Corporate Governance as a Red Flag to Thin Capitalization: Study of Corporate Governance Variables Influencing Thin Capitalization in Ghana

Author's Details:
[1] **Collins Jerry Boateng-**Hangzhou Dianzi University-School of International Education-Hangzhou, Xiasha, Xuelin Street, Zhejiang Province, P. R. China [2] **Prince Asare Vitenu-Sackey-**Jiangsu University, School of Finance and Economics-No. 301 Xuefu Road, Zhenjiang 212013-Jiangsu Province – P. R. China

Abstract
The main purpose of this study was to assess the impact corporate governance has on thin capitalization in Ghana. In view of this, the study aims to; investigate corporate governance variables determining thin capitalization practices in Ghana and also ascertain the depth at which corporate governance affect thin capitalization. The study used panel data of 42 listed companies on the Ghana stock exchange market for the period 2014 to 2018. The study used panel data methodologies such as panel correlation matrix, co-integration tests, robust least square, and granger causality test. The study found that corporate governance has a significant impact on thin capitalization thus the employment of external auditors tend to report the true picture of firms and disclosure of directors' reports reveal the true position of corporation hence it negatively affect thin capitalization. Meanwhile, the background of the board of directors, the age of the board and concentrated ownership of firms as in family ownership positively impact thin capitalization thereby increases thin capitalization. To increase leverage in firms, the study found that private ownership has more advantage to increases a firm's leverage whiles state owned firms decreases a firm's leverage.
Keywords: *Thin capitalization; corporate governance: list companies in Ghana*

1. Introduction

Taxation forms a huge portion of every country's revenue. As various Tax Authorities are devising rules and restrictions to fight tax avoidance in order to maximize tax revenue so is the aim of every corporation to device new ways in avoiding or paying less tax as possible. Tax avoidance is an important issue in Ghana due to the fact that most of the corporations are family-owned or have a high concentration of ownership. The legislators of many countries have reacted by the development of strategies by increasingly implementing thin capitalization rules to combat tax avoidance. Prior research has shown that there are two main aspects of thin capitalization; factors that determines thin capitalization practices, such as multinationals' use of tax havens and corporate governance (Desai, M. A. et al.,2008; Taylor and Richardson, 2013; Armstrong, C. S. et al., 2015; Ariel, P., 2017) and Financial Reporting Standard adoption (Taylor and Tower, 2009) and again, the thin capitalization effects on several outcome variables, such as a firm's financial performance (Buettner et al., 2012; Weichenrieder & Windischbauer, 2008). Nadarajah, S., Ali, S., Liu, B., & Huang, A. (2018) examine the effects of stock liquidity and corporate governance on the firm's leverage decision and find a negative stock liquidity-leverage relation. They also find a significant and negative relationship between corporate governance quality (CGQ) and the firm's leverage and asserted that firms with high CGQ significantly reduce leverage. Most corporations thinly financed their firms by issuing a high amount of debt instead of equity. This choice of capital structure helps these corporations to avoid taxation. This is because high debt finance leads to high interest that would be deducted from their profit generated. Overesch, M., & Wamser, G. (2010) also asserted that corporate governance quality of the debt issuer contributes to the fulfillment of debt obligations. Lei, Q., & Chen, H. (2019) also find that Chinese listed companies that expanded their corporate governance boundary significantly improve their investment efficiency, while debt constraint can foster the effects of positive corporate governance boundary on investment efficiency. In Haufler, A., & Runkel, M. (2012), it was found that coordinated tightening of thin capitalization rules (TCR) benefits both countries, even though it intensifies competitions through tax rates. It was further posited that when these countries differ in size, the smaller country may not only choose the lower tax rate but also takes a more lenient TCR.

Gresik, T. A., Schindler, D., & Schjelderup, G. (2017) studied corporate income shifting and found that when interest is deductible by subsidiaries on internally constructed debt, it helps corporations to avoid tax by reducing the amount of corporate tax paid or payable. Kieschnick, R., & Moussawi, R. (2018) study firms' age corporate governance and capital structure reveal that firms' age is positively related to the use of debt, negatively related to how much debt a firm uses but posited that firm's age affects how much debt a firm uses is primarily due to the interactions between firm's age and corporate governance variables. Debt holders take into account the risk of influence form CEOs of large companies on local auditors, while for international auditors such influence is less (Teplova, T. V., & Sokolova, T. V. 2018). Problem of thin capitalization induces countries to reduce their corporate tax rates below the personal income tax rate and to broaden their tax bases (Fuest, C., & Hemmelgarn, T. 2005), and in the presence both foreign firm ownership and thin capitalization, countries gain from a coordinated increase in corporate tax rates or coordinated broadening of the tax base.

In trying to understand and fully appreciate the essence of exploring corporate governance which tends to promote effective and efficient manning of corporate affairs. The study's objectives can be drawn as; to investigate corporate governance variables determining thin capitalization practices in Ghana and also to ascertain the depth at which corporate governance affect thin capitalization.

This study contributes to existing literature which affirms that firm level characteristics are not the only factors that affect thin capitalization in the quest to avoid corporate tax. The study also contributes mostly to the currently limited research on the corporate governance variables affecting TC. This study's results will be useful to the Tax Authority in Ghana to modify and develop new policies in dealing with the issue of thin capitalization. The study would also be useful to a corporation that engages in such thin capitalization practices to avoid fines, penalties, and reputational damage. Despite the introduction of the new tax rules in Ghana, there still exists the issue of corporate tax avoidance resulting from thin capitalization and this is what the study seeks to investigate.

Research questions

- Do concentrated ownership firms (family owned firms) negatively influence thin capitalization?
- Does the disclosure of director's report by a corporation negatively influence thin capitalization?
- Can the use of big4 audit firms negatively influence thin capitalization?
- How do the backgrounds of the board of directors positively influence thin capitalization?
- Do the ages of the board of directors change the relationship between ownership and thin capitalization?

The study covers all listed companies on the Ghana stock exchange market but with a concentration on listed companies with published financial reports online. The study considers the corporate governance measure of performance and a benchmark to measure thin capitalization. The study uses macro or secondary data from reliable sources. The secondary data, however, are extensively composed of first-hand information that was collected from journals and websites through the internet.

The main purpose of the study is to investigate the extent to which corporate governance variables influence thin capitalization practices in china. Specifically, the study would investigate whether; ownership structure of Ghana firms, investor's site visit disclosures, the use of Big4 external auditors, and background of the board of directors influence thin capitalization in Ghana. The rest of this study consists of chapter two which deals with the literature review (covering the overview of thin capitalization, and corporate governance overview), research hypotheses; Chapter three comprises the research design, variable definition, data collection procedure and chapter four reports the results, findings and discussion. Lastly, chapter five draws the conclusion and make recommendations as well as the references.

