciously acquiring relevant tax knowledge or services geared toward reducing their cost. However, this result appeared not to be homogeneous across foreign and local banks. Local banks (with ETR of 24.3411) appeared to plan their taxes better than foreign banks (with ETR of 26.311) even though the difference among them was statistically insignificant. More than two-thirds of the directors of banks in Ghana are non-executive directors signifying that banks in Ghana have the opportunity of benefiting from objective opinions in the board room. Meanwhile, the average board size of banks was recorded as 9 with board membership ranging from 6 to 12. The length of time banks have operated in the country was widely dispersed. While some banks had operated for 5 years others had 118 years of experience even though the average number of years for bank operation over the study period was about 37 years. Some banks have a considerable amount of knowledge about the Ghanaian business environment and should be able to leverage that to reduce their tax expenditures. The average contribution of total debt to the funding of total assets of banks was about 84% signifying the highly geared nature of the banking industry. It also implies that bank capital structure in Ghana has not changed significantly over the last decade (Agyei, 2010). What is not clear is whether the Ghanaian tax system has contributed to the current capital structure that banks have. On average, banks in Ghana kept the asset size of GHS1,321,622 ($275,337.92 using GHS4.80/$) over the study period but the biggest bank had an asset base of GHS5,700,000 ($1,187,500). Generally, banks in Ghana were able to keep a liquidity position of 45.31%. By implication, the portion of bank current liabilities including bank deposits, short-term loans and other payables that banks will not be able to cover current assets was more than 54%. Also, over the study period, bank growth in net interest income averaged at 40.64% but with wide dispersion. Approximately, about 40% of the total number of banks in Ghana included in the study was listed.

Table 2. Descriptive Statistics of the Variables in the Study.

Variable	Obs	Mean	Std. Dev.	Min	Max
ETR	91	26.90255	18.8692	−13.91	158.42
NED	96	.6708549	.0930704	.444444	.857143
BS	96	9.354167	1.716662	6	12
AGE	91	36.75824	29.30694	5	118
LEV	93	.8428078	.0644556	.658302	.991081
SIZE	93	1321622	1111445	17144.7	5700000
LIQ	93	.4531122	.1254337	.19401	.735332
GRO	91	.4064321	.7680806	−.415818	6.93412
LISTD	96	0.395833	0.491596	0	1

Source. Authors' estimation based on financial reports of banks from BoG (2010 to 2014)

Where ETR is effective tax rate; NED represents non-executive directors in the bank; BS is a measure of board size; AGE is bank age; LEV is total current liabilities to total asset; SIZE is the size of the bank; LIQ is liquidity ratio; GRO is bank growth; and LISTD is a dummy variable that indicates whether a bank is listed or not listed.

5.2. Correlation matrix

The study relied on the results from correlation analysis to conclude on the possibility of tax avoidance persistence and the presence of multicollinearity which has the potential of reducing the reliability of the regression results. The results, as reported in Table 3 showed that the possibility of bank tax avoidance persistence was minimal since the correlation coefficient between the level of effective tax rate and its one-year lag (0.221) was far below the threshold of 0.800 (Asongu & Acha-Anyi, 2018) generally considered to suggest persistence. Also, the results depicted that the presence of multicollinearity was minimal because, except for the correlation coefficient between bank age (lnBA) and bank age square (lnBAsq) which was expectedly high, none of the other variables recorded a correlations coefficient of 0.7 (the threshold generally considered to be high).

6. Discussion of empirical results

The results of the study, based on system GMM estimation techniques by Roodman (2009a), have been reported in Table 4 below. The diagnostic statistics (autocorrelation tests, text of exogeneity of the instruments used and the assumption that the strict exogenous variables influence the level of effective tax rates) reported in Table 4 show that the estimated models are valid. The first column of Table 4 reports the results of model 1 (which is the basic model of the study) while regression results of model 2 (which includes a dummy for listing) is reported in the second column of Table 4. The results (based on model 1) show that key factors that motivate bank tax avoidance activities in Ghana, in addition to the previous year's tax avoidance schemes, include governance, age, and size.

First of all, the results offer no empirical support for the study's proposition that tax avoidance activities persist among banks, contradicting earlier study by (Dyreng, Hanlon, & Maydew, 2008) but corroborating the findings from the correlation analysis and the descriptive statistics that banks in Ghana generally do not engage in any significant tax avoidance activities.

