CORPORATE TRANSPARENCY, CASH HOLDING, AND TAX AVOIDANCE AMONG FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE, KENYA

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DECLARATION

Declaration by the Candidate

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DEDICATION

I dedicate this work to my wife Wacuka, and daughters Wambui, Wangui, Muthoni, Wambui, and sons Kabete and Njogu who were patient and encouraged me to complete this study despite the tough economic times, parents, brothers, and sisters who have been the sources of my inspiration in this study. I dedicate it to my father mzee Benson Kabete and my mother Wambui who from the onset of childhood encouraged me to value education. Thank you all for your love, sacrifice, and support.

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ABSTRACT

Revenue authorities globally have shown keen interest in listed firms due to increased cases of tax avoidance. Although this phenomenon has been a subject of discussion, extant literature indicates that the effect of corporate transparency on tax avoidance has been very controversial. The general objective of the study was to investigate corporate transparency, cash holding and tax avoidance among firms listed in the Nairobi securities Exchange, Kenya. The specific objectives of the study were: to examine the effects of corporate transparency; financial transparency, governance transparency, social transparency, and operational transparency on tax avoidance. Additionally, the study examined the moderating effect of cash holding on the relationship between financial transparency, governance transparency, social transparency, operational transparency, and tax avoidance. The study was guided by the Agency theory, Tax avoidance theory, and Stakeholders theory. The study adopted longitudinal and explanatory research designs and used panel data to establish causal relationships between the research variables. The target population is comprised of 67 listed firms in the NSE. The inclusion/ exclusion criterion was based on whether the firms traded consistently during the study period or operated under different compliance and regulatory environments. The study used a sample of 31 firms that met the inclusion criteria. Data was extracted from the individual firm's audited annual reports for the period 2009 - 2018. The generated data were analyzed using descriptive and inferential statistics. The results of the Hausman test pointed to fixed-effect regression. The study found that financial transparency (β=-0.698, ρ<0.05), governance transparency (β=-0.489, ρ<0.05), and operational transparency (β=-0.611, ρ<0.05), had a negative and significant effect on tax avoidance while social transparency (β=0.525, ρ<0.05) had a positive and significant effect on tax avoidance for firms listed at the Nairobi Securities Exchange. Moreover, the study further established that cash holding had a positive and significant effect on tax avoidance (β=0.121, ρ<0.05). The study further tested the moderating role of cash holding and found that cash holding moderated the relationship between financial transparency (β=0.267, ρ<0.05, R^2 change 0.017), governance transparency (β=-0.167,ρ<0.05 R^2 change, 0.018), social transparency (β=0.099, ρ<0.05, R^2 change 0.009), operational transparency (β=-0.136, ρ<0.05 R^2 change 0.009), and tax avoidance within the context of firms listed at the Nairobi Securities Exchange, Kenya. Based on the results, the study concluded that corporate transparency is a significant determinant of tax avoidance, and the study concluded that cash holding moderates the relationship between corporate transparencies on tax avoidance among the firms listed at the Nairobi Securities Exchange. This makes a novel contribution to the existing literature on cash holding. The study recommends that the policymakers and the top management organs of the Kenyan firms should embrace corporate transparency and maintain an optimal level of liquidity. The regulator should ensure that corporate disclosures are stepped up and some voluntary disclosures are made mandatory as this will reduce the tax avoidance practices.

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LIST OF ABBREVIATIONS AND ACRONYMS

AGM	Annual General Meeting
BTD	Book-Tax Differences
CASH ETR	Cash Effective Tax Rates
Cash H	Cash Holding
CESIFO	Center for Economic Studies and the Info Institute
CMA	Capital Markets Authority
CSR	Corporate Social Responsibility
EY	Ernst and Young
F Lev	Firm Leverage
F Size	Firm Size
FED	Federal Tax Expense
Fin Tr	Financial Transparency
Govn Tr	governance Transparency
IFRS	International Financial Reporting Standard
KAM	Kenya Association of Manufacturers
KPMG	Klynveld Peat Marwick Goerdeler
KRA	Kenya Revenue Authority
MNE	Multi National Enterprise
NACOSTI	National Commission for Science and Technology
NSE	Nairobi Securities Exchange
NT	National Treasury
OECD	Organization for Economic Corporation and Development
Oper Tr	Operational Transparency
R&D	Research and Development
Socl Tr	Social Transparency
UTBs	Unrecognized Tax Benefits
VIF	Variance Inflation Factor

OPERATIONAL DEFINITION OF TERMS

Cash Holding: Cash holding, is defined as cash in hand or readily available for investment in physical assets and to distribute to investors. Gill and Shah (2012)

Corporate transparency: This involves the provision of clear and accurate information that allows society to evaluate the activities of companies. Oats and Tuck (2019).