2. Literature Review

This study is unpinned by three main theories and these are the agency theory, Hoffmann's_theory and political theory of tax avoidance resulting from thin capitalization schemes. The Hoffmann (1961) taxation theory is mainly associated with business or accounting concepts, which is it allows a firm to modify the activities towards the attainment of reduction in tax liability. He came out with some ambiguity and loopholes in tax laws which were mainly due to unclear intentions of the legislators. He then concluded that successful tax schemes work with the legal concepts and precise wording of the statute and complying with these concepts very precisely as it relates to individual firm tends to be advantageous to firms. These advantages come in the form of tax savings. This aforementioned theory is relevant to this study because it helps firms to reduce their tax burden and increases their after-tax income when they take advantage of the loopholes in the corporate tax laws and maintain an optimal gearing thus having tax shield on the deductible interest (Hoffman's theory).

The agency theory of tax avoidance brings out the inability of the tax savings from tax planning schemes to increase their after-tax incomes due to the agency problem of managerial opportunism of resource diversion. Desai and Dharmapala (2009) posited that complex tax avoidance activities could provide management with the strategies, tools, masks, and justifications for opportunistic managerial behaviours, such as earnings manipulations, related party transactions, and other resource-diverting activities thus, tax savings may not actually result to increase on firms' after-tax rate of return. The agency theory is also relevant to this study since it plays a vital role in tax avoidance by preventing management opportunism. This theory aligned management's interest with that of the fund providers (shareholders). From the agency point of view, a firm might employs all the strategies in reducing its tax burden but the tax savings are not transformed into corporate financial benefit due to the agency problem. This theory is of the notion that managers with their personal interest will conflict with the global interest of the entity and might divert such tax savings to other investment for personal gains.

According to Salamon and Siegfried (1977), larger firms have an economic and political power advantage over the small firms. These larger firms effectively use their economic and political power to reduce their tax burden. This is because these firms are able to engage in aggressive tax planning due to their broad resources (Salamon and Siegfried 1977) and he again posited that large firms are opportunistic in manipulating political principles for the elevation of their after-tax incomes. The political cost theory is relevant to this study because it is believed that larger firms tend to be more matured and possesses expansive and greater resources over small firms. These larger firms have the capacity of engaging professionals in the formulations and implementations of their corporate strategies with tax liability factored. These larger firms have the resource to acquire professional and experienced tax experts who have in-depth knowledge in exploiting the loopholes in the laws or even thin capitalization rules.

Most studies have been conducted to examine the relationship between firm-specific characteristics and thin capitalization (tax avoidance) using varieties of proxy. Among these proxies are the GAAP Effective Tax Rate (ETR), tax shelter and etc. Gupta & Newberry (1997), use a wide range of determinants of GAAP ETRs. International scale of operations leads to more thin capitalization (TC) opportunities which result in lowering GAAP ETRs as evidenced by Rego (2003). Most corporations also lower their tax burden by transferring incomes from area of higher tax jurisdiction to an area of low-tax jurisdiction. Adding to that notion, firms accused of using tax shelters have larger book-tax-difference, more foreign operations, subsidiaries in tax havens, higher prior-year effective tax rates, greater litigation losses, and less leverage (Wilson, 2009). Some empirical literature incorporates agency predictions into an analysis of corporate tax avoidance resulting from thin capitalization. If TC (avoidance) activities create value and compensation incentive align the manager's interest with shareholders, then firms that use more after-tax performance-based should engage in more thin capitalization activities (Hanlon, et al., 2010). An important element that must be taken into account in tax avoidance is the ownership structure. The ownership structure of a corporation can have an important effect on tax avoidance (Desai & Dharmapala 2008). In countries such as China, the ownership structure is very concentrated. Firms with concentrated ownership, such as the family firms examined in Chen et al., (2010), may avoid more taxes because controlling owners benefit more from the tax savings. According to Hanlon, et al., (2010), these firms may avoid fewer taxes because these long-term concentrated owners have a longer horizon and may be more sensitive to the total cost of TC activities (avoidance) arising from reputation effects and suspicions of diversion from minority shareholders. Chen et al. also asserted that family firms avoid fewer taxes than non-family firms. Hanlon et al. again asserted that these family firms are willing to let go the tax benefits to avoid concerns by minority shareholders of the family rent-seeking masked by tax avoidance activities.

Most of these researchers focused on firm-specific characteristics, tax rate, and international business taxation factors that influence tax avoidance leaving corporate governance variable which is one most important issue in corporate tax avoidance resulting from TC. Firm-specific characteristics that influence corporate tax avoidance has been rigorously researched but little did these researchers do about the corporate governance variables that influences thin capitalization as a means of avoiding tax by corporations. Corporate governance provides the framework in which the corporation must operate. Shareholders involvement in the corporate affair is a very important issue in corporate governance if the firm wants to avoid agency problems. Firms with established governance structures (board of directors, uses the any of the big four auditors, internal auditors, disclosure of directors report, firm age and age of directors) reduce thin capitalization (tax avoidance). Corporate unethical practices that lead to thin capitalization are reduced by the corporate governance mechanisms (Desai & Dharmapala, 2006; Minnick & Noga, 2010). The results of Taylor & Richardson, (2013) show that independence of the board of commissioners, institutional ownership and the use of Big4 auditors are significantly negatively associated with firms adopting thin capitalization as a means of tax avoidance after employing several corporate governance variables. A higher proportion of independent commissioners on the board also reduce tax avoidance (Lanis and Richardson, 2012; Pratama, A. 2017). (Pratama, A. 2017) use the size of commissioners and the percentage of independent commissioners as corporate governance proxies and found out that independent directors do not negatively influence thin capitalization, and thus lead to the rejection of their second hypothesis. In fact, several limitations were pointed out in that study such as the sample used, the study is exploratory in nature due to lack of research in the area of corporate governance variables affecting thin capitalization. In this study, all companies regardless of their operation will be part of the sample unlike Pratama, A. (2017) where only manufacturing firms were considered in their sample.

Thin capitalization leads to thinly reported corporate income for taxation purposes also creates value to the board of directors and CEOs. The benefit that comes with the untaxed portion of the income due to thin capitalization schemes to some firms shows how effective the firms have been managed by the board. This benefit accrues to firms in two main ways; the untaxed portion of income and the tax amount that has been forgone had the firm reported that part of the profit. In Lanis, R., Richardson, G., Liu, C., & McClure, R. (2018) when firms engage in tax avoidance, both directors and CEOs, on average, are rewarded by improvements in their reputations as proxied by an increased number of outside board seats and also CEOs of tax-aggressive firms experience enhanced reputations by gaining extra board seats.