The results showed that non-executive directors of banks exert a significant (at 5%) pressure on management to reduce its effective tax rate. In other words, banks that have a number of non-executive directors on their boards generally engaged in tax avoidance activities. The drive from outside directors to ensure that shareholder wealth is maximized leads bank management to pursue cost management strategies which include tax avoidance. Also, bank boards are likely to benefit from good tax advice of non-executive directors who are knowledgeable in the area. Also, corporate board decisions such as tying bank executive compensation to performance, consistent with findings of Koester et al. (2016) are likely to lead to bank tax avoidance activities. The results on the relationship between bank board size and tax planning were negative but insignificant. Generally, bigger boards are difficult to influence and given the fact that most of the board members of banks are non-executive (see Table 2) tax avoidance activities are likely to increase with an increase in bank board size. Thus, the results suggest that board independence plays to the advantage of shareholders through proper supervision of agents that results in a reduction in tax expense (see also Goh et al., 2016). Impliedly, good corporate governance structures that exert a positive influence on bank performance through tax avoidance ensure a reduction in agency cost.

Table 3. Correlation Matrix.

	LNETR	$LNETR_{it-1}$	NED	LNBS	LNAGE	LNAGESQ	LEV	LNSIZE	LNLIQ	GRO	LISTD
LNETR	1.000										
$LNETR_{it-1}$	0.221*	1.000									
NED	0.086	0.197	1.000								
LNBS	−0.106	0.076	−0.252***	1.000							
LNAGE	0.040	−0.079	0.1014	−0.377***	1.000						
LNAGESQ	0.047	−0.061	0.1227	−0.399***	0.992***	1.000					
LEV	−0.132	−0.004	−0.251**	0.304***	−0.045	−0.042	1.000				
LNSIZE	−0.009	−0.111	−0.090	−0.005	0.464***	0.416***	0.221**	1.000			
LNLIQ	−0.201*	−0.181	−0.194*	0.084	−0.304***	−0.345***	0.037	−0.119	1.000		
GRO	−0.037	0.050	−0.049	−0.046	−0.139	−0.134	0.058	−0.013	0.192	1.000	
LISTD	0.163	0.118	−0.431***	0.2192**	0.110	0.078	0.225**	0.294***	0.078	0.145	1.000

Source. Authors' estimation based on financial reports of banks from BoG (2010 to 2014)

Significant levels: *** = 1%, ** = 5% and * = 10%. Where ETR is effective tax rate; NED represents non-executive directors in the bank; BS is a measure of board size; AGE is bank age; AGESQ is the square of bank age; LEV is total current liabilities to total asset; SIZE is the size of the bank; LIQ is liquidity ratio; GRO is bank growth; and LISTD is a dummy variable that indicates whether a bank is listed or not listed.

Table 4. Regression Results on the Drivers of Tax Avoidance (Dependent Variable – ETR).

Variable	Model 1	Model 2
$LNETR_{it-1}$	0.036637	0.107662
	(0.33577)	(0.244513)
NED	−10.3911**	−12.3121
	(4.402967)	(7.301724)
LNBS	−3.60798	−1.43703
	(4.703059)	(2.736041)
LNAGE	−25.2599***	−23.9237**
	(8.004183)	(8.532504)
LNAGESQ	6.518867**	7.143172**
	(2.29707)	(2.750838)
LEV	−8.9266	−10.4517*
	(8.412823)	(6.02134)
SIZE	0.848178**	0.310852
	(0.347439)	(0.493424)
LNLIQ	−3.02078	−3.33427***
	(1.795618)	(1.01229)
GRO	0.404714	0.583094
	(1.191602)	(0.841318)
LISTD		1.344642
		(0.906133)
CONS	33.851**	34.494***
	(13.399)	(11.704)
Net effects of AGE	453.65	501.20
AR(1)	0.112	0.078
AR(2)	0.354	0.208
Sargan OIR	0.199	0.512
Hansen OIR	0.312	0.781
DHT for instruments		
IV (years, eq(diff))		
H excluding group	0.196	0.718
Diff(null, H = exogenous)	0.79	0.477
Fisher	9.46***	89.87***
Instruments	14	14
Banks	17	17
Observations	60	60