Financial transparency: Is the provision of financial disclosure with accurate and timely information about the financial position of organizations to the outsiders. Tarus and Omandi, (2013)

Firm Leverage: The amount of debt a firm uses to finance assets and to increase the potential return of an investment.

Firm Size: The speed and extent of growth (capacity) that is ideal for a specific business.

Governance transparency: Is the disclosure of relevant information about decision-making processes, procedures, and the functioning of the firm. Tarus and Omandi, (2013)

Nairobi Securities Exchange: The principal bourse in Kenya, offering an automated platform for the listing and trading of multiple securities.

Operational transparency: Offering clear definitions and detailed explanations of firm's products and services from an internal perspective as well as appraise competitive market and industry forces with accuracy and honesty (Bushman *et al.*, 2004)

Social transparency: Is the disclosure of the firm's relevant information concerning social responsibility activities to the stakeholders. Tarus and Omandi, (2013)

Tax avoidance: The use of the listed firm's expertise to ensure that the firm eliminates, defers, or reduces the tax payable. Oats and Tuck (2019).

Tax planning: All activities aimed at making the tax burden to be lower, defer, or avoid paying taxes.

CHAPTER ONE:

INTRODUCTION

1.0 Overview

In this chapter the background information to the study, statement of the research problem, objectives of the study, and significance of the study, research hypotheses, and the scope of the study have been discussed.

1.1 Background of the Study

Corporate tax contributes to development economics because this is one of the keys to social responsibility. Firms gain profit and then they reduce net income before taxes. Firms often want to minimize, defer, or even avoid their responsibility of paying taxes; this is according to OECD (2013). The avoidance of tax payment could lead to a large range of negative consequences for the whole economy and society as well (Khuong *et al.*, 2019).

According to Anyanwu (1997) tax is a compulsory levy by the government on its subjects' that is individuals, companies, goods, and services in order to raise revenue for its operations and also to promote social equity through redistribution of income. Tax is therefore a compulsory levy payable by an economic unit to the government without any corresponding entitlement to receive from the government (Bhatia 2003).

Tax avoidance within a company set up includes all the activities undertaken by a company in order to reduce or minimize corporate taxes (Dyreng *et al.*, 2019). OECD (2016) described that tax avoidance as a taxpayer's effort to reduce tax payable. This attempt may not violate the law, but it is contrary to the purpose of tax legislation. For this reason, tax avoidance is an act that is not against the law and is used to minimize tax

expenses. Tax avoidance practices are utilized by individuals as well as corporate taxpayers. Companies that become public are more focused on the enhancement of their shareholders' value as compared to satisfying the needs of other stakeholders and payment of taxes in particular (Santana and Rezende, 2016). While it is argued that tax avoidance practices can make tax paid by the company to be smaller, and as a result maximize shareholder value (Hanlon and Heitzman, 2010), this practice can be harmful as it increases the tax risk of the company. Most recent literature found that the traditional theory of tax avoidance argues that tax avoidance as a value maximization for shareholders is not empirically proven (Chen *et al.*, 2014).

According to Santana and Rezende (2016), corporate management do take advantage of the tax avoidances proceeds to satisfy their personal gains, and as such seem not to be working as good agents of the shareholders. Prior literature has proposed several factors believed to affect firms' tax avoidance strategies. Some studies acknowledge the "under sheltering" puzzle: firms appear to under-utilize strategies that can reduce the income tax expense (Weisbach, 2001; Hanlon and Heitz-man, 2010). Prior literature suggests that this under sheltering arises because firms trade-off taxes with other operational cost-savings (Scholes *et al*., 2015), poor internal information environments make coordinating tax avoidance more difficult (Gallemore and Labro, 2015), and firms consider reputation concerns from being perceived as overly aggressive (Graham *et al*., 2013). Thus, Understanding the determinants of tax avoidance such as corporate transparency is important.

Corporate transparency has received increased attention from academicians, policymakers, and entrepreneurs since the financial crisis of 1997 (Luan and Tang, 2007). Moreover, highly developed countries, such as the United States, Japan, and

Western European nations, have recently recognized the importance of corporate transparency because of several accounting scandals involving globally renowned enterprises (Chang *et al*., 2007). Large-sized companies in their maturity phase with substantial retained earnings try to enhance their transparency level to develop their long-term corporate image, rather than a short-term increase in profits (Janney *et al*., 2009). Moreover, they are forced to provide precise management information to investors to gain their trust and sustain a high level of market capitalization in the stock market (Parum, 2006; Chang *et al*., 2007; Halter and de Arruda, 2009; Janney *et al*., 2009; Koerber, 2009; Runhaar and Lafferty, 2009; Chiang and He, 2010).