Thin capitalization practices have been described by Christian, C., & Henry, C. (2015) as illicit financial flow. These illicit financial flows have been draining countries of the rightful benefits. Most multinational corporations are denying countries of the right amount of tax by transfer pricing, income shifting and thinly reporting their income to avoid or pay less tax. Combinations of positivist and interpretivist epistemological approaches are employed by (Christian, C., & Henry, C. 2015) to not only ascertain existence and effect but to also bring out the various contextual issues that predispose their country to thin capitalization practices. Several countries have tried to combat thin capitalization schemes by enacting and implementing particular rules that deny tax-deductibility of internal loans if the size of these loans surpasses a permissible threshold. Some popular way of introducing these rules is to implement a so-called debt-to-equity ratio. This sets a limit on internal debt that can be tax-deductible for a given level of equity. Another way to implement thin capitalization rules instead of defining a fixed ratio is to restrict interest deduction based on a company’s earnings before interest, taxes and depreciation and amortization (EBITDA). The approach is called an earnings stripping rule and is used in countries such as Germany, Italy and in the USA.

In theory, firm’s tax burden is proportionally related to its profitability; attaining firm’s wealth maximization objective through diverse means of increasing profitability poses more challenge on the firm’s ability to reduce its tax liability. Effective tax planning is defined by Scholes, Wolfson, Erickson, Maydew, & Shevlin, (2009) as strategies that maximize the firm’s expected discounted after-tax cash flows. Thin capitalization strategies (tax planning strategy) developed by firms tend to give a positive impact on a firm's cash flow and its after-tax rate of returns; however, TC strategies have a negative impact on the government's revenue and further, increase the compliance cost of collecting taxes. Gupta & Newberry (1997) conducted their research on the determinants of the variability in corporate effective tax rates and their study's results suggest that ETRs are not associated with firm size when the relation is examined over time with firms having longer histories. However, results show that ETRs are associated with a firm's capital structure (leverage), asset mix (sizes of the firm), and performance (profitability). These findings call into question the tendency of interest groups to focus simply on firm size to draw inferences about equity and neutrality of the tax system.

2.1 Overview of Thin Capitalization (TC)

Currently, there has been a surge in research that seeks to explore the sources of variation in tax avoidance (Shevlin & Shackelford, 2001; Oler, M., Shevlin, T., & Wilson, R., 2007; Hanlon, M & Heitzman, S., 2010). Shareholders find it very crucial of corporations to provide capital as debt instead of equity capital. In lieu of this is an extensive enlargement of debt financing of corporations. To ensure maximum tax revenues, the legislators of many countries have reacted by the development of strategies by increasingly implementing thin capitalization rules. A multinational company reduces its tax liability abroad when they are granted the opportunity to grant intercompany loans to their foreign affiliates (Weichenrieder, A. J., & Windischbauer, H. 2008). Weichenrieder, et al., (2008), their studies empirically analyzed the effects of TCR on corporate policies and find that the tightening of regulations in 2001 in German had some limiting effects on leverage. The tightening of the regulation led foreign affiliates to reduce their intercompany loans and caused the need to resort to higher equity financing. In Ghana, there are three main tools used in preventing the corporation from engaging in tax avoidance. These tools are income striping rule (Income splitting includes transfers of income or property (including money) to an associate that results in the transferee receiving or enjoying the income from that property with the reason for the transfer being to reduce the combined tax liability of the transferor and transferee. Income splitting is not permitted under the laws of Ghana), Transfer pricing rule (Transfer pricing regulations (TPRs) require that transactions conducted between persons who are in a controlled relationship (e.g. parent-subsidiary, associates, relatives, etc.) be done at arm's length. The TPRs also cover transactions between an employer and employee), and thin capitalization rules (A company is deemed as being thinly capitalized if the ratio of its interest-bearing exempt debt to the exempt equity contribution held by its parent or an associate of the parent is greater than the ratio of 2:1. Any interest charges or exchange losses arising on the debt in excess of the ratio are disallowed in assessing the Ghanaian entity's tax). But this study focuses on only the use of thin capitalization rules to restrict firms from avoiding tax. This rule is to ensure the maximization of government tax revenue and to prevent companies from thinly financing their business. Not only in Ghana but also in other countries such as China, Italy, Netherlands, Ghana have implemented thin capitalization rules whiles Germany, Denmark, the UK, Spain, and France tightens their existing rules. Clearly, thin capitalization rules are all the mechanisms put in place to reduce the amount of corporate tax through a reduction in corporate taxable income. The capital structure of a company will often have a significant effect on the amount of tax paid or payable. The rationale behind this is that some country's tax rules allow for the deduction of interest paid or payable in arriving at the amount of profit subject to tax. Thus the higher the amount of debt, the higher the interest, and the lower the taxable profit. In sum, debt financing seems to be efficient to shareholders than investing in equity.

International Thin capitalization rules

China's New Corporate Income Tax Law (CITL) came into practice on January 1, 2008. This CITL provides guidelines for the implementation of thin capitalization rules. Before the introduction of the new capitalization rules in China, the following rules were already in existence: the ratio of total investment to registered capital applicable to foreign enterprises, the ratio of total debt applicable to domestic enterprises, and the arm's length principle to purposely regulate the interest rate. In practice, this old tax law created preferential tax treatment on individual dividends received by foreign investors and it reduced the motivation of inbound debt finance greatly in China (Qiu, D., 2009), but the new Corporate or Enterprise Income Tax Law came to ensure a uniform application of TCR's to all corporations subject to Chinese income tax. Although the basis for determining thin capitalization level in corporations are not uniformly applied in all countries due to economic circumstances of these countries some countries have similar applications of this basis for determining thin capitalization level in corporations. Some of these bases are the ratio of debt-to-equity, and the ratio of debt-to-total assets (Ting, 2004). In China, new thin capitalization rules are primarily based on debt-to-equity (with a debt-to-equity ratio of 2:1).

