EFFECT OF CORPORATE GOVERNANCE ATTRIBUTES ON EFFECTIVE TAX RATE AMONG FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

Signed:  Date: 05th November, 2021.

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This research project has been submitted for examination with my approval as the University Supervisors.

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DEDICATION

This research project is dedicated to my Family; My Wife Cecily Muchangi and Daughter Zawadi Muteti.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
BTD	Book Tax Difference
CEO	Chief Executive Officer
CG	Corporate Governance
CMA	Capital Markets Authority
ETR	Effective Tax Rate
KRA	Kenya Revenue Authority
NSE	Nairobi Securities Exchange
OECD	Organization for Economic and Cooperation Development
ROA	Return on Assets
ROE	Return on Equity
SPSS	Statistical Package for Social Sciences
VECM	Vector Error Correction Model
VIF	Variance Inflation Factors

ABSTRACT

Corporate governance attributes have recently become vital in relation to tax matters more than ever before. Goals of some firms is to use corporate governance mechanisms to mitigate recurring losses and thus businesses are tempted to develop methods to reduce their tax commitments by manipulating the tax rate that reconciles tax disclosure items. This research sought to bring out the effect of corporate governance attributes on the effective tax rate among companies listed on NSE, Kenya. The research established the effect of managerial ownership structure, gender diversity and board independence on effective tax rate among NSE listed companies. Financial leverage, liquidity and firm size were used as the control variables in the model. Descriptive research design was utilized. The target population was the firms on Kenya's NSE. There are 63 companies listed at the NSE but only 55 provided complete data set. Research variables data were derived from audited company's annual financial statements from 2016 to 2020 for all 55 companies making 275 observations. Regression and correlation analysis were used to test the study hypotheses by establishing the correlation between corporate governance attributes and effective tax rate. The study found that managerial ownership (β=0.032, p=0.029), gender diversity (β=0.095, p=0.000), board independence (β=0.082, p=0.001) and firm size (β=0.103, p=0.027) had a positive and significant relationship with effective tax rate among NSE listed firms. Leverage has a significant negative effect on effective tax rate (β=-0.033, p=0.008) while liquidity was not statistically significant. The outcomes too indicated R^2 of 0.4836 which implied that the selected independent variables contributed 48.36% to variations in effective tax rate. The study recommends the following; that the management of firms listed in NSE should ensure that the managerial ownership structure is well constituted so that this does not limit effective tax rate, that the management of NSE listed firms ought to ensure that there is an appropriate gender diversity to enhance smooth coordination within the board and that listed firms regulators ensure that there is board independence whereby majority of directors should be non-executive directors as this allows them to make appropriate and non-partisan decisions including matters regarding tax disclosure.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Corporate Governance (CG) attributes have recently become vital in relation to tax matters more than ever before. Goals of some firms is to use corporate governance mechanisms to mitigate recurring losses and thus businesses are tempted to develop methods to reduce their tax commitments by manipulating the tax rate that reconciles tax disclosure items (Kiesewetter & Manthey, 2017). In the recent past, research studies have been conducted that give a picture of why some companies avoid taxes more than others. The earliest studies point to characteristics of the board as proxies for opportunities, incentives and resources for tax avoidance to explain why some companies more than others do avoid or minimizes tax liability (Richardson, Wang & Zhang, 2016). Recently studies conducted have expounded on this research area by investigating the role played by agency conflicts on corporate tax planning behavior.

This study was anchored on the Jensen and Meckling (1976) agency theory as it clarifies in what manner management being the agent, is supposed to fulfill their supreme fiduciary duty of acting in the principal's best interests and to prepare and provide principals with the actual tax liability. The theory links CG attributes and effective tax rate. Other supporting theories included stakeholder theory as well as the theory of stewardship. The stakeholder theory by Freeman (1984) was applicable to this research because it provides agency theory backing, which failed to capture all other important stakeholders who depend on financial results to make economic decisions, like government, creditors, staff, financial analysts, as well as probable investors, among others. Stewardship theory by Donaldson and Davis (1991) offers a theoretical framework for understanding how successful stewards who are firm administrators

regulate their own professions through performing their duties with utmost dignity, corporate governance code compulsory compliance, as well as the disclosure of correct, appropriate, and value adding reports to entire interested parties at regular intervals deprived of placing any stakeholder at a disadvantage.

The study focused on NSE listed firms; this is because although several guidelines have been developed by the Capital Markets Authority (CMA) to encourage good corporate governance, NSE listed companies recently have faced governance issues to a point of some closing shops. Uchumi, Mumias Sugar, and Kenya Airways are just a few examples. In addition, the effective tax rate of the companies quoted at the NSE varies from one firm to the other and from year to year and thus the current research sought to investigate whether the corporate governance attributes in a firm influences it.

1.1.1 Corporate Governance Attributes

Corporate governance attributes entail the procedures as well as structures initiated for control and directing an organization as well as management of affairs amongst managers, shareholders, board members as well as other stakeholders whilst protecting their rights and promoting transparency (Sarbah & Xiao, 2019). Corporate governance attributes can also be said to be a framework formulated to control and directs an organization based on principles of good governance; fairness, accountability, transparency, independence and responsibility (Naimah & Hamidah, 2017). Corporate governance attributes, as per Iqbal (2015), are a way of ensuring that business is done fairly, effectively, and openly in order to attain goals of an organizational via effective practices as well as procedures. The current study adopted the definition by Sarbah and Xiao (2019) due to its wider applicability in previous literature.

Companies with sound corporate governance attributes maintain complex systems of checks and balances. The role of good corporate attributes is ensuring board members and board committees are independent of management thereby taking actions that are of best interest to shareholders (Micklethwait & Dimond, 2017). Toghill (2017) indicated that for companies to improve their operations and performance they require to enhance their corporate governance frameworks' expectations. Corporate governance attributes which are good are not the ultimate goal but a way to support financial stability, economic efficiency and sustainable growth. Hence, CG attributes enables a company to have access to capital in the long run while interests of owners and stakeholders whose contribution towards long term success of an organization are accounted for through fair treatment such as improved returns and quality of service respectively (OECD, 2020)

In regards to operationalization, there is diversity in corporate governance. As per Mamatzakis and Bermpei (2015) operationalized corporate governance attributes in terms of managerial ownership, bank executive's compensation, senior managers' bonuses as well as allowances, CEO power structure, and gender diversity. Board as well as committee structure, composition of board of directors, governing systems and processes, board autonomy, components of audits, as well as the manner the corporate bodies circulates and publishes information to stakeholders are all significant corporate governance qualities, according to (Olick, 2015). As per Wasike (2012), corporate governance attributes involve; the corporation's directors 'board characteristics, the ownership structure of the corporation, financial transparency and information disclosure. The current study operationalized corporate governance attributes in terms of managerial ownership, gender diversity and board independence.

1.1.2 Effective Tax Rate

Effective tax rate has been defined as a percentage of income that a corporate body, a partnership, or an individual pays in taxes (Francois, 2012). Effective tax rate refers to the average rate at which the earnings of an individual, a corporate body or any other entity are taxed (Desai & Dharmapala, 2009). Effective tax rate, according to Vasanthi (2015), is the rate at which an organization or an individual pays taxes after planning of financial matters without breaking the law or failing to meet the stated requirements. Tax exemptions, allowances, tax discounts, rebates, concessions, deductions, as well as other perks or reliefs defined by the Income Tax Act are all included in complete privileges. The current study adopted the definition by Desai and Dharmapala (2009) due to its wide applicability in previous literature.

The competitive environment, as per Loretz and Moore (2009), produces tax planning decisions that are in accordance with the company's operational decisions with an aim of reducing the effective tax rate and in essence the tax obligation. According to Needham (2013), there are a variety of ways used to reduce taxes. The procedures are well stated for developed nation, yet trustworthy and reliable data is not readily available. These techniques are not generally understood in developing nations. Transfer pricing, shell holding companies, profit shifting strategy intangible payments, corporate debt equity, hybrid organizations, and special company tax decisions are among them.

Two approaches have been employed in quantifying effective tax rate, as per different academics. The book-tax difference (BTD), that is financial and taxable revenue difference, is the first approach (Desai & Dharmapala, 2009). The second one is the current income tax expense to income before tax ratio (Bradshaw et al., 2013). The

BTD measures both effective tax rate as well as earnings management whereas the second one focuses on effective tax rate only. Current income tax expense to income before tax ratio was the focus of this research which represented effective tax rate as it has widely been used in operationalizing effective tax rate.

1.1.3 Corporate Governance Attributes and Effective Tax Rate

Theoretical connection between corporate governance attributes and effective tax rate has been explained by some theories like the agency theory that predicts that corporate governance attributes have a positive influence on effective tax rate. For instance, Jensen and Meckling (1976) noted owners of the firm may find relief in the fact that the agents' actions will favor the owners provided that they are given appropriate incentives and they are appropriately monitored. As a result, the director's function becomes one of monitoring management's actions who as per the stewardship theory has the fiduciary duty of making sure the interests of the shareholders are well guarded. Strict monitoring done by the shareholders will increase the chances of full disclosures hence a positive impact of corporate governance attributes on effective tax rate among companies.

Jesus and Emma (2013) noted that factors that negatively affect effective tax rate are insider shareholding, concentration of ownership, institutional investors, the board's independence and the board meetings number should be increased. Family ownership and size of board are positively related to effective tax rate. An existence of concentration of power (CEO duality) causes effective tax rate to decrease while a firm with increased governance exhibits high effective tax rate (Bugshan, 2005). A study conducted among china's listed companies from 1999 to 2005 recorded standard differences in effective tax rates among these firms (Liu & Lu, 2007).

Corporate governance features help to resolve disagreements between controlling as well as non-controlling shareholders (Anderson, Mansi & Reeb, 2004). The number of independent non-executive directors on the board of directors has a strong positive relation with disclosure (Li, Pike, & Haniffa, 2008). As per Al-Janadi et al. (2013) discovered that non-executive directors perform a vibrant role in quality disclosures provision. Contrary,Gul and Leung (2004) and Barako (2007), revealed a negative affiliation between disclosures and independent non-executive directors number on the directors' board. Besides actively making decision, non-executive directors are also said to have a limited function, serving advisory function (Ramadhan, 2014).

1.1.4 Nairobi Securities Exchange

The Nairobi Securities Exchange is the company that has the power to list Kenyan companies on the stock exchange. The institution was established in 1954 and is now East and Central Africa's largest exchange. The most commonly traded instruments are Equities (shares) as well as bonds (loan/leverage instruments), which are financial instruments known as securities. By allowing borrowers and lenders to connect, the institution promotes investment as well as savings. At the moment, a total of sixty-three firms have obtained a listing with the firm spread among different market segments (NSE, 2020).

Firms listed at NSE are differently taxed since their financial performance also differs. Nevertheless, each company has its own tax management policies and procedures. Furthermore, the corporate governance characteristics of different organizations vary, ranging from state corporations to overseas subsidiaries to local businesses, although some are private although have issued certain shares publicly, inclusive of the government. The 2015 Tax Procedure Act (CAP. 29) , that took effect on January 19,

2016, has the goals of establishing consistent measures for uniformity and effectiveness in the organization and implementation of revenue legislation, as well as assuring taxpayer compliance with regulations as well as effective and efficient tax collection. The statute gives the KRA the authority to detain any individual or entity that looks to be set up to avoid paying taxes (CMA, 2020).