However, in the last decade, the importance of corporate transparency has been highlighted in venture firms as well as in large companies because of the moral hazard of entrepreneurs and top management teams, evidenced by examples of embezzlement and malpractice. Poor transparency has been shown to impose an array of costs on firms, such as lowering the trading volume, liquidity, retail investor ownership, raising both the debt and equity costs of capital, exacerbating governance problems, and reducing investment efficiency (for example., Diamond and Verrecchia 1991; Leuz and Verrecchia, 2000; Biddle and Hilary, 2006; Beatty, Liao and Weber, 2010).

Several recent studies shed light on how corporate transparency enhances tax avoidance through its monitoring and disciplining roles. Francis and Martin (2010) examined the monitoring role played by conservative accounting earnings in the acquisition context. They found that firms with more timely loss recognition make more profitable acquisitions and were less likely to engage in tax avoidance activities. Other studies along this line showed that firms with higher financial reporting quality (for example, accruals contain less tax estimation errors) were found to deviate less from predicted

investment levels and exhibit less investment-cash flow sensitivity (for example, Biddle & Hilary 2006, and Biddle *et al.,* 2009). In contrast, firms with opaque financial reporting engage in suboptimal actions. Using an external indicator as a proxy for opaque financial reporting, McNichols and Stubben (2008) found that firms alleged to have manipulated earnings (for example, firms investigated by the SEC for accounting irregularities, firms sued by their shareholders for improper tax accounting, and firms that restated financial statements) overinvest during the manipulation period, and such over-investment is eliminated once earnings are no longer manipulated.

Another stream of research indicated that corporate transparency, which is defined as the availability of firm-specific information to outside shareholders, influences cash holding. Financial reporting transparency may increase the precision of publicly available information about management's investment and operating decisions (for example Healy and Palepu 2001; Bens and Monahan 2004). External transparency, such as financial analyst following and press coverage, also plays a role in monitoring managerial behavior (Chen, *et al.,* (2016).). Thus, corporate transparency may reduce the risk premium associated with the potential expropriation of shareholder wealth by opportunistic managers (Bushman and Smith, 2003).

Recent studies, however, find that corporate tax avoidance can increase a firm's risk (Mills, 1998; Chan *et al*., 2010; Kim *et al*., 2011; Rego and Wilson, 2012), decrease firm's transparency (Kim *et al*., 2011; Balakrishnan *et al*., 2012), and induce the agency problem (Desai and Hines, 2002; Desai *et al*., 2007; Desai and Dharmapala, 2009). The above factors will increase the cash flow risk and the level of financial constraint, which will affect the firm's cash saving behavior in these ways. On one hand, the precautionary motive of a firm's cash holdings increases due to tax avoidance. Firms can save money

from tax avoidance activities; however, they may need to pay the tax and overdue payment when they are audited and retroactively adjusted by tax authorities in the future.

1.2 Nairobi Securities Exchange and Capital Market Authority

The Nairobi Securities Exchange (NSE) was constituted as a voluntary association of stockbrokers registered under the Societies Act in 1954 when trading used to take place over a cup of tea at the New Stanley Hotel (Muga, 1974). In 1991 the NSE was incorporated under the Companies Act of Kenya as a company Ltd by guarantee and without share capital. The subsequent development of the market has seen an increase in the number of stockbrokers, the introduction of investment banks, the establishment of custodial institutions, and credit rating agencies. The activities of the NSE are regulated and licensed by the Capital Markets Authority (CMA).

The Kenyan capital market is regulated by the Capital Markets Authority (CMA). The CMA was set up in 1989 as a statutory agency under the Capital Markets Act Cap 485A. It is charged with the prime responsibility of both regulating and developing an orderly, fair, and efficient capital markets in Kenya with the view to promoting market integrity and investor confidence. The regulatory functions of the CMA as provided by the Act and its regulations include; Licensing and supervising all the capital market intermediaries; Ensuring compliance with the legal and regulatory framework by all market participants; Regulating public offers of securities, such as equities and bonds and the issuance of other capital market products such as collective investment schemes; Promoting market development through research on new products and services; Reviewing the legal framework to respond to market dynamics; Promoting investor education and public awareness, and Protecting investors' interest

In December 2018, the Kenyan capital market is relatively small with only 67 companies listed in the Nairobi Securities Exchange (NSE), which is the country's only securities exchange. They are grouped into the following categories; Agricultural, Automobiles & Accessories, Banking, Commercial & Services, Construction & Allied, Energy & Petroleum, Insurance, Investment, Manufacturing & Allied, Telecommunication & Technology, and Real Estate Investment Trust (NSE, 2018). The top five companies account for 60-70% of market capitalization, while the top 20 dominate over 95% of the market capitalization. (NSE website 2019)

In 2016 the CMA published a code for corporate governance practices for publicly listed companies. The Code replaced the Guidelines on Corporate Governance Practices by Public Listed Companies in Kenya, 2002. The code was informed by the need to respond to the changing business environment coupled with the desire to align Kenyan local standards to global best practice to promote institutional strengthening for listed companies (CMA website 2019)

The code sets out the principles and specific recommendations on structures and processes, which companies should adopt in making good corporate governance an integral part of their business dealings and culture. The code advocates for the adoption of standards that go beyond the minimum prescribed by legislation. It adopts a "Apply or Explain" approach which is principle-based rather than rule-based. The approach requires boards to fully disclose and explain any non-compliance to their shareholders and the CMA in their annual reports and annual general meetings (AGMs). The reasoning behind this approach is to allow shareholders to enforce governance standards on the belief that they have incentives to maximize their investment and want companies they invest in to be successful.