In the U.S, thin capitalization rules were first implemented in 1989 when IRC section 163(j) was enacted. Section163 (j) (2) (A) (ii) applies when "the ratio of debt to equity of such corporation as of the close of such taxable years (or any other day during the taxable year as the Secretary may by regulations prescribe) exceeds 1.5 to1." When that condition is met, and the interest expense is greater than 50 percent of the adjusted taxable income of the business, that portion above 50 percent is not tax-deductible. Thus, both conditions must be met before tax-deductible interest expenses are limited. Adjusted taxable income is calculated by adding back net interest expense, depreciation, amortization, depletion, and a net operating loss deduction to taxable income (Department of Treasury 2007, p. 9). The excess interest is not deductible that year, but can be carried forward into future years (Webber, S. 2010) their initial rules applied only to debt extended from related parties, but in 1993 the law was expanded to include debt extended from unrelated parties, if guaranteed by a foreign or tax-exempt entity (Department of Treasury 2007, p. 9).The U.S. 1.5-1 debt-to-equity figure is a safe harbor rule. When the debt-to-equity ratio is below that figure, the IRS will not question whether the debt is excessive. If it is above the 1.5-1 ratio, the IRS may or may not determine the debt is excessive, based on an examination of all relevant facts and circumstances. According to Webber, S. (2010), to describe rules in several other countries the Department of Treasury (2007) wrote, "A debt-to-equity ratio is often used, but sometimes it is a strict limit (e.g. interest on any debt that exceeds the ratio is disallowed) rather than only a safe harbor as it is in the United States"(pp. 10-11). Most countries have resorted to the use of debt-to-equity as the basis for determining the level of thin capitalization (Blouin et al., 2014, Pratama, A. 2017). In this study, thin capitalization would be determined using both leverage and ETR, thus Effective Tax Rate. It is within this context that the study would be operationalized.

2.2 Overview of Corporate Governance

Corporate governance is a new term just introduced into the arena of thin capitalization and little research has been done on factors determining the practices of thin capitalization (Pratama, A. 2017). Kieschnick, R., & Moussawi, R. (2018) find that the effects of firm age on how much debt a firm uses is primarily due to the interaction between corporate governance features and the firm's age. In lieu of that, this research focused on corporate governance-related variables determining corporate tax avoidance/thin capitalization practice in Ghana. In Taylor & Richardson (2013), it was found that corporate governance has a significant impact on thin capitalization using the presence of an independent board of commissioners, institutional ownership and employment of Ernst and Young, Deloitte, PwC, KPMG auditors as variables. Desai, M. A. et al., (2008) conducted theoretical research on tax avoidance and corporate governance variables and asserted that literature has neglected how taxation can interact with various corporate governance mechanism that has arisen to ameliorate corporate governance problems. These are corporate governance variables (concentrated ownership, accounting and information systems, high-powered incentives, financing choices, pay-out policy, and the market for corporate control). In Armstrong, C. S. et al., (2015), the relationship between corporate governance, managerial equity incentives, and tax avoidance are mixed and results in inconclusive inferences in the existing literature. This study would focus two (corporate governance variables and tax avoidance resulting from thin capitalization schemes) of three elements to avoid providing inconclusive inferences. Liedong, T. A., & Rajwani, T. (2018) study revealed the dark side of firms and their political connection, they posit that political ties are associated with high interest rate and poor corporate governance. Atanassov, J., & Mandell, A. J. (2018) asserted that weaker corporate governance begets high cash dividend payout than firms with better corporate governance. This weaker corporate governance also reduces the value of the firm and also the market views it as the extraction of wealth.

Board that is more knowledgeable about the net benefits of tax strategies should encourage more tax planning at lower levels of tax avoidance because this improves cash flow with little accompanying risk but Armstrong, C. S. et al., (2015), asserted that more knowledgeable board should discourage additional tax avoidance when the level is high because the increased costs (regulatory and reputational) are more likely to outweigh the marginal benefits of additional tax savings. But this study would seek to specifically provide empirical evidence on the extent to which corporate governance variables affect corporate tax avoidance resulting from thin capitalization schemes.

Some empirical literature incorporates agency predictions into an analysis of corporate tax avoidance. An aspect is that if tax avoidance schemes create value and compensation incentive align the manager's interest with shareholders, then firms that use more after-tax performance-based should engage in more tax avoidance (Hanlon, M., & Heitzman, S. 2010). An important element that must be taken into account in tax avoidance is the ownership structure. The ownership structure of a corporation can have an important effect on tax avoidance (Desai, M. A., & Dharmapala, D. 2008). In countries such as China, the ownership structure is very concentrated. Firms with concentrated ownership, such as the family firms examined in Chen et al., (2010), may avoid more taxes because controlling owners benefit more from the tax savings. The presence of (an independent director with more experience and longer tenure, the presence of institutional ownership, and concentrated controlling ownership) mitigates management's misconduct (Akram, H. M. I., Shahzad, A., & Ahmad, I. 2018).

2.3 Hypotheses development

In countries such as Ghana, the ownership structure is very concentrated. Firms with concentrated ownership, such as the family firms examined and may avoid more taxes because controlling owners benefit more from the tax savings. If tax avoidance schemes create value and compensation incentive align the manager's interest with shareholders, then firms that use more after-tax performance-based should engage in more tax avoidance (Hanlon, M., & Heitzman, S. 2010). In that regard, the ownership structure is an important element that must be taken into account in thin capitalization (tax avoidance). The ownership structure of a corporation can have an effect on thin capitalization/tax avoidance (Desai, M. A., & Dharmapala, D. 2008). According to Legenzova, (2008) public ownership plays a vital role in controlling the operation of a corporation and such dispersion of ownership have a significant relationship with disclosure and transparency. The comprehensiveness of disclosure requirements may also be accounted for by the differences in the proportion of the firm owned by the private (public/outsiders). In this regards, the board may accept strategies aimed at reducing or avoiding tax (thin capitalization) up to a particular level and beyond this level any other thin capitalization strategies would be denied. This is because the greater the number of people who need to know about the state of affairs of the firm the greater will be the details required of an item of information and the comprehensiveness the disclosure will be (Apostolous et al., 2009). Hasan, M. S., & Omar, N. (2015) examined the influence of a firm's level CG on market capitalization. Their study is potentially important for managers to improve the CG system in the context of Bangladesh. They employed a linear relationship between CG and market capitalization which was recognized at one percent level of significance. A positive and significant relationship between board independence and market capitalization is identified. On the other hand, a negative and significant relationship between public ownership and market capitalization is detected by the model. The present practice of CG is not capable to bring back the eroded confidence of external shareholders. The study recommends some steps for improving the situation such as at least two independent directors or one-third whichever is higher, mandatory training for directors to improve their mindset, introduce audit review system, introduce VFM review mechanism, establishing a high powered financial reporting council (FRC). The specific hypothesis proposed is:

H1. Concentrated ownership firms (family owned firms) negatively influence thin capitalization