1.2 Research Problem

Corporate governance attributes has been associated with numerous benefits including reducing the agency conflicts among stakeholders of a firm. A desirable structure of governance would assist in ensuring that resources of the firm would be utilized properly by management to benefit the other stakeholders (Mgammal, Bardai & Ku Ismail, 2018). In the recent past, research studies have been conducted that give a picture of why some companies avoid taxes more than others. The earliest studies point to corporate governance attributes as proxies for opportunities, incentives and resources for tax avoidance to explain why some companies more than others do avoid or minimizes tax liability (Richardson, Wang & Zhang, 2016).

The focus of this research was on firms listed at the NSE as the effective tax rate among these firms differs from one firm to the other indicating that they are involved in tax avoidance. Kuria (2017) holds that cases of tax avoidance amongst NSE listed companies have been on the rise. At the same time, several firms listed at the NSE as have faced governance issues in the recent past. Some firms such as Uchumi and Mumias Sugar have closed shop while others such as Kenya Airways have been reporting losses for the last 5 years (CMA, 2020). Attributes of corporate governance like managerial ownership, board independence as well as board gender diversity are

thought to influence the effective tax rate in a firm and therefore need to investigate this hypothesis among listed firms at the NSE.

Empirical research on corporate governance attributes impact on effective tax rate is present but there exist conceptual, contextual and methodological research gaps. Omodero and Ogbonnaya (2018) did an analysis on corporate tax as well as Nigerian deposit money banks profitability. The research presented a contextual gap because it was in a Nigerian context. In addition, the research offers a conceptual gap as it did not address CG attributes and effective tax rate. Jamei (2017) examined the link between corporate governance practices and tax evasion in on the Tehran Stock Exchange registered companies. The research depicts a contextual gap as it was carried out in Iran which has a different economic and social situation from Kenya. Mgammal, Bardai and Ku Ismail (2018) surveyed internal corporate governance structures effect on tax declaration in Malaysian non-financial companies. The study presents a conceptual gap as some attributes of CG such as gender diversity and board independence were not considered.

Locally, Tembur (2016) analyzed tax incentives impact on the financial performance of Kenyan EPZ enterprises but rather did not focus on the concept of corporate governance. The research thus offered a conceptual gap. Ibrahim, Ouma and Koshal (2019) examined gender diversity impact on the financial performance of Kenyan insurance corporations and discovered positive gender diversity effect on financial performance. The study presents conceptual gaps as other CG attributes such as board independence were not considered. The focus was also not on effective tax rate. Kigotho (2014) likewise sought to look into corporate governance impact on NSE listed companies' financial performance. These researches have not investigated correlation

between corporate governance attributes and effective tax rate. Thus, it was worthwhile for the study to seal the gap through establishment of the connection between corporate governance attributes and effective tax rate among NSE listed firms. The current research was based on these gaps and attempts to answer the research question; how does corporate governance attributes affect effective tax rate among NSE listed firms?

1.3 Research Objective

To investigate the effect of corporate governance attributes on effective tax rate among NSE listed firms.

1.4 Value of the Study

The research conclusions will add in corporate governance theories development like agency theory, stakeholder theory as well as stewardship theory. Scholars as well as academicians can even use the outcomes of the research to further investigate and undertake research in this area in order to extrapolate the issues raised. The conclusions will back the knowledge body in existence related to the aspects of corporate governance practices and be able to link their relationship with effective tax rate among firms listed at the NSE, Kenya. As a result, future academics and academicians could use this research as a reference point in their research.

The research may offer information on affiliation between corporate governance attributes and effective tax rate among Kenyan NSE listed firms. Companies are likely to develop a clear strategy for improving their management and administration strategies. The information can be used by the corporations to enhance their delivery mode as well as strengthen their position against other institutions, particularly when trading on the NSE.

The study's findings may likewise help the structuring and legislature of Kenyan policies and regulations that help companies to advance their administration conveyance via improved and progressively effective procedures. This is helpful in making reasonable changes and improves the industry with a general point of advancement of the economy.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter clarifies the theories on which corporate governance attributes and effective tax rate are based. It further discusses the previous empirical studies; knowledge gaps identified and summarizes with a conceptual framework and hypotheses displaying the expected study variable relationship.

2.2 Theoretical Framework

This segment examines theories which underpin the study of corporate governance attributes and effective tax rate. Theoretical reviews covered are agency, stakeholder as well as stewardship theory.

2.2.1 Agency Theory

It forms the present study's anchor theory. Jensen and Meckling (1976) agency theory describe an ‘agent' as someone who works on behalf of another person. The problem with the principal-agent relationship is that principals cannot contractually specify what the agent can do in any case (Moenga, 2015). Three factors can exacerbate the problems that arise from the principal-agent relationship: opportunism, sunk costs, as well as secret facts (Njau, 2016). Hidden information happens whenever agents have information beyond principal knowledge and the agent has an opportunity to keep the knowledge hidden from the principal, all other factors held responsible. Hidden knowledge has the effect of allowing the agent to ‘shirk' or minimize efforts to the disadvantage of the principal. Agency theory has implications behind CG best practice structures can yield productivity benefits as well competitive edge to organizations are therefore based on the convention that CG is required to guarantee agent action is geared to principal interests (Aimone & Butera, 2016).

Despite this, agency theory is not without flaws. The agency theory fails to account for many of the complexities and challenges that agents confront in carrying out the principal's tasks and assignments. Furthermore, the control measures proposed in relation to agency theory are costly, ineffective economically, since shareholders' interest protection devices can interfere with the implementation of strategic decisions, restrict collective activities, change plans of investment as well as neglect other stakeholder interest, resulting in a reduction in their vow to the development of economic value (Segrestin & Hatchuel, 2011).

Suitability of agency theory to this research is because it clarifies in what way management,being the agent, is supposed to fulfill their perfect fiduciary duty of acting in principals' best interests and to prepare and offer principals with financial reports. As a result, agency theory was thought to provide a sound theoretical basis for the research's primary objective which is the affiliation between corporate governance attributes and effective tax rate.

2.2.2 Stakeholder Theory

Freeman (1984) profound the theory with the intention of being utilized as a management tool. However, since then it has progressed into a firm theory with a lot of explanatory power. The stakeholder theory is a methodological framework for organizational ethics and management that focuses on ethical as well as moral ideologies in the management of public and private organizations. Stakeholder theory stresses the importance of maintaining a balance of stakeholders' interests as the primary determinant of organizational strategy.

The single-valued objective supposition, according to which advantages go to a firm's stakeholders, is a source of criticism for this theory. According to Jensen (2016), there

are additional ways to assess an organization's performance apart from the benefits stakeholders receive. The factors comprise flow of information from top administration to lower-level employees, the work conditions, and interpersonal relationships inside the company.

Stakeholder theory is applicable to this research since it provides support for agency theory, which failed to capture all other important stakeholders who depend on financial results to make economic decisions, like regulatory authorities, creditors, staff, financial analysts, as well as potential investors, among others. It lays a theoretical basis for understanding in what way various partiess and entities both internal as well as outside of a firm need accurate information, which can be ensured by adhering to the corporate governance code and other regulatory directives strictly. As a result, the theory was supposed to include theoretical reasons for all of the practical goals so that, in case board as well as management have at heart all stakeholders' interests, they can completely observe corporate governance code as well as guarantee that performance results provided to interested parties are correct, appropriate, and represent the true firm situation.

2.2.3 Stewardship Theory

This theory was proposed by Donaldson and Davis (1991). It emerges as a critical counterpoint to agency theory. A manager's principal purpose, as per stewardship theory, is to maximize the company's output since a manager's passion for success as well as achievement is gratified whenever the firm performs effectively. This theory counters the agency theory by arguing that managerial opportunism is unimportant. Stewardship and agency theory mainly differ in that stewardship theory substitutes the absence of confidence that agency theory relates to with reverence for authority and the

desire of managers to behave ethically. According to stewardship theory, managers in publicly held firms are discouraged from operating against the interests of shareholders by their concern for their own reputations and career development, so agency costs should be naturally reduced (Donaldson & Davis, 1991). Because of detailed understanding of organizational operations, like data access as well as technical skills, an insider-dominated board, according to Muth and Donaldson (1998), is more successful. Compensation incentivizes shareholders' agents to work for the good of all stakeholders. True stewards and executives adhere to corporate governance code as well as regulatory directives, and disclosing the interested party's quality of true earnings (Chen et al., 2016).

Scholars Critiquing stewardship theory like Pastoriza and Ariño (2018), postulate stewardship theory is over-simplified as well as not realistic since individuals are predisposed to becoming stewards due to situational and psychological factors. These elements do not affect all executives, but the question remains: what transpires to the organizational goal when the company's management theory and the manager's psychological characteristics are out of sync? Moreover, while stewardship theory claims that being a steward is essentially the consequence of a logical process, it is uncertain whatever underlying principles lead a person to choose to be a steward. The question is how a person can determine whether or not he has a steward's nature. It's critical to figure out the kind of inner drive motivates a person to look besides his personal interest as well as resolve inter-motivational conflict within himself (Daodu, Nakpodia & Adegbite, 2017).

Stewardship theory was pertinent to the research since it complements stakeholder theory, which captures all other important stakeholders other than management who

depend on financial results to make economic decisions, like owners, government, creditors, staff, financial analysts, as well as probable investors, among others. It offers a theoretical framework for understanding in what manner successful stewards who are firm administrators run their own professions through performing their duties with utmost dignity, compulsory corporate governance code compliance, and the disclosure of correct, appropriate, as well as value adding reports to all interested parties at regular intervals deprived of placing any stakeholder at a disadvantage.

2.3 Determinants of Effective Tax Rate

There are several effective tax rate determinants of a firm; these factors are found either within or outside the firm. Internal factors are firm-specific and can be manipulated internally. They are corporate governance attributes, firm size, leverage and liquidity. Factors outside a firm that influence effective tax rate include; regulatory environment, tax rates, political stability, corruption amongst others (Athanasoglou et al., 2005).

2.3.1 Corporate Governance Attributes

A theoretical association between corporate governance attributes and effective tax rate has been explained by theories such as; the agency theory predicts corporate governance has a positive effect on effective tax rate. Jensen and Meckling (1976) noted owners of the firm can find relief in the fact that the agents' actions will favor the owners provided that they are given appropriate incentives and they are appropriately monitored. As a result, the director's function is to oversee management's actions, which, as per the stewardship theory, has the fiduciary duty of ensuring the shareholders' best interests are guarded. Strict monitoring done by the shareholders will reduce the chances of earnings manipulation hence a positive association between corporate governance as well as effective tax rate among firms.

Jesus and Emma (2013) noted that factors that positively affect effective tax rate are insider shareholding, concentration of ownership, institutional investors, board independence, a rise in the number of board of directors' meetings. Family ownership and size of board are negatively related to effective tax rate. An existence of concentration of power (CEO duality) causes tax disclosure to decrease while a firm with increased governance exhibits high effective tax rate (Bugshan, 2005).