All companies registered in Kenya are required by law to file tax returns annually. This is one of the various ways the Government earns revenue failure to which the company can be fined. Besides, in 2015, the Government of Kenya passed a law that required all investors to pay 5% capital gains tax for all trades. To increase investor confidence, the CMA requires all listed companies to publish their financial statements publicly for all investors to analyze and make investment decisions based on the firm's performance (CMA website 2019).

Firms hold different levels of cash for various reasons. The researcher is taking cash holding as a moderator in this study because the desire to have more cash in the company for various uses leads to increased tax avoidance practices. Companies listed at the NSE have different tax management practices and policies. In addition to that, the ownership structure of the various companies is diverse from state corporations, subsidiaries of foreign companies, local companies while others are privately owned but have sold some shares to the public including the Government (Ratemo, 2016).

1.3 Statement of the Problem

Taxes constitute the main source of government revenue, and the effectiveness of any government largely depends on the ability of its citizens to voluntarily discharge their tax obligations without any coercion or harassment (Olaseyitan & Sankay 2012). Tax Revenue is essential for the growth and development of any economy. Tax revenue is believed to be the lifeblood of any government (Christensen & Murphy, 2004). Any government needs money (funds) to fulfill its societal obligations (Fagbemi *et al.*, 2010). Oboh *et al.,* (2012), noted that taxation had become a phenomenon of global significance as it affected every economy irrespective of national differences.

Tax avoidance is an important factor as it affects both the volume and nature of the government's revenue. Avoidance of tax leads to reduced government revenue and endangers the reputation of the tax system. Large Multinational Enterprises (MNEs) have received much media attention over the last few years for engaging in tax avoidance practices and avoiding taxes on a global scale (Stiglingh, 2020). A good example of such media attention drawn on the MNEs is "Unhappy meal: tax avoidance still on the menu at McDonald's" (Fowler, 2018). Although these tax practices are mostly not illegal, they can harm the firms' public and can lead to reputational risk (Price Waterhouse Coppers, 2015).

The Kenyan government, like every other government in the world, needs tax revenues to provide socially mandated services and infrastructure. However, the drive to increase government revenue through an effective corporate tax regime is often jeopardized by corporate tax avoidance practices adopted by the listed firms which transfer resources from the state to shareholders (Desai, & Dharmapala, (2009). The listed firms are motivated to avoid tax to enhance the shareholders' value, be able to reward management highly and also improve the corporate image through engaging in CSR activities among other reasons.

According to statistics from the Kenya Revenue Authority (KRA), the total revenue collection for the years 2018/2019 and 2019/2020 was Kshs.1.580 trillion and 1.607 trillion respectively. Tax revenue contributed Kshs.1.054 trillion and 1.092 trillion respectively translating to 66.70% and 67.95% of the total revenue collection in these years respectively. This shows that more than half of the revenue received by the Government of Kenya is from tax revenue. Kenya Revenue Authority (KRA) has for several years failed to hit its target on revenue collection. According to Treasury,

Kshs.1.74 trillion (US$19 billion) was to be raised through taxes and government fees but only Kshs.1.580 trillion was raised in the year 2018/2019. Further, in the Financial Year 2019/2020 revenue collected was Kshs.1.607 trillion compared to the target of Kshs.1.877 trillion. The deficit in tax collection could be due to various reasons among them being tax avoidance and evasion practices (KRA website, 2020).

Governments may lose both individual and corporate income tax revenue due to tax avoidance and evasion. Therefore, the government needs to prevent tax avoidance or keep it within safe limits. Corporate transparency has been pointed out as a possible corrective measure to the unacceptable practice of tax avoidance (Oats *et al.,* 2019). Corporate transparency involves providing information that allows society to evaluate the firms' activities, and is often seen as a means to some other end, rather than a goal in itself (Madsen, *et al.,* (2009).