Director's report in many countries conveys important information to fund providers. Such information among others is the number and size of the board of directors (including executive, and non-executive directors in the firm), major investor(s), shareholders' relationship with the firm, change in the ownership structure, financial status of the firm, and any major changes to be made. In Ghana, such information is made available in the director's report. Different countries have different titles in the financial statements for where to get this information about the firm's relationship with the shareholders. In Ghana, the Stock Exchange requires all listed to provide such information. This has become what is known as 'Disclosure of Investors' Site Visit' in the financial report. Cheng, Q., Du, F., Wang, X., & Wang, Y. (2016) studies examine the impact of corporate site visits on analysts' forecast accuracy based on a sample of such visits to Chinese listed firms during 2009–2012. They find that analysts who conduct visits ("visiting analysts") have a greater increase in forecast accuracy than other analysts, and also consistent with the notion that site visits facilitate analysts' information acquisition through observing firms' operations, they find that the results are stronger for manufacturing firms, firms with more tangible assets, and firms with more concentrated business lines. Jiang, X., & Yuan, Q. (2018) their study investigates whether and how institutional investors' site visits affect corporate innovation using all Chinese firms listed in the Shenzhen Stock Exchange from 2009 to 2013. They find that institutional investors' site visits significantly enhance corporate innovation and this effect is more pronounced for firms with a lower-quality information environment and poor corporate governance. Lu, X. W., Fung, H. G., & Su, Z. Q. (2018) uses Chinese listed firms during 2009–2014 to examine how conditional skewness (crash risk), the third moment of the return distribution, reacts to the information revealed by site visits and their results indicate that crash risk increases with site visits. They again posit that effect of site visits on crash risk is stronger for firms with lower disclosure, high dispersion of investor opinions, in down markets, and at non-SOEs. The specific hypothesis proposed is:

H2. Disclosure of the director's report by a corporation negatively influences thin capitalization

Taylor, G., & Richardson, G. (2013) studied the determinants of thinly capitalized structures of publicly-listed Australian firms. Based on a hand-collected sample of 203 publicly-listed Australian firms over the 2006–2009 period (812 firm-years) and their regression results provide evidence that shows that corporate governance monitoring mechanisms relating to big-4 auditor utilization are significantly negatively associated with firms adopting thinly capitalized tax avoidance structures. Fathi, J. (2013) study examines the relationship between the level of disclosure and its determinants, more specifically those relating to corporate governance mechanisms. The theoretical framework of the relationship between governance and the level of disclosure is proposed by the agency theory. Their results show that the level of disclosure is explained by the size, leverage, profitability, duality, concentration of ownership and control quality as measured by the number of auditors and the presence of Big4. The specific hypothesis proposed is:

H3. The use of big4 audit firms negatively influences thin capitalization

Board that is more knowledgeable about the net benefits of tax strategies should encourage more tax planning at lower levels of tax avoidance because this improves cash flow with little accompanying risk but Armstrong, C. S. et al., (2015), asserted that more knowledgeable board should discourage additional tax avoidance when the level is high because the increased costs (regulatory and reputational) are more likely to outweigh the marginal benefits of additional tax savings. Hardiningsih, P., Hadi, T. P., & Ariani, N. (2019) conducted research on determinant earnings persistence with corporate governance as moderating factors. Their research examined the effect of earning aggressiveness and tax aggressiveness with moderated corporate governance. Selected research samples were 68 manufacturing of consumer goods industry sector with purposive sampling technique. Their analysis technique used pure MRA with an interaction basis. Their results showed that book-tax difference and earning aggressiveness had a negative effect on earnings persistence. Likewise, corporate governance strengthens the influence of book-tax difference and earning aggressiveness on earnings persistence. But this study would seek to specifically provide empirical evidence on whether the background of the board of directors affects corporate tax avoidance resulting from thin capitalization/tax avoidance schemes. The specific hypotheses are:

H4. Background of the board of directors positively influences thin capitalization (whether or not there is an established board)

H5.Age of the board of directors changes the relationship between ownership and thin capitalization.

3. Research methodology and Data

3.1 Research Model

Grace, O. O & Adegbemi, O. B. (2016) examined the influence of corporate tax planning on the financial performance of manufacturing firms quoted on Nigerian Stock Exchange using annual reports and accounts of 10 selected firms out of 28 firms listed under consumer goods sector. Their study employed generalized least square (GLS) method of regression based on the outcome of Hausman's model estimation test. The study established that aggressive tax planning such as thin capitalization, tax law incentives and other benefits of loopholes in Nigerian tax laws have not been fully utilized by the Nigerian firms. Grace, O. O & Adegbemi, O. B. (2016), thin capitalization was measured using ETR. ETR was defined as Effective Tax Rate = (corporate income tax expense (excluding deferred tax expense)/ profit before tax). This study also employs the same procedure in the measurement of thin capitalization. The research design employs this model to address the hypotheses;

ETR_{it}=α_0+α_{1it}FIRM_CO+α_{2it}DSC_DR+α_{3it}EX_AUDIT+α_{4it}BOG_BOD+α_{5it}EST_IA+α_{6it}PROFIT+α_{7it}SIZE_FIRM+α_{8it}FIRM_REP+α_{9it}FIRM_AGE+α_{10it}PRIV_FIRM+α_{11it}ST_FIRM+ α_{12it}AGE_BOD+$\varepsilon_{it.}$ ………………………………………………………………………..eqn1

LEV_{it}=α_{it}0+α_{it1}ETR+α_{2it}FIRM_CO+α_{3it}DSC_DR+$_{it}\alpha_{4it}$EX_AUDIT+α_{5it}BOG_BOD+α_{6it}EST_IA+α_{7it}PROFIT+α_{8it}SIXE_FIRM+α_{9it}FIRM_AGE+α_{10it}FIRM_REP+α_{11it}PRIV_FIRM+α_{12it}AGE_BOD+ε_{it}. ………………………………….. …………………………………………eqn2

Where;

TC= Thin capitalization, ETR= Effective Tax Rate, FIRM_CO= Concentrated ownership firms, DS_ISV= Disclosures of Director's Report, EX_AUDIT= External Audit firm Employed, PROFIT= Profitability, SIZE_FIRM- Size of the firm, FIRM_REP= Firm's reputation, FIRM_AGE= Firm's age, EST_IA=Established internal audit, BOG_BOD=Background of board of directors, PRIV_FIRM= Private owned firms, ST_FIRM=State owned firms.

3.2 Method of Data Analysis

The study used the robust least square regression methodology which has the use of parametric and non-parametric methods to solve the problems of simultaneity, homogeneity, and heterogeneity. The study used STATA 14 and Eviews version 8 for the data analysis. Firstly, the study summarizes the data in Table 2 and subsequently perform a correlation matrix to ascertain whether there is multicollinearity among the variable. The next step was to test for cointegration among the variables in order to estimate the long run relationship among the variables. After the null hypothesis is rejected then the regression is performed on the equation 1 and 2 to compute the coefficients of the variables with a robust least squares regression. Afterward, the granger causality test is performed to find the direction at which the variables cause each other.