2.3.2 Financial Leverage

Debt-equity capital ratio of a company is referred to as leverage. The difference between the two has an effect on companies cost of capital and valuation (Marlia, Siti, Rohaya & Md Noor, 2012). The debt amount a company owes determines its performance. Richardson, Wang and Zhang (2016) stated that financing a company using debt lowers moral hazard behavior by limiting the amount of cash flow held by the managers. This in turn increases performance pressure hence improves firm's profitability. However, due to the tax shield benefits of debt, higher leveraged firms are more likely to have a lower effective tax rate. Various studies have looked into the correlation between effective tax rate and leverage, concluding that high leverage reduces the effective tax rate.

Zemzem and Khaoula (2013) studied the relation between benefits of the industry and its influence and assessed the impact of hazards on tax disclosure. Using data from a 10-year period, impact was given as the percentage of value compared to aggregated resources. A lower leverage level implies more application of debt capital instead of debt-to-value or debt-to-resources-as-a-whole. The tax disclosure was calculated using effective tax rate. The results implied that more leveraged firms are likely to have less effective tax rate.

2.3.3 Firm Liquidity

Liquidity is used to denote the firms' capability to settle their credit commitments which are incurred within twelve months by the use of cash and short-lived assets that are rapidly convertible into cash. It hence occurs as a result of the ability to settle financial demands owed to creditors without liquefying their other assets. Liquid firms have less motivation to conduct tax avoidance as they are able to pay their tax liabilities as they become due (Adam & Buckle, 2013).

Liargovas and Skandalis (2008) argued sufficient proportions of liquid assets assist firms in their activity financing as well as investing in cases wherever they cannot obtain external funds. Firms with high liquidity can meet unforeseen liabilities and obligations that need to be settled. Almajali et al. (2012) argued firm liquidity can substantially affect the amount they can afford to pay as tax liability; thus, firms should hold more liquid assets and lower short term obligations (Jovanovic, 1982).

2.3.4 Firm Size

Firm size determines by how much legal as well as financial elements affect a firm. Since large companies collect cheap capital and produce huge income, firm size is closely linked to effective tax rate (Amato & Burson, 2007). Firm's total assets book value is usually used to determine its size. Corporate tax is positively related with firm size showing that large firms can accumulate economies of scale hence reducing operational costs while increasing profits. However, large firms can also accumulate more debt which will imply increase in tax shield benefits and therefore lower the effective tax rate (Magweva & Marime, 2016).

Amato and Burson (2007) mentioned that a firm's size is dependent on the assets owned by the organization. It can be argued that the more the assets owned by a firm the more

the investments it can make which generate bigger returns compared to smaller firms with less assets. Additionally, a larger firm can have more collateral which can be used as security for more loan facilities compared to small ones (Njoroge, 2014). Lee (2009) argued that assets under the control of an entity impacts the leverage level and in essence the effective tax rate.

2.4 Empirical Review

Local as well as global researches have determined the relation between corporate governance attributes and effective tax rate, the objectives, methodology and prior research results have been discussed in this segment.

2.4.1 Global Studies

Raithatha and Bapat (2014) investigated the corporate governance impact on financial disclosures done by companies in India. They generate a financial disclosure score on the basis of accounting standards disclosure requirements utilizing cross-sectional data from 325 publicly traded companies for the fiscal year 2009-10. The average disclosure score was 73 percent, with high and low disclosure scores of 100 percent and 46 percent, accordingly. The results of the research support agency theory in relation to board's oversight function, as board size is found to be significant; nevertheless, the analysis revealed no effect of board autonomy on disclosures. The research too supports the resource dependence theory in respect to outside directorship, which can provide directors with exposure to a variety of organizational environments, as well as diverse viewpoints and expertise, resulting in enhanced disclosures. This research has a conceptual gap because it only looked at general disclosures without looking at the effective tax rate.

During the periods 2011-2015, Jamei (2017) explored the correlation between certain corporate governance structures and tax evasion in Tehran Stock Exchange listed companies. In this regard, the impact of corporate governance indicators (board members number, non-duty members, management ownership, and institutional ownership) on tax avoidance was investigated. There is no correlation between the numbe number of board board members as well as the number of non-members, nor between institutional ownership and the board members number, as well as tax avoidance, according to the findings. Moreover, there is no evidence of a connection between managerial ownership and tax evasion. This study presents a contextual gap as it was conducted in Iran whose social and economic setting is different from Kenya.

Kiesewetter and Manthey (2017) surveyed the connection between corporate governance and tax avoidance. At the cutoff, the analysis discovered a major divergence in the corporate governance level of practices. When compared to the smaller DAX companies, the larger MDAX companies have better corporate governance. Good corporate governance features lower the effective rate of tax for DAX companies, according to the report. By identifying a causal link between governance and taxation, the paper adds to established studies. This study presents a contextual gap as it was conducted in a developed country that social and economic setting is different from Kenya

Mgammal, Bardai and Ku Ismail (2018) examined corporate governance internal mechanisms impact on tax disclosure in Malaysian non-financial companies. Managerial ownership as well as performance incentives are symbols for corporate governance actions. The study used a panel data method to examine 286 non-financial companies on Bursa Malaysia listing from 2010 to 2012. The financial statements

included tax disclosure, mostly in the tax consolidated expenses. The financial reports provided tax disclosure, especially in the consolidated of tax expenses. Changed effective tax rate reconciling items were used to assess tax disclosure. According to the results, managerial ownership as well as incentive payments have no considerable impact on tax disclosure. Contrary, important positive correlations were discovered between firm size as well as industry dummy, as well as tax disclosure. As a result, company-specific features have a significant impact on corporate tax disclosure. The study presents a conceptual gap as some CG attributes such as board independence and gender diversity were not taken into account.

Hu and Loh (2018) investigated the affiliation between board governance and Singapore sustainability disclosure. The association between sustainability disclosure and various board governance variables, like board power, board independence, and board motivation, was investigated through regression analysis utilizing cross-sectional data from Singapore-listed firms. The results reveal that there are strong links between board governance and sustainability disclosure. In relation to board capacity, firms with bigger boards as well as hold more board meetings have a likelihood to initiate sustainability disclosure, as well as the reporting quality is better. There exists a conceptual gap as the study focused on sustainability disclosure which is a different concept from effective tax rate.

2.4.2 Local Studies

Iraya, Mwangi and Muchoki (2015) aimed to determine the correlation between corporate governance mechanisms and earnings management for firms listed on the NSE. The research made use of descriptive research design. They selected a population consisting 49 firms which actively traded at the NSE between January 2010 -December

2012. The research looked into how corporate governance affects earnings management using secondary quantitative data. The data chosen spread the years 2010 to 2012. According to the findings, a unit rise in ownership concentration caused the level of earnings management to decline. A further unit increase subsequently caused the earnings management level to drop further. Additionally, a unit board size increase will cause earnings management to decrease, a unit board independence increase result to a drop in earnings management, a unit board activity rise will cause a rise in earning management as well as a unitary CEO duality rise will additionally rise the earnings management level. This research offers a conceptual gap as its focus was on earnings management which is a different concept from effective tax rate.

Jerubet, Chepng'eno and Tenai (2017) studied the board attributes impact on the presenting quality financial information for organizations registered with NSE using an explanatory research structure. It gathered tertiary information of 46 firms from 2012 to 2014. Through regression analysis, the research discovered board size had a strong influence on the quality of presenting financial information and that its independence had an adverse and significant impact upon the quality of presenting financial information. The research manifests a conceptual gap as some CG attributes such as gender diversity and managerial ownership were not taken into account.

Kariuki (2017) conducted research to find the impact of corporate tax planning on the financial success of NSE listing. The research population included all 61 listed companies on the NSE. Secondary data collection was done annually over a five-years (January 2012 - December 2016). The study utilized a multiple linear regression model as well as descriptive cross-sectional research design in analyzing correlation among the variables. Liquidity as well as corporate tax planning provided statistically

significant and positive values for the report, according to the findings. Firm size was discovered to be an insignificant statistical financial productivity determinant of NSE listed firms, whereas leverage provided statistically relevant but negative values. This study presents a methodological gap as the intention was the effect of tax planning while the current study focuses on effective tax rate as a dependent variable.

Were (2018) wanted to know how corporate governance influences the NSE's quoted companies' earnings management. The study's population consisted of all 64 NSE-listed companies as of December 31, 2017. In the research descriptive cross-sectional research design was made use. For this research, board independence and board activity produced statistically significant and negative results, but company size produced positive and statistically significant results. Ownership features and board size of firms listed on the NSE were discovered to be non-statistically important earnings management determinants. The study focused on earnings management which is a different concept from effective tax rate.

Ibrahim, Ouma and Koshal (2019) examined gender diversity impact on the financial performance of Kenyan insurance companies. The study looked at data from Kenya's 55 insurance companies. The female directors' number on the boards of Kenyan insurance companies was used to measure gender diversity. A total of 412 board directors, CEOs, and chief finance officers provided primary data. To interpret the data, descriptive as well as inferential statistics were utilized. To evaluate the firm's performance, the accounting-based measurements Return on Assets (ROA) and Return on Equity (ROE) were used (ROE). The regression analysis outcomes show gender diversity has a substantial and positive impact on the financial performance of Kenyan

insurance companies. The study presents a conceptual gap as other attributes of CG were not considered.

2.5 Summary of the Literature Review and Research Gaps

The theoretical reviews showed the predicted relation between corporate governance attributes and the effective tax rate. Major influencers of effective tax rate have been discussed. From the reviewed studies, there was a knowledge gap requiring to be filled. From the studies reviewed, there are varied conclusions regarding the relation between CG attributes and effective tax rate. The differences from the studies can be explained on the basis of different operationalization of CG attributes by different researchers thereby indicating that findings are dependent on operationalization model. Further, the prior studies concentrated on the influence of CG attributes on performance leaving a gap on effective tax rate which is the current research focus.

Additionally, many studies done employed different designs for which some relied on empirical review to conclude while others relied on existing literature in measuring how the variables relate. Researchers showed varied inconclusive findings and failed to indicate the exact relationship that CG attributes as measured by managerial ownership, gender diversity and board independence has on effective tax rate. This shows the need for more research in future studies to close the gap by conceptualizing the effect of CG attributes on effective tax rate.

2.6 Conceptual Framework

Figure 2.1 displays the predicted relation between the variables. CG attributes being the predictor variable given by managerial ownership, gender diversity and board independence. The control variables were leverage given by total debt to total assets, liquidity shown by current assets to current liabilities and total assets natural log

showing firm size. Effective tax rate was the response variable given by income tax expense to earnings before tax ratio.