Balakrishnan *et al.,* (2019) investigated whether aggressive tax planning firms have a less transparent information environment. They found out that aggressive tax planning is associated with lower corporate transparency. Wang (2011) carried a study to examine how corporate transparency relates to tax avoidance. They found that managers engage in tax avoidance transactions mainly to enhance shareholder wealth. Firms face a trade-off between tax benefits and financial transparency when choosing the aggressiveness of their tax planning. Armstrong *et al.,* (2015) examined the link between corporate governance, managerial incentives, and corporate tax avoidance. The results indicated that governance attributes have a stronger relationship with more extreme levels of tax avoidance, which are more likely to be symptomatic of over- and under-investment by managers.

In Kenya, there are several studies conducted on the area of corporate transparency but these studies do not relate corporate transparency with tax avoidance. Levin, & Widell, (2014) undertook a comparison of the tax evasion in Tanzania and Kenya while Kamau, Mutiso, and Ngui (2012) described tax evasion and avoidance in Kenya to have a significant influence on the Kenyan creative accounting practices. Wachira, (2011) surveyed incentives and tax avoidance schemes adopted by Kenya Airways. Edward, (2012) examined the influence of tax planning strategies on tax savings on firms undertaking manufacturing in Nairobi and found that the tax planning strategies were ineffective in contributing to tax savings.

However, there is little academic evidence on whether increased transparency affects corporate tax avoidance; thus, the question remains uncertain (Dyreng *et al.,* 2016). This study, therefore, seeks to explore the relationship between corporate transparency and tax avoidance and also establish whether cash holding moderates their relationship.

1.4 Research Objectives of the Study

1.4.1 General Objective

The study aimed to investigate corporate transparency, cash holding and tax avoidance among firms listed in Nairobi Securities Exchange, Kenya.

1.4.2 Specific Objectives

The specific objectives of this study were to;

1 Determine the effect of financial transparency on tax avoidance by firms listed in the Nairobi Securities Exchange.

2 Assess the effect of governance transparency on tax avoidance by firms listed in the Nairobi Securities Exchange.

3 Establish the effect of social transparency on tax avoidance by firms listed in the Nairobi Securities Exchange.

4 Examine the effect of operational transparency on tax avoidance by firms listed in the Nairobi Securities Exchange.

5_a. Determine the moderating effect of Cash holding on the relationship between financial transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange

5_b. Assess the moderating effect of Cash holding on the relationship between governance transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange.

5_c. Establish the moderating effect of Cash holding on the relationship between social transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange.

5_d. Examine the moderating effect of Cash holding on the relationship between operational transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange.

1.5 Hypotheses

The study tested the following:

$H_{O1:}$ Financial transparency has no significant effect on tax avoidance for firms listed in the Nairobi Securities Exchange.

$H_{O2:}$ Governance transparency has no significant effect on tax avoidance firms listed in the Nairobi Securities Exchange.

$H_{O3:}$ Social transparency has no significant effect on tax avoidance firms listed in the Nairobi Securities Exchange.

$H_{O4:}$ Operational transparency has no significant effect on tax avoidance firms listed in the Nairobi Securities Exchange.

$H_{O5a:}$ Cash holding does not moderate the relationship between financial transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange.

$H_{O5b:}$ Cash holding does not moderate the relationship between governance transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange.

$H_{O5c:}$ Cash holding does not moderate the relationship between social transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange.

$H_{O5d:}$ Cash holding does not moderate the relationship between operational transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange.

1.6 Significance of the Study

This study sought to establish the moderating effect of cash holding on the relationship between corporate transparency and tax avoidance among the firms listed in the Nairobi Securities Exchange. The findings of this study would benefit the Government who would use it to evaluate the effectiveness of tax avoidance and tax incentive schemes towards improving the performance of firms within the country. Information resulting from this research will form a basis for the formation of government policies that govern taxation. The study's findings are of great importance to stakeholders including the management of both listed and non-listed companies who run the companies daily since it will provide an insight into the effect of tax avoidance strategies and the tax incentives offered by the government or in law. It is hoped that the study will provoke policymakers to give more attention to corporate transparency and tax avoidance given its contribution to the financial performance of firms. Examples of interested

policymakers include the National Treasury (NT), the CMA, NSE, KRA, and relevant associations such as the Kenya Association of Manufacturers (KAM). This study will also help listed companies in Kenya in appreciating the value of tax avoidance and the nexus between tax avoidance and the financial performance of firms.

The findings would also be important in the formulation of financial strategies within the companies. The study is a new source of knowledge to academicians and researchers to further understand and appreciate the value of corporate transparency, tax avoidance, and the impact it has on the financial performance of a company. Further, the study will contribute to the body of knowledge and hence will be of interest to both researchers and academicians who seek to explore the relationship between tax avoidance and financial performance of firms.