3.3 Data Description

VARIABLES	SYMBOLS	DEFINITION OR DETAILS
Thin Capitalization	ETR=CT-DTE/PBT	Effective Tax Rate = (corporate income tax expense (excluding deferred tax expense)/ profit before tax)
Concentrated ownership firm	FIRM_CO	% of shareholders with close relations. If this % is more than 60%, equals 1 or otherwise equals to 0
Disclosure of Director's report	DSC_DR	Disclosure of director's Report by the firms equals 1, or otherwise, equals to 0
External audit firms	EX_AUDIT	Equals 1, if a firm employs the services of any of the Big4 audit firms, or otherwise 0
Profitability	PROFIT-ROA	Net income divided by total assets
Size	FIRM_SIZE	The size of the firm will be calculated as, the natural logarithm of non-current assets
Firm's reputation	FIRM_REP	Natural logarithm of the total number of the firm's customer base
Firm's age	FIRM_AGE	Firm's age at year t-1 is measured as the natural logarithm of one plus the number of years since firm 'j' obtained listing status.
TC=Leverage	TC=LEV_FIRM	Long term debt/long term assets
Internal auditors	NUM_IA	This is equal to 1 when the firm has internal auditors or otherwise equal to 0
Background of the Board of Directors	BOG_BOD	Background of the board of directors, this is equal to 1when there is an established bod and equal to 0 when there is none.
Private owned firms	PRIV_FIRM	This equal 1 when the firm is owned by private individuals, equal 2 if owned by the state or equal to 3 if it's a combination of both private and state ownership
State owned firms	ST_FIRM	This equal 2 when the firm is owned by state individuals, equal 1 if owned by the private or equal to 3 if it's a combination of both private and state ownership.
Age of Board of Directors	AGE_BOD	Natural logarithm of the mean age of all the directors in the firm

Table 1 Description of Variable

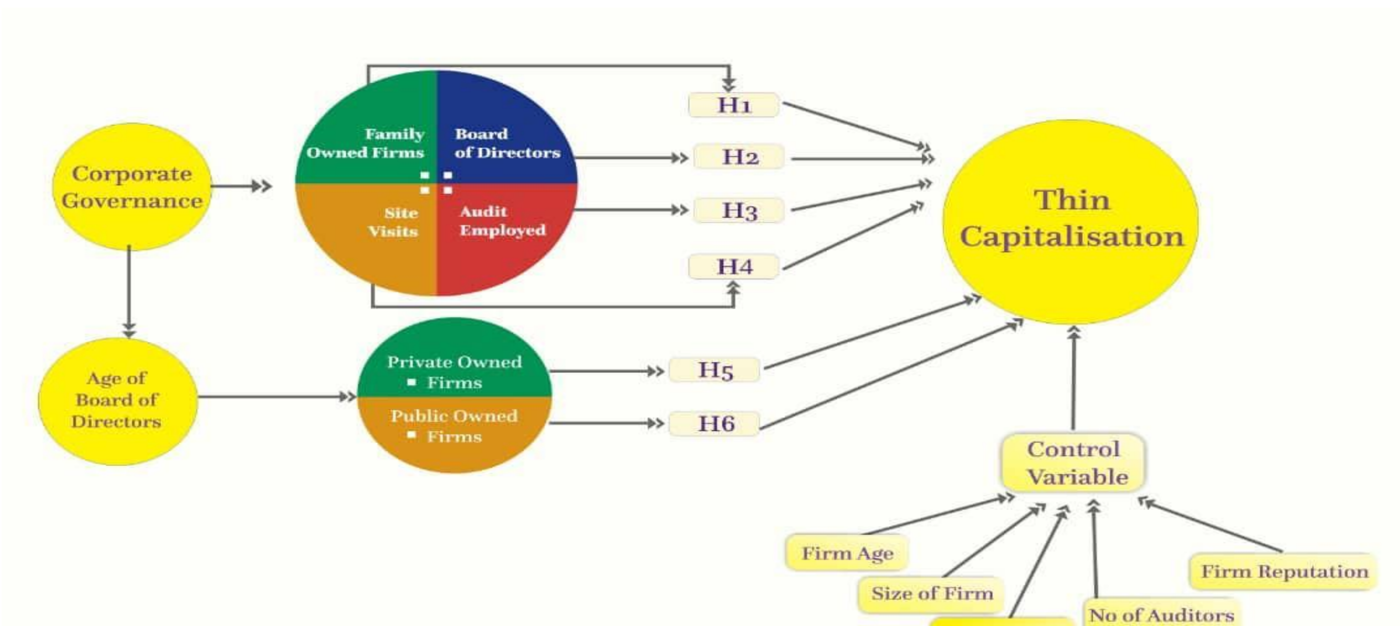

Figure 1. Research and Framework

The Research Framework

3.2 Data collection and Sample size

In Ghana, there is one stock exchange market namely the Ghana Stock Exchange (GSE).Data would be obtained from the top 42 listed firms with published financial statements on GSE markets to investigate whether corporate governance variables influence thin capitalization in Ghana. Financial service firms would be excluded as they employ different accounting methods and procedures in reporting. Although, data on investor's site visit are rare these data would be unavailable. All firms listed on the GSE market are required by regulation to also publish their annual report. The study will make use of data from listed firms in GSE because larger companies have the resources to engage in thin capitalization in tax avoidance. The law also states among other things that if corporation discloses material non-public information to an investor or a group of investors, such information must be publicly disclosed. Such companies that selectively disclose material non-public information to a particular group of investors would be denounced by the GSE.

In this regard, data would be collected for the period 2014-2018 from firms that have been listed for at least more than two years with published financial statements. Again, data would be collected from firms with non-stop business activities; this will help to avoid the effects seasonal business activities would have on the results. In order to ensure the robustness of the study, the study will make use of before and after data of firms publishing information about their financial report.

4. Results and Discussion

4.1 Summary Statistics

Table 2 summarizes the statistics of the variables adopted for the study. From the table, it can be established that mean and the median is very close and that they are homogeneously related. The table also shows the standard deviation, skewness test, Kurtosis and Jarque-bera test which confirm the asymmetric nature of the variables.