Source. Authors' estimation based on financial reports of banks from BoG (2010 to 2014)
Significant level: *** = 1%. Standard errors are in parenthesis. Where DHT is Difference in Hansen Test for Exogeneity of Instruments' Subsets. Dif: Difference. OIR: Over-identifying Restrictions Test; ETR is effective tax rate; NED represents non-executive directors in the bank; BS is a measure of board size; AGE is bank age; AGESQ is the square of bank age; LEV is total liabilities to total asset; SIZE is the size of the bank; LIQ is liquidity ratio; GRO is bank growth; and LISTD is a dummy variable that indicates whether a bank is listed or not listed. Calculation of the net effect of AGE for main model = ((2 x [6.519 x 36.758] + (−25.260)) = 453.65

From the results, increase in bank age is significantly (at 1%) related with a reduction in the effective tax rate of a bank. This result suggests that cash requirements to fund bank growth opportunities means adopting internal cost savings strategies meant to enhance internally generated funds. Given the expensive nature of raising external funds from less efficient capital markets like Ghana where information asymmetry is common, banks consider tax cost savings from tax avoidance as a good option for pursuing general cost savings strategies. This notwithstanding, the study also depicted from the significantly (at 5%) positive relationship between the square of bank age variable and effective tax rate that banks, at a point in their life cycle, discontinue their tax avoidance exploits. This is more likely to occur in the later part of their maturity and decline stages where less growth options are available. These notwithstanding, the positive net effects (based on models 1 and 2 in Table 4) of the bank age

interactive variable suggest that aging banks are less likely to engage in tax avoidance schemes. Consequently, the results directly offer support for the life-cycle theory but indirectly offer support for the pecking order theory.

The results on the relationship between bank size and the effective tax rate was positive and significant at 5% depicting that larger banks do not rely on tax avoidance schemes probably because of reputational concerns or availability of capacity to raise funds whenever needed. Bigger banks are more likely to be socially responsible and concerned about their reputation because they are easily identified and their rents would be greatly affected even with the slightest adverse publicity. The realization of being a market leader or key market player does appear to be inconsistent with tax avoidance (Graham et al., 2013; Platikanova, 2017), by which corporate entities may be seen in the eyes of the public as shirking their responsibilities and duping the state. Managers of banks probably consider keeping their social contract with the public as more valuable than the benefits that may accrue from tax avoidance. Corporate image protection and enhancement may have far-reaching implications on market share than tax avoidance schemes. Also, bigger banks have the needed collateral to secure funding when needed. Thus, addition to bank assets reduces bank tax avoidance schemes and this result sit well with the firm reputational hypothesis.

External financial constraint (Listing) and bank tax avoidance behavior. The results from model 2 shows that bank tax planning drivers change, in terms of magnitude but not in terms of direction, when the listing dummy is introduced. The results appear to suggest that listed banks are less likely to engage in tax avoidance schemes because probably they are less informationally opaque and face less external financial constraints, even though this result is not statistically significant. The result from the internal measure of cash constraint shows that bank liquidity has a significantly (at 1%) negative relationship with an effective tax rate of banks, with the introduction of the listed dummy. This implies that as banks increase their liquidity position they tend to engage in more tax avoidance activities. This is possible because of the nature of the banking business which places emphasis on bank liquidity in order to guarantee survival and performance. Meanwhile, the results from the bank age variable remained robust, with the introduction of the proxy for external financial constraint (listed bank dummy variable), reinforcing the special role-played by the developmental stage of a bank in driving bank tax avoidance schemes.

7. Conclusion

The literature on tax planning has been skewed toward non-financial institutions, globally, as if tax avoidance opportunities and their ramifications do not exist for financial institutions like banks. In this study, we applied some of the general theories and hypothesis (Agency, Pecking order, life cycle, and Diamond's reputation) used to explain tax avoidance incentives of non-financial firms to banks in Ghana to examine the extent of their application to financial institutions. The study also assessed the possibility of tax avoidance persistence in the banking industry of Ghana. Even though the results are based on a relatively small sample of banks (18) over a five-year period, the estimation technique used and the diagnostic statistics reported guarantees the reliability of the reported results. In spite of this, the generalization of the findings of this study to other financial institutions or to banks in other developing economies other than Ghana must be done cautiously.

Based on the results that non-executive directors, age, size, and liquidity are key drivers of bank tax avoidance incentives, we conclude that: 1) bank tax avoidance scheme does not persist; 2) incentives for bank tax are largely explained by the agency, pecking order, and life-cycle theories as well as reputational concerns. Thus, the study recommends that banks should factor tax cost savings as part of their cost management strategies. Such cost management strategies should consider the governance structures of the bank, its developmental stage as well as its size and liquidity position.

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