1.7 Scope of the Study

The study focused on the moderating effect of cash holding on the relationship between corporate transparencies and tax avoidance among the firms listed in the Nairobi Securities Exchange. The study was conducted in all 67 listed firms in Nairobi Security Exchange as of 31st December 2018 (*Appendix 1*). The study was Ltd to four corporate transparencies which are financial transparency, governance transparency, operational transparency, and social transparency. The study used secondary data and a panel data framework. The study covered ten years from 1st January 2009 up to 31st December 2018.

CHAPTER TWO:

LITERATURE REVIEW

2.0 Introduction

This chapter collates literature from past researchers and scholars on the effect of corporate transparency on tax avoidance. The chapter examines the concepts and theories on the link between corporate transparencies on tax avoidance.

2.1 Concept of Tax Avoidance

At its simplest and broadest, the avoidance of tax means to choose an option that leads to a lower tax liability than would otherwise apply had another option been chosen. Oats and Tuck, (2019). Tax avoidance has become a complex term in recent years meaning different things to different parties altogether. According to Hasseldine and Morris (2018), many conversations take place about tax avoidance as if it were a singular concept when it means different things altogether. Christians (2018) says that tax avoidance is a complex term that can not be explained in a single word

Following Hanlon and Heitzman (2009), the study broadly defines tax avoidance as the reduction of explicit taxes per dollar of pre-tax accounting earnings. However, there is no universally accepted definition of tax avoidance in the accounting literature. Under this broad definition, tax avoidance represents a continuum of tax planning strategies, encompassing perfectly legal activities (for example., municipal bond investments) and more aggressive transactions that fall into the grey area (for example., abusive tax shelters). Tax avoidance activities are traditionally viewed as tax-saving devices that transfer resources from the state to shareholders and thus increase after-tax cash holding. An emerging literature in financial economics, however, emphasizes the agency cost implications of tax avoidance and suggests that tax avoidance may not always enhance

outside shareholder wealth. Under this alternative view, obfuscatory tax avoidance activities can facilitate managerial rent extraction in various forms.

Since the combined costs, which include costs directly related to tax planning activities, additional compliance costs, and non-tax costs (for example, agency costs in particular), may outweigh the tax benefits to shareholders, tax avoidance activities can potentially reduce after-tax cash holding. Slemrod (2004), Crocker and Slemrod (2005), and Chen and Chu (2005) provide the theoretical foundation for understanding corporate tax avoidance within an agency framework. Slemrod (2004) argues that the separation of ownership and control in public corporations demands a different conceptual framework to understand the tax reporting behavior of large publicly-held companies.

The small existing literature on corporate tax noncompliance typically assumes that firm owners make tax reporting decisions rather than delegate decision makings to their agents, and such an assumption is certainly not true for large public companies. Thus, shareholders need to set up appropriate compensation and penalty structures to align managers' interests with shareholders' interests. In such a setting, to motivate managers to make value-enhancing tax reporting decisions, managerial compensation packages should be tied, explicitly or implicitly, to after-tax corporate profit. Besides, the penalty structure for corporate tax evasion should also take into account the separation of ownership and control (Crocker and Slemrod 2005). Tax avoidance is still a common practice among many firms (Gallemore, Maydew, & Thornock, 2014). One possible reason for this is that managers have an obligation towards shareholders to maximize shareholder value, which can be achieved through, inter alia, minimizing tax payments (Venter, Stiglingh, & Smit, 2017).

Desai and Dharmaplala (2006) examine corporate tax avoidance behavior in a setting where the manager decides the level of tax sheltering engaged by the firm and can also enjoy private benefits of control through the diversion of rents. In this setting, they investigate how incentive compensation affects the level of corporate tax shelters. The key insight provided by their model is that the net impact of the use of incentive compensation on the level of tax sheltering critically depends on the relationship between tax sheltering and rent diversion. The rationale is as follows. Since higher-powered incentives (for example, stock options) generally better align managers' interests with shareholders' interests, they should increase the level of corporate tax sheltering and reduce the extent of managerial rent diversion.

However, if tax sheltering and rent diversion are complements (for example, tax sheltering may facilitate managerial rent diversion), then a change in the level of one activity may change the cost of engaging in the other. Thus, the direct effect of incentive compensation on tax sheltering (for example, increase in incentive compensation leads to an increase in tax sheltering) could be offset by the positive feedback effect between tax sheltering and rent diversion (for example, reduced diversion is accompanied by reduced sheltering). Their model also predicts that the impact of incentive compensation on tax sheltering may differ between firms with strong corporate governance and firms with weak corporate governance. Empirically, they find a negative association between the level of incentive compensation and the level of tax sheltering, and this negative association is primarily driven by poorly governed firms. The negative association between high-powered incentives and tax avoidance suggests that for poorly governed firms, the tendency toward more tax aggressiveness is offset by the fact that reduced diversion is associated with reduced sheltering

Desai and Dharmaplala (2006) suggest that the strength of the positive feedback effect between tax sheltering and rent diversion may differ for firms in a different information environment. Thus, transparent firms may engage in different levels of tax sheltering than do opaque firms. Desai and Dharmaplala (2006) further indicate that as the extent to which tax sheltering and rent diversion are complementary may vary among firms, tax avoidance transactions may have different value implications for transparent firms than for opaque firms.