Independent variables **Dependent variable**

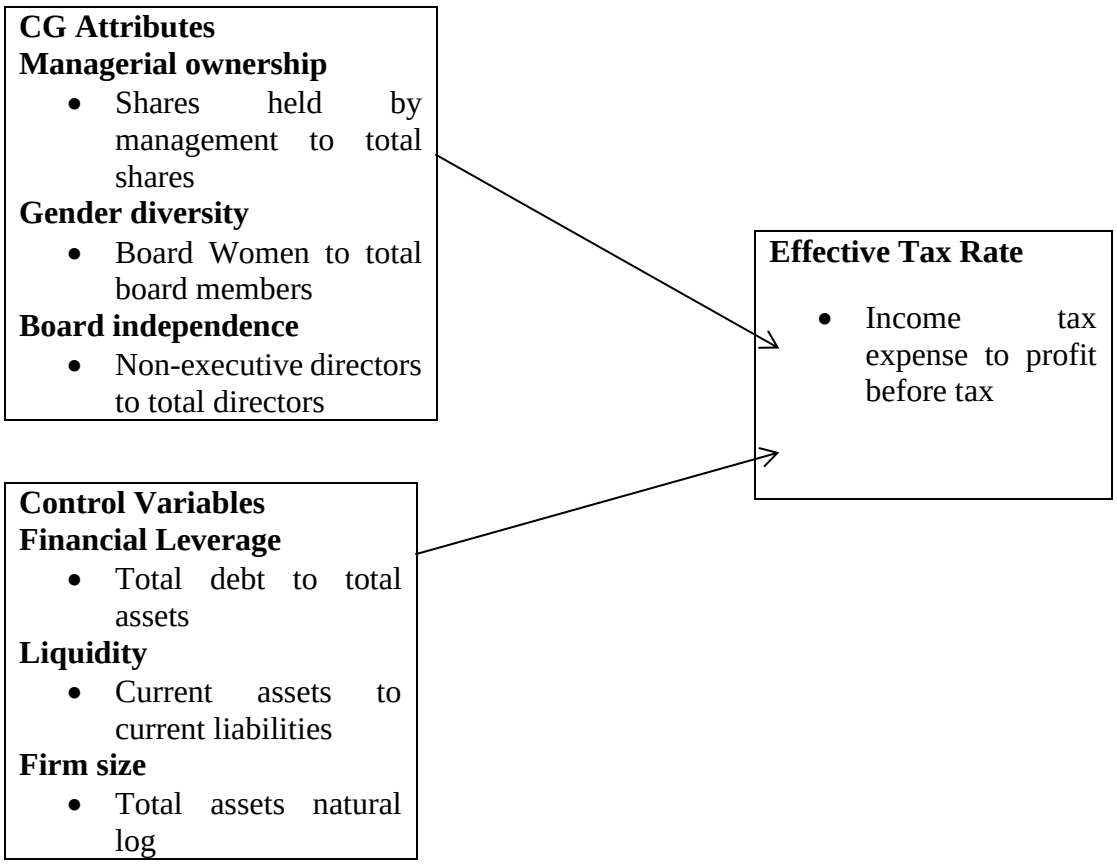

Figure 2.1: The Conceptual Model

Source: Researcher (2021)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter designates the approaches utilized in accomplishing the research objective which was to determine how CG attributes affects effective tax rate. In particular, the chapter highlights the; design, data collection, diagnostic tests as well as analysis.

3.2 Research Design

A descriptive design was adopted to determine how corporate governance attributes and effective tax rate of NSE listed firms relate. This design was appropriate since the nature of the phenomena was of key interest to the researcher (Khan, 2008). It was also sufficient in defining the interrelationships of the phenomena. This design also validly and accurately represented the variables thereby giving sufficient answers to the study questions (Cooper & Schindler, 2008).

3.3 Population

A population is all observations from a collection of concern like events specified in an investigation (Burns & Burns, 2008). The current research's population comprised all the 63 NSE listed firms as of December 2020. The research used a survey technique due to the population relative small size, and thus all elements of the population were studied (see appendix I).

3.4 Data Collection

Secondary data was depended on in this investigation which was extracted from annual published financials of the listed firms from 2016 to 2020 and taken in forms of data collection. The study period was chosen as it provided adequate data for robust regression analysis. The publications were extracted from CMA financial publications

of the specific listed firms. The specific data collected included shares held by senior management, total shares, board members number, figure of women in the board, non-executive directors' number, total debt, total assets, current assets, current liabilities, tax paid and profits before tax.

3.5 Diagnostic Tests

To ascertain the model viability, a number of diagnostic tests were done, like normality, stationarity, Hausman test, multicolinearity, homogeneity and autocorrelation. The assumption of normality was that the dependent variable's residual was normally distributed and closer to the mean. This was accomplished by use of the Shapiro-wilk test or Kolmogorov-Smirnov test. In instances where one of the variables had no normal distribution, it was adjusted using the logarithmic adjustment methodology. Stationarity test was utilized in determining if the statistical characteristics such as variance, mean, as well as autocorrelation change with the passage of time. This property was ascertained via the Levin-Lin Chu unit root test. In the event the data did not meet this property, the data was transformed using natural logarithm. Robust regression was also be used as it provides better regression coefficients than ordinary least square (Khan, 2008).

After conducting the Hausman test, where hypothesis (null) was that the preferred model for data analysis was random effect, the decision to use either random or fixed effects model in the research was determined. The Hausman specification tested if the unique disturbances (μ_{it}) have correlation with the regressors with null hypothesis being no correlation between the two. Null hypothesis was rejected in the event p-value was below 0.05. In the event the null hypothesis was rejected, fixed effects model was

applied while failure to reject null hypothesis implied adoption of random effects model.

Autocorrelation is a measure of how similar one time series was when compared to its lagged value across successive timings. The measure of this test was done using the Wooldridge test and in the event that the presumption was breached the robust standard errors were used in the model. Multicollinearity exists when a perfect or near perfect linear relation exist between a number of independent variables. Variance Inflation Factors (VIF) as well as tolerance levels were utilized. Heteroskedasticity confirms if the errors variance in a regression lies among the independent variables. This was tested using the Breuch Pagan test and if data does not meet the homogeneity of variances assumption, robust regression analysis would be employed as it provides better regression coefficients when outliers exist in the data (Burns & Burns, 2008).

3.6 Data Analysis

In data analysis, STATA software was used. Tables presented the findings in a quantitative manner. Descriptive statistics were employed in the calculation of central tendency measures as well as dispersion such as mean as well as standard deviation for every variable. Inferential statistics relied on correlation as well as regression. Correlation determined the magnitude of the affiliation between the variables in the research and a regression determined cause and effect among variables. A multivariate regression linearly determined the relation between the dependent and independent variables.

3.6.1 Analytical Model

The following equation was applied:

$$Y= \beta_0 + \beta_1X_1+ \beta_2X_2+ \beta_3X_3 + \beta_4X_4+ \beta_5X_5 + \beta_6X_6 +\varepsilon$$

Where: Y = Effective tax rate given as current income tax expense divided by profit before tax

β_0 =y intercept of the regression equation.

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ =are the regression coefficients

X_1 = Managerial ownership given as proportion of common shares the management holds divided by cumulative common shares in issue

X_2 = Gender diversity as measured by the ratio of women in the board to total board members

X_3 = Board independence as measured by the ratio of non-executive directors to total directors in the board

X_4 = Financial leverage as measured by the ratio of total debt to total assets

X_5 = Liquidity as measured by the ratio of current assets to current liabilities

X_6 = Firm size as given by the natural logarithm of total assets

ε =error term

3.6.2 Tests of Significance

Parametric tests were determined using the general model and individual variable's significance. The F-test determined the overall model's significance and this was achieved by means of ANOVA while a t-test determined coefficient significance.

CHAPTER FOUR: DATA ANALYSIS RESULTS AND FINDINGS

4.1 Introduction

This chapter focuses on data analysis. The research objective was to establish the relationship between corporate governance attributes and effective tax rate among firms listed at the NSE, Kenya. Patterns were studied by descriptive and inferential analysis, that were then analyzed and conclusions drawn on them, in accordance with the specific objectives.

4.2 Descriptive Statistics

The research sought to describe the data in terms of their mean and standard deviations. The descriptive analysis was necessary as it helps in understanding the characteristics of the collected data before conducting inferential analysis. The results are displayed in Table 4.1

Table 4.1: Descriptive Results

	N	Minimum	Maximum	Mean	Std. Deviation
Effective tax rate	275	-.645	1.083	.23973	.199242
Managerial ownership	275	.002	9.549	2.62653	2.274363
Gender Diversity	275	.171	.600	.48563	.081631
Board independence	275	.571	1.000	.88613	.070094
Leverage	275	.025	1.419	.50214	.248611
Liquidity	275	.343	11.648	2.23363	1.808872
Firm size	275	6.846	11.577	9.28092	1.152977
Valid N (listwise)	275				

Source: Research Findings (2021)

Table 4.1 shows the descriptive analysis, with 275 observations for each variable based on the product of the number of cross-sectional units as well as the number of periods studied (55*5 =275). The dependent variable was effective tax rate whereas the

independent variable was corporate governance attributes (managerial ownership, gender diversity and board independence). Eventually, leverage, liquidity as well as firm size served as the control variables.

4.3 Diagnostic Tests

To ascertain the model viability, a number of diagnostic tests were done, like normality, stationarity, Hausman specification test, Multicollinearity test, homogeneity of variance and autocorrelation.

4.3.1 Normality Test

To test whether the collected data assumed a normal distribution, normality test was performed using the Kolmogorov-Smirnov test and the Shapiro-Wilk Test. The threshold was that, if the p value is greater than 0.05, then the data assumes a normally distribution.

Table 4.2: Test for Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Y	0.326	275	0.112	0.869	275	0.078
X_1	0.408	275	0.207	0.918	275	0.102
X_2	0.272	275	0.063	0.881	275	0.094
X_3	0.124	275	0.057	0.874	275	0.091
X_4	0.176	275	0.061	0.892	275	0.101
X_5	0.567	275	0.365	0.923	275	0.120
X_6	0.644	275	0.412	0.874	275	0.094

a. Lilliefors Significance Correction

X_1=Managerial ownership, X_2= Gender diversity, X_3= Board independence, X_4= Leverage, X_5= Liquidity, X_6= Firm size and Y= Effective tax rate

Source: Research Findings (2021)

The normality test results revealed a p- value above 0.05 thus the null hypothesis rejection and acceptance of the alternate hypothesis meaning the normality test revealing normal distribution in the data.

4.3.2 Multicollinearity Test

Multicollinearity exists when a perfect or near perfect linear relation exist between a number of independent variables. Variance Inflation Factors (VIF) as well as tolerance levels were utilized.

Table 4.3: Multicollinearity

	Collinearity Statistics	
Variable	**Tolerance**	**VIF**
Managerial ownership	0.724	1.382
Gender diversity	0.684	1.463
Board independence	0.697	1.434
Leverage	0.703	1.422
Liquidity	0.661	1.513
Firm size	0.634	1.577

Source: Research Findings (2021)

The outcomes in Table 4.3 specify that all the variables had a VIF values <10 and tolerance values >0.2 suggesting that Multicollinearity did not exist.

4.3.3 Heteroskedasticity test

To check for heteroskedasticity, the Breusch-Pagan test was used. The null hypothesis was that the variance of error terms is constant. Heteroskedasticity Test Results are shown in Table 4.4.