Table 2 Summary Statistics

	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera
ETR	1.063	0.729	15.024	0.000	1.686	6.382	49.870	20548.79***
LEV_FRM	0.687	0.177	10.795	0.000	1.371	4.135	24.778	4748.333***
FIRM_CO	0.595	1.000	1.000	0.000	0.492	-0.388	1.151	35.198***
DSC_DR	0.871	1.000	1.000	0.000	0.336	-2.219	5.925	247.264***
BOG_BD	0.952	1.000	1.000	0.000	0.213	-4.249	19.050	2885.772***
AGE_BOD	1.606	1.710	1.880	0.000	0.374	-3.743	16.301	2038.392***
EST_IA	0.905	1.000	1.000	0.000	0.294	-2.758	8.605	541.100***
EX_AUDIT	0.657	1.000	1.000	0.000	0.476	-0.662	1.438	36.682***
FIRM_AGE	1.022	1.150	1.430	0.000	0.422	-1.449	4.045	82.635***
FIRM_REP	2.087	2.260	4.490	0.000	1.035	-0.253	3.013	2.240
FIRM_SIZE	5.573	6.213	8.612	-8.012	2.526	-2.748	13.304	1193.323***
PRIV_OWM	1.348	1.000	3.000	0.000	0.552	0.452	2.791	7.533**
ST_WON	1.310	1.000	2.000	0.000	0.512	0.278	2.221	8.024**
PROFIT	0.355	0.092	7.236	0.000	0.942	5.436	36.234	10698.51***

Note: *** indicates 1% significance, ** indicates 5% significance, * indicates 10% significance

4.2 Correlation Matrix

Table 3 depicts the correlation matrix of the variables and in the table, it can be ascertained that the independent variables do not have multicollinearity. The rule of the thumb avers that two of the independent variables should not be highly correlated with the dependent variables with a coefficient of -/+0.80. In the table, the highest coefficient is 0.262.

Table 3 Correlation Matrix

	ETR	LEV_FRM	FIRM_CO	EX_AUDIT	BOG_BD	DSC_DR	EST_IA	FIRM_AGE	FIRM_SIZE	FIRM_REP	ST_WON	PRIV_OWM	PROFIT
ETR	1												
LEV_FRM	-0.024	1											
FIRM_CO	-0.146	-0.0581	1										
EX_AUDIT	0.128	0.2235	-0.249	1									
BOG_BD	0.143	0.1122	0.273	0.309	1								
DSC_DR	0.098	0.0772	0.178	0.471	0.582	1							
EST_IA	0.113	0.1475	0.064	0.448	0.689	0.505	1						
FIRM_AGE	0.166	-0.0111	0.137	0.251	0.545	0.204	0.362	1					
FIRM_SIZE	0.168	0.0392	0.031	0.070	0.503	0.233	0.323	0.243	1				
FIRM_REP	0.224	-0.0381	-0.006	0.183	0.459	0.082	0.380	0.727	0.328	1			
ST_WON	0.262	-0.0103	-0.263	0.108	0.356	0.012	0.199	0.352	0.327	0.510	1		
PRIV_OWM	0.228	0.0980	-0.329	0.151	0.346	-0.065	0.207	0.375	0.332	0.478	0.886	1	
PROFIT	-0.079	-0.0029	0.041	0.178	0.085	0.138	0.097	0.192	-0.056	0.125	0.017	-0.005	1

4.3 Results of Robust least square method (ETR as dependent variable)

Table 4 displays the results of the outcome from the analysis of corporate governance as a red flag to thin capitalization and from the results; it was ascertained that corporate governance has a significant impact on thin capitalization hence Firm_co, Bog_BD and Age_BD have positive impact on thin capitalization by using ETR as dependent variable or measure of thin capitalization. Moreover, Dsc_dr and Ex-Audit have a negative impact on thin capitalization confirming the necessity to augment these measures to reduce thin capitalization. An increase in Dsc_dr and Ex_Audit decrease thin capitalization whereas an increase indulgence of Firm_co, Bog_BD, and Age_BD increase thin capitalization. Meanwhile, Profitability, state ownership, and private ownership have an insignificant effect on thin capitalization. However, Firm size and firm's age have a positive effect on thin capitalization which postulates that how old and large a firm is matters in the propensity of indulging in thin capitalization but firm's reputation has a negative effect on thin capitalization. In the other words, the higher a firm's reputation, the lower its' indulgence in thin capitalization

Table 4 Result of robust least square analysis (ETR)

Dependent variable ETR					
EST_IA	0.171	-0.002	0.096	0.206	0.261
	(3.176)**	(-0.030)	(1.033)	(2.873)**	(5.713)***
Profit	0.006	0.005	-0.013	0.024	0.033
	(0.397)	(0.315)	(-0.606)	(1.301)	(2.429)**
Firm_Age	0.130	-0.022	0.024	0.124	0.105
	(2.255)**	(0.056)	(0.319)	(2.037)**	(2.439)**
Firm_Rep	-0.080	-0.079	-0.011	-0.043	0.009
	(-3.213)***	(-3.450)***	(-0.346)	(-1.558)	(0.448)
Firm_Size	0.063	0.008	0.014	0.103	0.084
	(8.898)***	(1.187)	(1.487)	(13.361)***	(15.275)***
Priv_own	0.014	-0.021	-0.045	-0.112	-0.009
	(0.206)	(-0.366)	(-0.581)	(-1.591)	(-0.174)
State_own	0.073	0.004	0.081	0.140	0.021
	(1.064)	(0.070)	(0.956)	(1.866)*	(0.386)
Firm_co	0.184				
	(5.360)***				

Bog_BD	0.899 (9.167)***			
Age_BOD		0.314 (3.938)***		
Des_dr			-0.180 (-2.950)**	
Ex_Audit				-0.271 (-9.014)***

Note: *** indicates 1% significance, ** indicates 5% significance, * indicates 10% significance. Z statistics are in parentheses.

4.4 Results of Robust least square method (LEV as dependent variable)

From the table 5, it is evidence that Firm_co, Firm_size, and Firm_age have a positive effect on LEV as a measure of thin capitalization. The profitability and private ownership of firms have a direct and positive effect on thin capitalization by the measure of LEV. Meanwhile, State ownership has a negative effect on thin capitalization which means that an increase in state ownership decreases thin capitalization. The other corporate governance variables showed an insignificant effect on thin capitalization such as Age_Bd, Dsc_dr, and the Bog_bd but there is a negative effect of Ex_Audit on thin capitalization. In contrast, the use of LEV as a measure of thin capitalization has a significant relationship with two out of the five proxy variables as a measure of corporate governance. Meanwhile, ETR as a measure of thin capitalization showed a significant relationship with all the five proxy variables of corporate governance.

H1. Concentrated ownership firms (family owned firms) negatively influence thin capitalization

From table 5 and 6, it can be evidenced that firm concentrated ownership has a significant and positive effect on thin capitalization. Therefore, the null hypothesis which states that concentrated ownership firms negatively influences thin capitalization is rejected.

H2. Disclosure of the director's report by a corporation negatively influences thin capitalization

Considering the null hypothesis that disclosure of director's report by corporations negatively influences thin capitalization, it is evidenced in table 5 that disclosure of director's report negatively impacts hence the null hypothesis is accepted.