2.2 Concept of Corporate Transparency

Transparency describes the increased flow of timely and reliable economic, social, and environmental information. On the other hand, lack of transparency may exist if the information is not provided or cannot be accessed if the information given is inappropriate to the issue at hand; or if the information is distorted, erroneous, or ill-timed (Vishwanath and Kaufmann, 2001). The center of attention on transparency and disclosure has been greater than before in the wake of recent events starting with the Asian crisis in the latter half of 1997 and continuing with the recent discussions in the United States of America stock markets (Patel *et al.*, 2002). Higher transparency and better disclosure reduce the information asymmetry between a firm's management and stakeholders.

Financial scandals that occurred worldwide led to increasing corporate transparency and the adoption of effective governance mechanisms by companies. Also, other factors such as market development through globalization activities have contributed to the development of a more transparent environment. Stakeholders and society demand more volume of information and more frequently. Inaccurate or misrepresented information has consequences and the responsibilities derived from this practice more severe.

Corporate transparency refers to the disclosure of specific information from a company to those outside it. The disclosure is a determining factor in the efficient allocation of resources, growth of the economy, and allows for decisions making by the different external users (Bushmann *et al.,* 2004). The stock market exchange must assure and provide protection for the shareholders' rights and maintain high standards of disclosure and transparency (La Porta *et al.,* 2000)

Increasing demand for transparency has encouraged companies to follow new trends in disseminating corporate information to comply with the new practices. They collect aspects of reports, including the report of management, corporate governance reports, and social responsibility, financial and non-financial, comparability over time, among others. These reports, a detailed and structured communication system allow investors to understand and get accurate and reliable companies to make a better investment decision (Jennifer and Taylor, 2007). Annual reports and disclosure on the internet are transcendent means for transmitting the performance, governance structure, and strategic decisions like the social corporate responsibility policies to external investors (Healy and Palepu, 2001).

Various studies that have examined corporate transparency have viewed its different approaches to its conceptualization and measurement. Corporate transparency has been seen as a measure of timeliness and appropriateness in a firm provision of its intrinsic information to relevant outsiders, such as investors, government, stockholders, public, or even business competitors. In other words, corporate transparency denotes the level of activity taken to dissolve information asymmetry at the firm level (Bushman *et al*., 2004; Chang *et al*., 2007). Bushman and Smith, (2003) defined corporate transparency as the disclosure of relevant and reliable information about corporate performance,

financial position, the governance code, investment opportunities the value and risk of the company, and environmental and social policies.

Therefore, corporate transparency has been equated with the disclosure of firm related information in much of the relevant literature (Patel *et al*., 2002; Berglof and Pajuste, 2005; Aksu and Kosedag, 2006; Chi, 2009; Cheung *et al*., 2010). The following reasons explain why many researchers have used the level of information disclosure to evaluate corporate transparency. First, disclosure is a visible substitute for corporate transparency (Gaa, 2009). Secondly, openness in information may be objectively evaluated under the assumption that disclosed information is correct (Gaa, 2009). Finally, consideration of the level of disclosure as a measure of corporate transparency can lead to accurate and honest disclosure activities. If outside experts assess the level of disclosure through an objective and valid evaluation index, the firm may try to disclose its information faithfully so that its level of corporate transparency is enhanced (Janney *et al*., 2009).

The recognized evaluation process of disclosure activity may influence the disclosure mechanism of firms on a country-wide basis as well as at the firm level. In the last decade, the importance of corporate transparency has been highlighted in venture firms as well as in large companies in Korea. Some pioneering venture firms created in the 1980s and listed on Korean stock markets were ruined in the 2000s due to the unethical behavior of entrepreneurs, such as embezzlement and malpractice, and low levels of corporate transparency (Chang *et al*., 2007; Luan and Tang, 2007; Halter *et al*., 2009). Therefore, the study anticipates corporate transparency to be one of the factors affecting tax avoidance for Kenyan listed firms with Ltd resources for doing business.

To study corporate transparency more substantively than simply examining the level of disclosure activity, previous research has focused on financial transparency and

governance transparency (Bushman *et al*., 2004; Habib, 2008). Financial transparency is described as the intensity and timeliness of financial disclosures, and their interpretation and dissemination by analysts and the media. Governance transparency captures the intensity of governance disclosures (Habib, 2008). Most studies that have referred to corporate transparency have equated it with financial transparency (Han and Bae, 2001; Morris *et al*., 2011), governance transparency (Black *et al*., 2006; Ugur and Ararat, 2006; Vander Bauwhede and Willekens, 2008), or a combination of these two transparencies (Patel *et al*., 2002; Berglof and Pajuste, 2005; Millar *et al*., 2005; Aksu and Kosedag, 2006).