Table 4.4: Heteroskedasticity Results

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity Ho: Constant variance Variable: fitted values		
chi2(1)	=	0.7003
Prob > chi2	=	0.6429

Source: Research Findings (2021)

The null hypothesis of Homoskedastic error terms is not rejected, according to the results in Table 4.4, which are supported by a 0.6429 p-value

4.3.4 Autocorrelation Test

Autocorrelation is a measure of how similar one time series was when compared to its lagged value across successive timings. The measure of this test was done using the Wooldridge test.

Table 4.5: Test of Autocorrelation

Wooldridge test for autocorrelation in panel data **H0: no first-order autocorrelation**
F(1, 274) = 0.324
Prob> F = 0.5360

Source: Research Findings (2021)

The null hypothesis of no serial association is not rejected by the results of Table 4.5 since the p-value is significant (p-value = 0.5360).

4.3.5 Stationarity Test

Stationarity test was utilized in determining if the statistical characteristics such as variance, mean, as well as autocorrelation change with the passage of time. Table 4.6 shows Levin-Lin Chu unit root test outcomes.

Table 4.6: Levin-Lin Chu unit-root test

Levin-Lin Chu unit-root test			
Variable	**Hypothesis**	**p value**	**Verdict**
Effective tax rate	Ho: Panels contain unit roots	0.0000	Reject Ho
Managerial ownership	Ho: Panels contain unit roots	0.0000	Reject Ho
Gender diversity	Ho: Panels contain unit roots	0.0000	Reject Ho
Board independence	Ho: Panels contain unit roots	0.0001	Reject Ho
Leverage	Ho: Panels contain unit roots	0.0000	Reject Ho
Liquidity	Ho: Panels contain unit roots	0.0000	Reject Ho
Firm size	Ho: Panels contain unit roots	0.0000	Reject Ho

Source: Research Findings (2021)

The null hypotheses that: Panels possess unit roots were rejected for all variables since the p values were less than 0.05, drawn from the outcomes in Table 4.6. This meant that all of the variables' panel data were stationary.

4.3.6 Hausman Specification Test

Hausman specification test was carried out to establish which model fits the data most. The results are as shown in Table 4.7

Table 4.7: Hausman Specification Test

	(b)	**(B)**	**(b-B)**	**sqrt(diag(V_b-V_B))**
	Fixed	**Random**	**Difference**	**S.E.**
Manager ownership	0.05936	0.03198	0.02738	0.01991
Gender diversity	0.08358	0.09513	-0.0116	0.01184
Board independence	0.09042	0.08157	0.00885	0.01466
Leverage	-0.02991	-0.0446	0.01469	0.00314
Liquidity	-0.02082	-0.03351	0.01269	0.00213
Firm size	0.09919	0.09801	0.00117	0.00138
B	Ha; obtained from xtreg			
B	Inconsistent	Obtained from xtreg		
Test:	Ho:	Difference	In	Coefficients
chi2(6)=	(b-B)'[(V_b-V_B)^(-1)](b-B)=2.44			
Prob>chi2=**0.4869**				

Source: Research Findings (2021)

A resultant p value of 0.4869 is higher than the conventional p value of 0.05 yielding the acceptance of the null hypothesis, that is. E (μi / xit) = 0, and thus the random effects model is more suitable.

4.4 Correlation Results

Correlation analysis was performed to establish the strength and direction of association between each predictor variable and the response variable. The results in Table 4.8 show the nature of relationships between the study variables in terms of magnitude and direction.

Table 4.8: Correlation Results

		ETR	Managerial ownership	Gender diversity	Board Independence	Leverage	Liquidity	Firm size
ETR	Pearson Correlation	1						
	Sig. (2-tailed)							
Managerial ownership	Pearson Correlation	.178**	1					
	Sig. (2-tailed)	.009						
Gender diversity	Pearson Correlation	.328**	.175**	1				
	Sig. (2-tailed)	.000	.010					
Independence	Pearson Correlation	.171**	-.042	.017	1			
	Sig. (2-tailed)	.009	.535	.800				
Leverage	Pearson Correlation	-.418**	-.275**	-.044	-.017	1		
	Sig. (2-tailed)	.000	.000	.524	.803			
Liquidity	Pearson Correlation	.113	.199**	.064	.104	.055	1	
	Sig. (2-tailed)	.062	.003	.347	.129	.425		
Firm size	Pearson Correlation	.232**	.235**	.104	.118	.051	.020	1
	Sig. (2-tailed)	.000	.001	.127	.084	.460	.775	

**. Correlation is significant at the 0.01 level (2-tailed).
b. Listwise N=275

Source: Research Findings (2021)

The results in Table 4.8 reveal that managerial ownership and effective tax rate are positively as well as significantly correlated (r=0.178**) at 5 % significance level. This implies that managerial ownership and effective tax rate change in the same direction in that a higher stockholding in the firm by managers leads to a higher level of effective tax rate. These findings agree with those of Majeed, Aziz and Saleem (2015) who found positive and significant association between managerial ownership and corporate social responsibility reporting.

In addition, the results show that gender diversity and effective tax rate are positively and significantly correlated (r=0.328**) at 5 % significance level. This implies that both gender diversity and effective tax rate change in the same direction in that a board

with more gender diversity leads to higher effective tax rate. These findings agree with those of Zemzem and Khaoula (2013) who indicated that board diversity correlates with the activity of tax aggressiveness.

Further, results show that board independence and effective tax rate possess positive as well as significant correlation (r=0.171**) at 5 % significance level. This implies that both board independence and effective tax rate change in the same direction in that a great percentage of outside/non-executive directors lead to a higher effective tax rate level. These findings disagree with those of Bansal, Lopez-Perez and Rodriguez-Ariza (2018) who found that board independence was negatively associated with corporate social responsibility (CSR) disclosure.

4.5 Regression Results

Regression analysis was carried out to establish the extent to which effective tax rate is explained by the selected variables. The regression results were presented in Table 4.9.

Table 4.9: Regression Results

Effective tax rate	Coef.	std.err	z	P>|z|	[95% conf.interval]	
Managerial ownership	0.032	0.015	2.18	0.029	0.003	0.061
Gender diversity	0.095	0.025	3.81	0.000	0.046	0.144
Board independence	0.082	0.025	3.21	0.001	0.032	0.131
Leverage	-0.033	0.012	-2.64	0.008	-0.058	-0.008
Liquidity	0.118	0.099031	1.19	0.232	0.312	0.075
Firm size	0.103	0.023	4.31	0.027	0.446	0.492
_cons	-0.277	0.126	-2.2	0.028	-0.523	-0.030
R squared =0.4836						
Wald chi2(6)=48.89						
Prob>chi2=0.000						

Source: Research Findings (2021)

Effective tax rate= -0.277+ 0.032 Managerial ownership + 0.095 Gender diversity + 0.082 Board Independence – 0.033 Leverage + 0.103 Firm size

Table 4.9 outcomes designate that each of the three selected attributes of corporate governance has a significant positive effect on the effective tax rate. Leverage has a significant negative effect, firm size has a significant positive effect while liquidity has no statistically significant influence.

4.6 Discussion of Research Findings

The objective of this study was to establish CG attributes effect on effective tax rate. The study utilized a descriptive design while population was the 63 firms listed at the NSE. Data was gathered from 55 firms yielding response rate of 87.3% that was considered satisfactory. The study relied on secondary data which was obtained from CMA and individual firms annual reports. The specific attributes of CG considered were; managerial ownership, gender diversity and board independence. The control variables were leverage, firm size and liquidity. Data was analyzed via both descriptive as well as inferential statistics. The results are discussed in this section.

Regression results exhibited that managerial ownership was positively as well as significantly related with effective tax rate of firms listed at NSE (β=0.032, p=0.029). These findings agree with those of Majeed, Aziz and Saleem (2015) who found positive and significant impact from board size and corporate social responsibility reporting. However, these findings were inconsistent with those of Mgammal, Bardai and Ku Ismail (2018) who found that ownership structure do not significantly influence tax disclosure.

Moreover, results reveal that gender diversity was positively as well as significantly linked with effective tax rate of firms listed at NSE (β=0.095, p=0.000).These findings agree with those of Zemzem and Khaoula (2013) who indicated that gender diversity affects the activity of tax aggressiveness. These findings were however inconsistent

with those of Jamei (2017) who discovered no significant correlation between number of board members, share of non-duty members, number of women, institutional ownership and tax avoidance.

The results further show that board independence was positively as well as significantly associated with effective tax rate of firms listed at NSE (β=0.082, p=0.001). These findings agree with those of Ortas, Álvarez and Zubeltzu (2017) who discovered positive connection between board independence and corporate social performance. These findings were however inconsistent with those of Raithatha and Bapat (2014) who studied the impact of corporate governance on financial disclosures made by the Indian firms but did not find any influence of board independence on the disclosures. Also, the results contradicted those of Bansal, Lopez-Perez and Rodriguez-Ariza (2018) who found out that that board independence is negatively associated with CSR disclosure practices and they present opposition to CSR disclosure practices.

For the control variables, leverage exhibited a significant negative effect, firm size exhibited a significant positive effect while liquidity did not exhibit a significant effect. The R squared was 0.4836. This implies that the selected predictor variables contributed 48.36% to variations in effective tax rate. The R squared obtained in this study was relatively the same with that of previous studies for example Majeed, Aziz and Saleem (2015) with an R squared of 0.3060 on their study investigating the effects of corporate governance characteristics on CSR disclosure and Honghui (2017) with an R squared of 0.4750 on her study on corporate governance and performance of firms listed on the NSE. The R square of 0.4836 is an indication that there are other factors (for example CEO tenure, board composition, incentives among others) influencing effective tax rate

apart from the ones included in the study model. The results further indicated that the overall model was significant (p=0.000). F statistic of 48.89 backed this.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings from the preceding chapter, as well as the conclusions and limitations discovered during the research. Additionally, it provides recommendation for policy makers and offers suggestions on areas where further research can be performed.

5.2 Summary of Findings

The objective of this research was to assess how CG attributes influence effective tax rate of NSE listed firms. The selected variables for investigation included managerial ownership, gender diversity, board independence, liquidity, leverage and firm size. A descriptive research design was selected to complete the research. Secondary data was gathered from CMA and an analysis made using Stata. Yearly data for 55 listed firms for five years from 2016 to 2020 was obtained from their annual reports.

The first objective was to determine the effect of managerial ownership on effective tax rate among firms listed at NSE, Kenya. The correlation results at 5 % significance level show that managerial ownership structure had a positive correlation with effective tax rate. This implies that improvement in managerial ownership would lead to increase in effective tax rate. Regression results (β=0.032, p=0.029) depict presence of a positive and significant effect of managerial ownership on effective tax rate among firms listed at NSE, Kenya.

The second objective was assessing the effect of gender diversity on corporate on effective tax rate among firms listed at NSE, Kenya. The correlation results at 5 % significance level show that gender diversity had a positive correlation with effective

tax rate. This implies that improvement in gender diversity would lead to increase in effective tax rate. Regression results (β=0.095, p=0.000) display presence of a positive and significant effect of gender diversity on effective tax rate among firms listed at NSE, Kenya.

The third objective was to examine the effect of board independence on effective tax rate among firms listed at NSE, Kenya. The correlation results at 5 % significance level show that board independence had a positive correlation with effective tax rate. This implies that improvement in board independence might yield to rise in effective tax rate. Regression results (β=0.082, p=0.001) show that there was a positive as well as significant effect of board independence on effective tax rate among firms listed at NSE, Kenya.