H3. The use of big4 audit firms negatively influences thin capitalization

Big4 audit firms report the financial position of firms as it is evidenced their books hence their influence are mostly negative to thin capitalization. From table 5and 6, it can be witnessed that Ex_audit showed a negative relationship with thin capitalization confirming that it has a negative influence on it, therefore, the null hypothesis is accepted.

H4. Background of the board of directors positively influences thin capitalization (whether or not there is an established board)

Table 5 and 6 reports that the background of the board of director has a positive impact on thin capitalization but it is significant when the focus of the firm's effective tax rate over profit before tax as a measure of thin capitalization. Therefore, the null hypothesis is accepted.

H5.Age of the board of directors changes the relationship between ownership and thin capitalization.

The age of the board of directors has a positive relationship with the firm's ownership and capitalization but its significance manifest as a result of concentration on effective tax rate over profit before tax. It is insignificant when the leverage of the firm is considered as a measure of thin capitalization.

Table 5 Results of robust least square (LEV)

Dependent Variable -LEV					
EST_IA	-0.009 (-0.341)	-0.019 (-0.521)	-0.020 (-0.547)	0.001 (0.032)	0.032 (1.184)
Profit	0.019 (2.313)**	0.022 (0.008)**	0.022 (2.667)**	0.022 (2.666)**	0.024 (2.979)**
Firm_Age	0.007	0.031	0.029	0.045	0.054

	(0.279)	(1.085)	(0.979)	(1.671)*	(2.125)**
Firm_Rep	-0.005	-0.011	-0.012	-0.015	-0.015
	(-0.467)	-0.950)	(-0.996)	(-1.211)	(-1.347)
Firm_Size	0.005	0.007	0.007	0.008	0.007
	(1.545)	(1.855)*	(1.885)**	(2.361)**	(2.292)**
Priv_own	1.353	1.328	1.328	1.326	1.330
	(44.251)***	(44.458)***	(44.506)***	(42.908)***	(44.952)***
State_own	-1.321	-1.318	-1.317	-1.311	-1.318
	(-41.477)***	(-40.225)***	(-40.161)***	(-39.723)***	(-41.734)***
Firm_co	0.056				
	(3.533)***				
Bog_BD		0.044			
		(0.859)			
Age_BOD			0.028		
			(0.921)		
Des_dr				0.003	
				(0.129)	
Ex_Audit					-0.037
					(-2.075)**

Note: *** indicates 1% significance, ** indicates 5% significance, * indicates 10% significance. Z statistics are in parentheses.

4.5 Granger causality test

In the table, the study performed the granger causality test to ascertain the direction in which the variables cause each other. The null hypothesis affirms that there is no granger causality among the variables. According to the report, Priv_own and Lev_frm have bidirectional causality meaning a change in one cause a change in the other variable. Furthermore, there is unidirectional causality from ETR to Firm_size, Firm_age to LEV_frm, Dsc_dr to Firm_size, Priv_own to Dsc_dr, Firm_size to Firm_age, Firm_rep to Firm_size and Priv_own to Firm_size. The study, therefore, rejects the null hypothesis that none of the variable granger causes the other.

Table 6 Granger causality test

Null Hypothesis:	Obs	F-Statistic	Prob.	
FIRM_SIZE does not Granger Cause ETR	124	0.153	0.858	
ETR does not Granger Cause FIRM_SIZE		3.180	0.045	**
PRIV_OWN does not Granger Cause ETR	124	0.844	0.432	
FIRM_AGE does not Granger Cause LEV_FRM	124	4.122	0.019	**
LEV_FRM does not Granger Cause FIRM_AGE		0.680	0.509	
FIRM_REP does not Granger Cause LEV_FRM	126	0.314	0.731	
LEV_FRM does not Granger Cause FIRM_REP		0.135	0.874	
FIRM_SIZE does not Granger Cause LEV_FRM	126	3.270	0.041	**
LEV_FRM does not Granger Cause FIRM_SIZE		0.801	0.451	
PRIV_OWN does not Granger Cause LEV_FRM	126	4.725	0.011	**
LEV_FRM does not Granger Cause PRIV_OWN		9.598	0.000	***
FIRM_SIZE does not Granger Cause DSC_DR	126	0.216	0.806	
DSC_DR does not Granger Cause FIRM_SIZE		2.507	0.086	*
PRIV_OWN does not Granger Cause DSC_DR	126	21.738	0.000	***
EX_AUDIT does not Granger Cause PROFIT		1.974	0.143	
FIRM_REP does not Granger Cause FIRM_AGE	124	0.080	0.923	
FIRM_AGE does not Granger Cause FIRM_REP		0.745	0.477	
FIRM_SIZE does not Granger Cause FIRM_AGE	124	3.071	0.050	**
FIRM_SIZE does not Granger Cause FIRM_REP	126	0.007	0.993	
FIRM_REP does not Granger Cause FIRM_SIZE		5.715	0.004	**
PRIV_OWN does not Granger Cause FIRM_REP	126	1.113	0.332	
FIRM_REP does not Granger Cause PRIV_OWN		0.403	0.669	
PROFIT does not Granger Cause FIRM_REP	126	1.084	0.342	
FIRM_REP does not Granger Cause PROFIT		1.514	0.224	
PRIV_OWN does not Granger Cause FIRM_SIZE	126	3.211	0.044	**
FIRM_SIZE does not Granger Cause PRIV_OWN		0.001	0.999	

** indicates 5% significance

5. Conclusion and Recommendation

The study assessed the impact of corporate governance on thin capitalization in Ghana from 2014 to 2018 by using 42 listed companies on the Ghana Stock Market. The study employed panel data methodologies such as panel correlation matrix, co-integration tests, robust least square regression and granger causality test.

The study found that corporate governance has a significant impact on thin capitalization hence the firm's concentration of family ownership increases thin capitalization with regards to firm size and the age of the firm. A firm's reputation tends to decrease the propensity of thin capitalization but the bigger the size of the firm increases the propensity of indulging in thin capitalization. Moreover, the age of the board in an organization increases the chance of thin capitalization due to the leverage and experience they have in maneuvering to evade taxes. Good corporate governance tends to increase the reputation and productivity of firms hence the employment of external auditors tend to decrease thin capitalization. Furthermore, the disclosure of director's reports also has a negative impact on thin capitalization which reveals the true financial position of firms to the tax authorities. Firms leverage is very important in terms of productivity hence the study found that private ownership of firms has a positive impact on leverage as compared to state ownership.

Every nation develops with taxes, therefore it is imperative for every government to device possible means to collect taxes from individuals and corporations in the country in order to use the revenue to create enabling an environment for the corporations to thrive. The study recommends good corporate governance strategies to be ensured among all corporate bodies and individuals in order to avoid thin capitalization which is a nation-wrecking agenda.

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