The fourth objective was to examine the effect of leverage on effective tax rate among firms listed at NSE, Kenya. The correlation results at 5 % significance level show that leverage had a negative correlation with effective tax rate. Implying a rise in leverage would yield a decline in effective tax rate. Regression results (β=-0.033, p=0.008) show that there was a negative and significant effect of leverage on effective tax rate among firms listed at NSE, Kenya.

The fifth objective was to examine the effect of liquidity on effective tax rate among firms listed at NSE, Kenya. The correlation results at 5 % significance level show that liquidity had a positive link with effective tax rate. The correlation was however not statistically significant. Regression results (β=0.118, p=0.232) reveal presence of a positive and not significant effect of liquidity on effective tax rate among firms listed at NSE, Kenya.

The sixth objective was to examine the effect of firm size on effective tax rate among firms listed at NSE, Kenya. The correlation results at 5 % significance level show that firm size had a positive correlation with effective tax rate. This implies that improvement in firm size would lead to increase in effective tax rate. Regression results (β=0.103, p=0.027) show presence of positive as well as significant effect of firm size on effective tax rate among firms listed at NSE, Kenya.

5.3 Conclusions

The study intention of the research was to establish the association between corporate governance attributes and effective tax rate. The findings indicated that managerial ownership structure had a positive and significant effect on effective tax rate. This may imply that listed firms with more managerial ownership have high level of effective tax rate.

The study results further designated that gender diversity had a positive as well as significant effect on effective tax rate which might mean that boards with a high proportion of women are beneficial in effective tax rate because they have diverse expertise to aid form better decisions, and are harder for their powerful CEOs to dominate. Increased diversity enables a firm to include more diverse opinions and bringing different areas of technical expertise.

The study results exhibited board independence had a positive and significant effect on effective tax rate. This may mean that the high independent non-executive and executive directors' proportion increased board effectiveness in observing managerial opportunism and preventing self-interest thereby consequently, increased effective tax rate.

In addition, the results revealed that leverage has a significant negative effect on effective tax rate. This implies that firms with high levels of debt in their capital structure end up paying a lower effective tax rate. This can be explained by the tax shield benefit of debt. Further, the study discovered that firm size has a significant positive effect on effective tax rate. This might be explained by availability of better governance mechanisms in large firms as compared to small firms.

5.4 Recommendations for Policy and Practice

The research findings reveal that managerial ownership had a positive as well as significant effect on effective tax rate. The research thus suggest that the management of firms listed in NSE ought to work on developing managers share ownership plan as this will contribute to enhancement of effective tax rate. That is, the shareholding should be well constituted taking into account the managers so that this does not limit effective tax rate since the results of the study indicated that a higher shareholding by the managers leads to a higher effective tax rate.

Further, gender diversity was discovered to have a significant as well as positive impact on effective tax rate. The research thus suggests that shareholders of the NSE listed firms ought to guarantee that there is an appropriate number of women in the board to enhance smooth coordination within the board as the results are indicative that more diversified boards in terms of gender lead to higher levels of effective tax rate.

From the study findings, board independence had a significant effect on effective tax rate. Thus, the study recommends that the CMA which is the regulator should make it mandatory to all listed firms that they should have board independence. Furthermore, an effective board should have a majority of non-executive directors, who are seen to give greater performance due to their independence from firm management, which

allows them to make suitable and non-partisan judgments, including tax disclosure matters.

5.5 Limitations of the Study

The focus was on some of the elements that are thought to affect the effective tax rate of NSE-listed companies. The research dealt with six explanatory variables in particular. Nevertheless, other factors are likely to influence a firm's effective tax rate. Some are controlled by the company, such as board size and internal controls, while others are not.

The research used a scientifically sound analytical technique. The study also ignored qualitative data that could explain other factors that influence the relationship between CG features and listed enterprises' effective tax rate. Qualitative methods like focus groups, open-ended surveys, and interviews can aid in the development of more definite outcomes.

The research focus was a five-year period (2016 to 2020). It's unclear whether the results will last for a longer period of time. It is too uncertain if same results will be achieved after 2020. In order to account for key economic events, the research ought to have been conducted over a longer time period.

The researchers utilized a random effects regression model to analyze the data. Because of the limitations of employing regression models, such as erroneous as well as deceptive conclusions which cause the variable value to change, it was not possible to generalize the conclusions of the research with correctness. Furthermore, if more data was supplied to the regression, the outcome could be varied. As a result, the model is a drawback.

5.6 Suggestions for Further Research

The study findings revealed an R square of 48.36%. This implies that there are other factors that affect effective tax rate among the NSE firms that were not addressed by the research. Other researches ought thus to focus on other factors for example; CEO tenure, incentive compensation, board composition in terms of expertise, audit committee, among other corporate governance aspects that affect effective tax rate among the NSE firms.

The research was restricted to firms listed on the NSE. Additional research on other Kenyan companies should be conducted, according to the study's suggestions. Future research should look into how CG qualities affect other factors besides the effective tax rate, such as company value, efficiency, and growth, to name a few.

Because of the readily available data, the focus of this research was drawn to the last five years. Past studies may span a longer time period, such as ten or twenty years, and might have a significant impact on this study by either complementing or contradicting its conclusions. A longer study has the advantage of allowing the researcher to catch the effects of business cycles like booms as well as recessions.

Lastly, this research relied on a regression model, that has its own set of drawbacks, like errors and deceptive outcomes when a variable is changed. Impending study ought to concentrate on models such as the Vector Error Correction Model (VECM) in order to investigate the numerous relationships between CG features and the effective tax rate.

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APPENDICES

Appendix I: Firms Listed at the NSE

	COMPANY	SECTOR	YEAR OF LISTING
1	Deacons (East Africa)	Consumer Services	2016
2	Nairobi Business Ventures	Consumer Services	2016
3	Stanlib Fahari I-REIT	Financials	2015
4	Atlas African Industries	Industrials	2014
5	Flame Tree Group Holdings	Basic Materials	2014
6	Kurwitu Ventures	Financials	2014
7	Nairobi Securities Exchange	Financials	2014
8	Home Afrika	Financials	2013
9	I&M Holdings	Financials	2013
10	CIC Insurance Group	Financials	2012
11	Umeme	Utilities	2012
12	Britam (Kenya)	Financials	2011
13	TransCentury	Industrials	2011
14	Co-operative Bank of Kenya	Financials	2008
15	Safaricom	Telecommunications	2008
16	Kenya Re-Insurance Corporation	Financials	2007
17	Liberty Kenya Holdings	Financials	2007
18	Equity Group Holdings	Financials	2006
19	Eveready East Africa	Consumer Goods	2006
20	KenGen Company	Utilities	2006
21	WPP Scangroup	Consumer Services	2006
21	WPP Scangroup	Consumer Services	2006
22	Mumias Sugar Co	Consumer Goods	2001
23	ARM Cement	Industrials	1997
24	TPS Eastern Africa	Consumer Services	1997
25	Kenya Airways	Consumer Services	1996
26	National Bank of Kenya	Financials	1994
27	Sameer Africa	Consumer Goods	1994
28	Longhorn Publishers	Consumer Services	1993
29	Crown Paints Kenya	Basic Materials	1992
30	HF Group	Financials	1992

21	WPP Scangroup	Consumer Services	2006
22	Mumias Sugar Co	Consumer Goods	2001
23	ARM Cement	Industrials	1997
24	TPS Eastern Africa	Consumer Services	1997
25	Kenya Airways	Consumer Services	1996
26	National Bank of Kenya	Financials	1994
27	Sameer Africa	Consumer Goods	1994
28	Longhorn Publishers	Consumer Services	1993
29	Crown Paints Kenya	Basic Materials	1992
30	HF Group	Financials	1992
31	Uchumi Supermarkets	Consumer Services	1992
32	KCB Group	Financials	1989
33	Standard Chartered Bank Kenya	Financials0	1988
34	Total Kenya	Oil & Gas	1988
35	Barclays Bank of Kenya	Financials	1986
36	Jubilee Holdings	Financials	1984
37	Express Kenya	Consumer Services	1978
38	Olympia Capital Holdings	Industrials	1974
39	East African Cables	Industrials	1973
40	Nation Media Group	Consumer Services	1973
41	Carbacid Investments	Basic Materials	1972
42	Diamond Trust Bank Kenya	Financials	1972
43	Eaagads	Consumer Goods	1972
44	East African Breweries	Consumer Goods	1972
45	East African Portland Cement	Industrials	1972
46	Kapchorua Tea Kenya	Consumer Goods	1972
47	Kenya Power & Lighting	Utilities	1972
48	Williamson Tea Kenya	Consumer Goods	1972
49	NIC Group	Financials	1971
50	Unga Group	Consumer Goods	1971
51	Bamburi Cement	Industrials	1970
52	Stanbic Holdings	Financials	1970
53	B O C Kenya	Basic Materials	1969
54	BAT Kenya	Consumer Goods	1969
55	Centum Investment	Financials	1967
56	Limuru Tea	Consumer Goods	1967
57	Sasini	Consumer Goods	1965

58	Sanlam Kenya	Financials	1963
59	KenolKobil	Oil & Gas	1959
60	Kenya Orchards	Consumer Goods	1959
61	Standard Group	Consumer Services	1954
62	Kakuzi	Consumer Goods	1951
63	Car & General (K)	Consumer Services	1940

Source: NSE (2020)

Appendix II: Research Data

Company ID	Year	Effective tax rate	Managerial ownership	Board independence	Gender Diversity	Leverage	Liquidity	Firm size
1	2016	0.303	2.340	0.727	0.327	0.513	1.766	10.630
1	2017	0.332	2.210	0.889	0.489	0.456	2.909	10.708
1	2018	0.318	2.110	0.900	0.500	0.676	5.958	10.715
1	2019	0.304	1.980	0.900	0.500	0.745	11.648	10.567
1	2020	0.318	1.860	0.900	0.500	0.723	7.503	10.473
2	2016	0.356	2.340	0.944	0.544	0.274	2.123	10.660
2	2017	0.314	2.340	0.944	0.544	0.325	3.237	10.528
2	2018	0.297	2.320	0.944	0.544	0.289	1.082	10.622
2	2019	0.310	2.280	0.944	0.544	0.295	2.279	10.603
2	2020	0.330	2.390	0.889	0.489	0.275	1.303	10.634
3	2016	0.316	0.094	0.875	0.475	0.643	1.594	9.973
3	2017	0.313	0.087	0.875	0.475	0.666	1.438	9.987
3	2018	0.319	0.098	0.875	0.475	0.664	1.013	9.954
3	2019	0.308	0.102	0.875	0.475	0.653	0.911	9.911
3	2020	0.273	0.109	0.875	0.475	0.637	2.355	9.839
4	2016	0.274	1.320	0.889	0.489	0.116	3.047	9.519
4	2017	0.260	1.280	0.714	0.314	0.132	3.001	9.489
4	2018	0.298	1.270	0.714	0.314	0.166	2.807	9.473
4	2019	-0.299	1.340	0.714	0.314	0.147	2.973	9.404
4	2020	-0.339	1.290	0.714	0.314	0.127	2.834	9.343
5	2016	1.083	0.873	0.714	0.314	0.701	3.249	9.769
5	2017	0.477	0.877	0.818	0.418	0.691	6.252	9.704

Company ID	Year	Effective tax rate	Managerial ownership	Board independence	Gender Diversity	Leverage	Liquidity	Firm size
5	2018	0.112	0.892	0.818	0.418	0.702	2.076	9.657
5	2019	0.296	0.875	0.818	0.418	0.650	2.051	9.586
5	2020	0.332	0.839	0.833	0.433	0.538	2.674	9.469
6	2016	0.291	3.420	0.833	0.433	0.733	1.940	9.847
6	2017	0.323	3.450	0.833	0.433	0.661	1.022	9.878
6	2018	0.322	3.760	0.833	0.433	0.595	0.721	9.923
6	2019	0.261	3.890	0.833	0.433	0.608	0.699	9.897
6	2020	0.292	3.950	0.833	0.433	0.550	0.803	9.833
7	2016	0.260	1.760	0.833	0.433	0.383	1.052	10.437
7	2017	0.266	1.740	0.857	0.457	0.355	2.357	10.445
7	2018	0.268	1.680	0.857	0.457	0.403	2.297	10.364
7	2019	0.297	1.740	0.857	0.457	0.573	2.681	10.196
7	2020	0.303	1.680	0.857	0.457	0.561	2.348	10.208
8	2016	0.014	1.560	0.867	0.467	0.289	2.620	8.888
8	2017	0.068	1.540	0.867	0.467	0.551	1.316	9.035
8	2018	0.337	1.620	0.867	0.467	0.431	1.196	9.179
8	2019	0.317	1.570	0.875	0.475	0.765	1.174	8.969
8	2020	0.304	1.610	0.875	0.475	0.580	1.206	8.973
9	2016	0.304	0.002	0.875	0.475	0.248	1.228	9.759
9	2017	0.296	0.002	0.875	0.475	0.241	1.056	9.705
9	2018	0.334	0.002	0.875	0.475	0.358	1.096	9.481
9	2019	0.277	0.002	0.875	0.475	0.228	1.112	9.586
9	2020	0.234	0.002	0.889	0.489	0.221	1.160	9.570

Company ID	Year	Effective tax rate	Managerial ownership	Board independence	Gender Diversity	Leverage	Liquidity	Firm size
10	2016	0.299	1.680	0.889	0.489	0.514	1.123	11.577
10	2017	0.305	1.720	0.889	0.489	0.530	4.511	11.565
10	2018	0.285	1.690	0.889	0.489	0.587	6.296	11.535
10	2019	0.239	1.680	0.889	0.489	0.693	10.089	11.398
10	2020	0.266	1.710	0.889	0.489	0.607	4.258	11.276
11	2016	0.298	8.720	0.889	0.489	0.535	8.843	10.382
11	2017	0.494	8.770	0.889	0.489	0.592	1.107	10.384
11	2018	0.270	8.520	0.889	0.489	0.508	1.146	10.240
11	2019	0.333	8.760	0.889	0.489	0.693	1.382	10.379
11	2020	0.261	8.650	0.889	0.489	0.763	1.536	10.449
12	2016	0.228	9.549	0.889	0.489	0.795	1.464	11.534
12	2017	0.180	9.549	0.889	0.489	0.785	1.283	11.474
12	2018	0.194	9.549	0.889	0.489	0.697	1.168	11.440
12	2019	0.247	9.549	0.889	0.489	0.668	1.305	11.344
12	2020	0.214	9.549	0.899	0.499	0.683	1.197	11.248
13	2016	0.070	9.512	0.899	0.499	1.307	1.161	11.165
13	2017	0.785	9.512	0.899	0.499	1.229	1.585	11.192
13	2018	0.777	9.512	0.899	0.499	1.033	0.946	11.260
13	2019	0.497	9.512	0.899	0.499	0.810	1.085	11.172
13	2020	0.244	5.172	0.899	0.499	0.746	1.024	11.089
14	2016	0.266	5.172	0.900	0.500	0.156	1.469	11.209
14	2017	0.215	5.172	0.900	0.500	0.174	0.984	11.202
14	2018	0.216	7.570	0.900	0.500	0.336	1.334	11.196

Company ID	Year	Effective tax rate	Managerial ownership	Board independence	Gender Diversity	Leverage	Liquidity	Firm size
14	2019	0.218	2.466	0.900	0.500	0.322	1.540	11.129
14	2020	0.200	6.433	0.900	0.500	0.377	1.259	11.110
15	2016	0.406	6.060	0.909	0.509	0.393	1.115	9.473
15	2017	0.389	9.053	0.909	0.509	0.444	4.144	9.517
15	2018	0.333	9.053	0.909	0.509	0.384	6.657	9.574
15	2019	0.228	4.900	0.909	0.509	0.328	7.954	9.586
15	2020	0.147	4.900	0.909	0.509	0.270	8.475	9.564
16	2016	0.037	4.901	0.909	0.509	0.142	3.345	10.120
16	2017	0.391	5.268	0.909	0.509	0.104	0.951	10.226
16	2018	0.415	5.268	0.909	0.509	0.090	1.097	10.205
16	2019	0.155	7.848	0.909	0.509	0.188	1.422	10.174
16	2020	0.222	8.532	0.909	0.509	0.295	1.486	9.957
17	2016	0.266	8.532	0.909	0.509	0.582	1.736	9.649
17	2017	0.078	1.326	0.909	0.509	0.529	1.237	9.644
17	2018	-0.645	1.326	0.909	0.509	0.569	0.950	9.639
17	2019	0.151	1.591	0.909	0.509	0.462	0.935	9.613
17	2020	0.217	1.591	0.909	0.509	0.507	0.968	9.619
18	2016	0.602	1.591	0.909	0.509	0.437	1.224	10.580
18	2017	0.542	5.646	0.917	0.517	0.465	1.643	10.559
18	2018	0.453	1.000	0.917	0.517	0.486	1.032	10.534
18	2019	0.366	1.000	0.917	0.517	0.495	0.923	10.512
18	2020	0.362	1.000	0.917	0.517	0.615	0.897	10.602
19	2016	0.355	1.000	0.917	0.517	1.006	1.157	10.273

Company ID	Year	Effective tax rate	Managerial ownership	Board independence	Gender Diversity	Leverage	Liquidity	Firm size
19	2017	0.342	1.000	0.923	0.523	0.797	0.502	10.277
19	2018	0.331	3.259	0.923	0.523	0.966	0.465	10.277
19	2019	0.329	3.485	0.923	0.523	0.366	0.563	10.339
19	2020	0.328	1.854	0.923	0.523	0.446	1.400	10.377
20	2016	0.324	1.844	0.935	0.535	1.419	0.624	9.699
20	2017	0.322	1.844	1.000	0.600	0.867	0.740	9.807
20	2018	0.316	1.844	1.000	0.600	0.520	0.693	9.838
20	2019	0.314	1.674	1.000	0.600	0.475	0.563	9.746
20	2020	0.314	2.005	1.000	0.600	0.466	0.636	10.011
21	2016	0.313	2.005	1.000	0.600	0.381	2.205	9.964
21	2017	0.304	2.005	1.000	0.600	0.383	2.524	9.938
21	2018	0.304	1.000	1.000	0.600	0.394	3.374	9.905
21	2019	0.284	1.000	1.000	0.600	0.471	2.833	9.909
21	2020	0.282	1.000	1.000	0.600	0.279	3.020	10.054
22	2016	0.272	1.000	1.000	0.600	0.285	4.402	10.085
22	2017	0.268	1.000	1.000	0.600	0.295	2.328	10.104
22	2018	0.265	1.000	1.000	0.600	0.266	1.771	10.077
22	2019	0.263	1.000	1.000	0.600	0.280	1.895	10.059
22	2020	0.260	1.000	1.000	0.600	0.277	2.131	9.348
23	2016	0.253	1.000	0.714	0.314	0.240	0.955	9.347
23	2017	0.253	1.000	0.818	0.418	0.261	1.219	9.366
23	2018	0.253	1.000	0.818	0.418	0.240	1.156	9.362
23	2019	0.233	2.782	0.818	0.418	0.216	1.116	9.420

Company ID	Year	Effective tax rate	Managerial ownership	Board independence	Gender Diversity	Leverage	Liquidity	Firm size
23	2020	0.215	2.782	0.818	0.418	0.820	1.078	10.824
24	2016	0.213	2.782	1.000	0.600	0.888	1.524	10.791
24	2017	0.207	2.782	1.000	0.600	0.801	1.488	10.826
24	2018	0.202	2.782	1.000	0.600	0.855	1.277	10.798
24	2019	0.197	0.002	0.917	0.517	0.868	1.300	10.761
24	2020	0.158	0.002	0.917	0.517	0.078	1.100	8.965
25	2016	0.135	0.002	0.917	0.517	0.091	0.630	8.881
25	2017	0.134	0.002	0.917	0.517	0.148	1.595	8.633
25	2018	0.078	0.002	0.917	0.517	0.191	1.487	8.649
25	2019	0.054	0.087	0.917	0.517	0.239	1.285	9.978
25	2020	0.042	0.094	0.917	0.517	0.265	1.410	9.922
26	2016	0.004	0.098	0.857	0.457	0.221	0.343	9.951
26	2017	0.000	0.102	0.875	0.475	0.229	0.672	9.932
26	2018	0.000	0.109	0.875	0.475	0.253	2.973	9.931
26	2019	-0.005	0.839	0.875	0.475	0.303	2.834	9.308
26	2020	-0.008	0.873	0.857	0.457	0.294	3.249	9.331
27	2016	-0.011	0.875	0.875	0.475	0.280	6.252	9.297
27	2017	-0.022	0.877	0.938	0.538	0.284	2.076	9.285
27	2018	-0.047	0.892	0.938	0.538	0.382	2.051	9.318
27	2019	-0.068	1.270	0.923	0.523	0.283	2.674	8.418
27	2020	-0.128	1.280	0.938	0.538	0.271	2.828	8.451
28	2016	-0.247	1.290	0.857	0.457	0.267	2.910	8.497
28	2017	-0.330	1.320	0.929	0.529	0.236	3.463	8.530

Company ID	Year	Effective tax rate	Managerial ownership	Board independence	Gender Diversity	Leverage	Liquidity	Firm size
28	2018	-0.363	1.340	0.929	0.529	0.241	3.601	8.535
28	2019	0.303	1.540	0.889	0.489	1.139	4.359	8.574
28	2020	0.332	1.560	0.889	0.489	0.939	1.766	8.579
29	2016	0.318	1.570	1.000	0.600	0.728	2.909	8.645
29	2017	0.304	1.610	1.000	0.600	0.673	5.958	8.679
29	2018	0.318	1.620	1.000	0.600	0.587	11.648	8.682
29	2019	0.356	1.680	1.000	0.600	0.476	7.503	10.243
29	2020	0.314	1.680	1.000	0.600	0.437	2.123	10.230
30	2016	0.297	1.680	0.900	0.500	0.388	3.237	10.199
30	2017	0.310	1.680	0.900	0.500	0.347	1.082	10.202
30	2018	0.330	1.690	0.900	0.500	0.346	2.279	10.208
30	2019	0.316	1.710	0.900	0.500	0.348	1.303	10.139
30	2020	0.313	1.720	0.900	0.500	0.347	1.594	10.130
31	2016	0.319	1.740	0.800	0.400	0.310	1.438	10.096
31	2017	0.308	1.740	0.800	0.400	0.357	1.013	10.123
31	2018	0.273	1.760	0.800	0.400	0.369	0.911	10.105
31	2019	0.274	1.860	0.800	0.400	0.683	2.355	8.157
31	2020	0.260	1.980	0.800	0.400	0.679	3.047	8.191
32	2016	0.298	2.110	0.909	0.509	0.594	3.001	8.048
32	2017	-0.299	2.210	0.909	0.509	0.763	2.807	7.900
32	2018	-0.339	2.280	0.909	0.509	0.754	2.973	7.654
32	2019	1.083	2.320	0.909	0.509	1.087	2.834	9.651
32	2020	0.477	2.340	0.909	0.509	1.053	3.249	9.594

Company ID	Year	Effective tax rate	Managerial ownership	Board independence	Gender Diversity	Leverage	Liquidity	Firm size
33	2016	0.112	2.340	1.000	0.600	1.011	6.252	9.587
33	2017	0.296	2.340	1.000	0.600	0.906	2.076	9.570
33	2018	0.332	2.390	1.000	0.600	0.889	2.051	9.486
33	2019	0.291	3.420	1.000	0.600	0.530	2.674	8.147
33	2020	0.323	3.450	1.000	0.600	0.526	2.271	8.708
34	2016	0.322	3.760	0.750	0.350	0.537	1.838	8.781
34	2017	0.261	3.890	0.750	0.350	0.452	2.358	8.712
34	2018	0.292	3.950	0.750	0.350	0.403	2.522	8.109
34	2019	0.260	8.520	0.750	0.350	0.046	1.310	9.324
34	2020	0.266	8.720	0.833	0.433	0.075	1.175	9.304
35	2016	0.268	8.760	0.714	0.314	0.075	1.170	9.283
35	2017	0.297	8.770	0.714	0.314	0.084	1.167	9.227
35	2018	0.303	4.251	0.818	0.418	0.364	1.138	9.060
35	2019	0.014	4.267	0.818	0.418	0.560	0.448	10.251
35	2020	0.068	4.271	0.818	0.418	0.524	1.042	10.267
36	2016	0.337	4.261	0.818	0.418	0.526	1.059	10.271
36	2017	0.317	4.230	0.800	0.400	0.555	1.112	10.261
36	2018	0.304	4.428	0.875	0.475	0.025	1.125	10.230
36	2019	0.304	4.310	0.875	0.475	0.718	1.159	10.428
36	2020	0.296	4.372	0.875	0.475	0.710	1.144	10.310
37	2016	0.334	4.436	0.875	0.475	0.636	1.145	10.372
37	2017	0.277	3.269	0.875	0.475	0.567	1.094	10.436
37	2018	0.234	3.271	0.571	0.171	0.491	1.033	9.269

Company ID	Year	Effective tax rate	Managerial ownership	Board independence	Gender Diversity	Leverage	Liquidity	Firm size
37	2019	0.299	2.838	0.571	0.171	0.492	1.271	9.271
37	2020	0.305	2.877	0.571	0.171	0.448	1.278	8.838
38	2016	0.285	2.836	0.571	0.171	0.423	1.172	8.877
38	2017	0.239	3.358	0.714	0.314	0.437	1.166	8.836
38	2018	0.266	3.396	0.889	0.489	0.486	1.558	9.358
38	2019	0.298	3.293	0.889	0.489	0.392	1.623	9.396
38	2020	0.494	2.741	0.889	0.489	0.280	1.638	9.293
39	2016	0.270	2.267	0.889	0.489	0.530	1.605	8.741
39	2017	0.333	2.316	0.889	0.489	0.468	1.505	8.267
39	2018	0.261	2.354	0.889	0.489	0.450	1.265	8.316
39	2019	0.228	2.382	0.889	0.489	0.442	1.287	8.354
39	2020	0.180	2.414	0.889	0.489	0.341	1.278	8.382
40	2016	0.194	2.267	0.941	0.541	0.283	1.222	8.414
40	2017	0.247	2.316	0.933	0.533	0.400	1.047	8.267
40	2018	0.214	2.354	0.933	0.533	0.318	1.169	8.316
40	2019	0.070	2.382	0.933	0.533	0.399	1.125	8.354
40	2020	0.785	2.414	0.933	0.533	0.400	1.100	8.382
41	2016	0.777	2.291	0.938	0.538	0.335	1.042	8.414
41	2017	0.497	2.343	0.938	0.538	0.326	1.240	8.291
41	2018	0.244	2.347	0.938	0.538	0.338	1.198	8.343
41	2019	0.266	2.369	0.938	0.538	0.376	1.159	8.347
41	2020	0.215	2.399	0.938	0.538	0.337	1.148	8.369
42	2016	0.216	2.035	0.917	0.517	0.460	1.081	8.399

Company ID	Year	Effective tax rate	Managerial ownership	Board independence	Gender Diversity	Leverage	Liquidity	Firm size
42	2017	0.218	2.083	0.917	0.517	0.679	2.095	8.035
42	2018	0.200	2.164	0.923	0.523	0.414	2.365	8.083
42	2019	0.406	2.219	0.938	0.538	0.737	2.520	8.164
42	2020	0.389	2.229	0.941	0.541	0.546	2.253	8.219
43	2016	0.333	1.966	0.909	0.509	0.390	2.313	8.229
43	2017	0.228	2.089	0.909	0.509	0.440	2.941	7.966
43	2018	0.147	2.096	0.909	0.509	0.420	2.381	8.089
43	2019	0.037	2.061	0.909	0.509	0.380	2.632	8.096
43	2020	0.391	2.484	0.909	0.509	0.230	4.348	8.061
44	2016	0.415	2.509	0.900	0.400	0.202	4.950	8.484
44	2017	0.155	2.576	0.900	0.400	0.368	2.717	8.509
44	2018	0.222	2.670	0.900	0.400	0.331	3.021	8.576
44	2019	0.266	2.703	0.900	0.400	0.308	3.247	8.670
44	2020	0.078	1.290	0.900	0.400	0.280	3.571	8.703
45	2016	-0.645	2.043	0.900	0.509	0.211	4.739	7.290
45	2017	0.151	2.138	0.900	0.509	0.460	2.174	8.043
45	2018	0.217	2.170	0.899	0.509	0.340	2.941	8.138
45	2019	0.602	2.215	0.899	0.509	0.304	3.289	8.170
45	2020	0.542	1.609	0.899	0.509	0.291	3.436	8.215
46	2016	0.453	1.670	0.899	0.600	0.337	2.967	7.609
46	2017	0.366	1.782	0.899	0.600	0.376	2.660	7.670
46	2018	0.362	1.001	0.899	0.600	0.679	1.473	7.782
46	2019	0.355	1.000	0.889	0.600	0.414	2.415	7.001

Company ID	Year	Effective tax rate	Managerial ownership	Board independence	Gender Diversity	Leverage	Liquidity	Firm size
46	2020	0.342	2.334	0.889	0.600	0.737	1.357	7.000
47	2016	0.331	2.377	0.889	0.350	0.546	1.832	8.334
47	2017	0.329	2.441	0.889	0.350	0.390	2.564	8.377
47	2018	0.328	2.533	0.889	0.350	0.340	2.941	8.441
47	2019	0.324	2.579	0.889	0.350	0.440	2.273	8.533
47	2020	0.322	2.300	0.889	0.433	0.604	1.656	8.579
48	2016	0.316	2.360	0.889	0.314	0.480	2.083	8.300
48	2017	0.314	2.451	0.889	0.314	0.400	2.500	8.360
48	2018	0.314	2.531	0.889	0.418	0.340	2.941	8.451
48	2019	0.313	2.544	0.889	0.418	0.240	4.167	8.531
48	2020	0.304	1.670	0.889	0.418	0.230	4.348	8.544
49	2016	0.304	1.782	0.889	0.418	0.202	4.950	7.670
49	2017	0.284	2.234	0.889	0.400	0.368	2.717	7.782
49	2018	0.282	2.298	0.889	0.475	0.331	3.021	8.234
49	2019	0.272	2.312	0.889	0.475	0.308	3.247	8.298
49	2020	0.268	0.846	0.889	0.475	0.280	3.571	8.312
50	2016	0.265	0.895	0.889	0.475	0.714	1.197	6.846
50	2017	0.263	1.740	0.889	0.475	0.833	1.161	6.895
50	2018	0.260	1.813	0.889	0.475	0.875	1.585	7.740
50	2019	0.253	1.815	0.889	0.475	0.875	0.946	7.813
50	2020	0.253	0.945	0.889	0.475	0.875	1.085	7.815
51	2016	0.253	0.985	0.875	0.600	0.875	1.024	6.945
51	2017	0.233	1.010	0.875	0.600	0.714	1.469	6.985

Company ID	Year	Effective tax rate	Managerial ownership	Board independence	Gender Diversity	Leverage	Liquidity	Firm size
51	2018	0.215	1.019	0.875	0.600	0.714	0.984	7.010
51	2019	0.213	1.016	0.875	0.600	0.714	1.334	7.019
51	2020	0.207	1.014	0.875	0.600	0.750	1.540	7.016
52	2016	0.202	1.135	0.875	0.600	0.875	1.259	7.014
52	2017	0.197	1.237	0.875	0.600	0.778	1.115	7.135
52	2018	0.158	1.301	0.875	0.600	0.778	4.144	7.237
52	2019	0.135	1.350	0.875	0.600	0.778	6.657	7.301
52	2020	0.134	1.280	0.875	0.600	0.750	7.954	7.350
53	2016	0.078	1.293	0.875	0.314	0.750	8.475	7.280
53	2017	0.054	1.331	0.875	0.418	0.750	3.345	7.293
53	2018	0.042	1.344	0.875	0.418	0.889	0.951	7.331
53	2019	0.004	1.351	0.875	0.418	0.778	1.097	7.344
53	2020	0.000	1.664	0.875	0.418	0.750	1.422	7.351
54	2016	0.000	1.716	0.875	0.600	0.909	1.486	7.664
54	2017	-0.005	1.792	0.875	0.600	0.909	1.736	7.716
54	2018	-0.008	1.834	0.875	0.600	0.889	1.237	7.792
54	2019	-0.011	1.919	0.875	0.475	0.875	0.950	7.834
54	2020	-0.022	2.267	0.875	0.475	0.875	0.935	7.919
55	2016	-0.047	2.316	0.867	0.467	0.875	0.968	8.267
55	2017	-0.068	2.354	0.867	0.467	0.875	1.224	8.316
55	2018	-0.128	2.382	0.867	0.467	0.400	1.643	8.354
55	2019	-0.247	2.414	0.857	0.457	0.500	1.032	8.382
55	2020	-0.330	2.414	0.857	0.457	0.571	0.923	8.414