Many studies that have treated financial transparency and governance transparency as two primary components of corporate transparency share a common feature that considers that the objective of corporate transparency, which is realized through disclosure activity, is limited to only stockholders and investors. However, the objective of the disclosure may be expanded to include various firm stakeholders such as customers, potential investors, and the local community (Quaak *et al*., 2007; Vaccaro and Echeverri, 2010). With this broader definition of stakeholders related to the practice of corporate transparency, some researchers recently have included other issues beyond financial transparency and governance transparency.

Bushman *et al.*, (2004) defined corporate transparency as the availability of corporate-specific information to the general public and divided this information mechanism into three categories: corporate reporting, private information acquisition and communication, and information dissemination. Corporate reporting involves financial disclosures, governance disclosures, accounting principles, timeliness of disclosures, and credibility of disclosures. The sources of private information acquisition and

communication are financial analysts, institutional investors, and inside trading. Information dissemination can be measured by media penetration.

Furthermore, from the viewpoint of corporate social responsibility (CSR) practices, transparency in business addresses not only financial transparency and governance transparency but also social transparency and operational transparency, such as ethical bookkeeping, open dialogue with all stakeholders, open dealing of business risks, and transparency of business strategy and goals (Mijatovic and Stokic, 2010).

Dubbink *et al.,* (2008) also maintained that corporate transparency is a necessary condition of corporate social responsibility and emphasized the role of corporate social responsibility as an open type of corporate governance. Current annual social reports that are published by many leading national or global companies include several procedural standards of corporate transparency such as completeness, timeliness, consistency, public disclosure, process governance, information quality, attention to sustainability, and continuous improvement. This expansion in the concept of corporate transparency allows us to introduce two other aspects of corporate transparency in our study: operational transparency and social transparency.

Top managers are the agents of managerial operations; therefore, we expect that they have information on the status of the firm's business, sales forecasts, and competitiveness. Such information plays an important role in a firm's profit margin, which is directly related to shareholder interests. However, if managers use the information for their interests rather than those of shareholders, there was a principal-agent problem (Chen *et al*., 2007; Kang *et al*., 2007). Therefore, a firm needs to focus on operational transparency, which means offering clear definitions and detailed explanations of its products and services from an internal perspective.

Operational transparency also entails taking an external perspective to appraise competitive market and industry forces accurately and honestly. On the other hand, social transparency has been highlighted by many researchers as important for the long-term survival of the firm. A focus on maximizing shareholder profit may harm efficiency and customer satisfaction as a result of low-quality products and services. Moreover, such focus prevents long-term growth and negatively affects shareholder interest. Therefore, in recent years, firms have conducted CSR-related activities designed to cultivate a good corporate image (Quaak *et al*., 2007; Dubbink *et al*., 2008), which may positively affect cash holding and profit in the long run. However, CSR-relevant activities aimed at only establishing a good public image without any correlating improvements in financial transparency and governance may confuse the public and investors (Runhaar and Lafferty, 2009; Lee and Kohler, 2010; Vaccaro and Echeverri, 2010).

Therefore, care should be taken in the interpretation of the effect of social transparency on firm performance and related stakeholders. The theoretical expansion from financial transparency and governance transparency to operational transparency and social transparency enables us to examine a basic aspect of corporate transparency. Most measures of financial transparency and governance transparency in previous studies have been based on a firm's disclosure activities, accounting systems, and organizational structures, thus suggesting that a firm may raise its transparency score technically, by establishing new rules, committees, and organizations, but not substantively, by enhancing the level of real and ethical corporate transparency. This is one of the reasons that large companies that may be accustomed to unethical and illegal managerial practices but produce large profit margins are not highly regarded by the public.

Therefore, an evaluation of operational transparency helps the public to investigate a firm's current practices and to anticipate the sustainability of ongoing operations. Social transparency demonstrates a firm's willingness to contribute best to the customer, local communities, and the public (Bushman *et al.*, 2004). Previous studies have defined corporate transparency narrowly to characterize the impact on only shareholders and investors and have focused on financial transparency and governance transparency without considering the other aspects of corporate transparency, such as operational transparency and social awareness (Bushman and Smith, 2003). Therefore, in this study, we introduce four categories of corporate transparency: financial transparency, governance transparency, operational transparency, and social transparency, thus expanding the scope of those impacted by corporate transparency from the investor and the shareholder to other stakeholders and local communities to treat corporate transparency holistically.

2.3 Concept of Cash Holding

According to Opler, Pinkowitz, Stulz, and Williamson (1999) managers who maximize shareholder value would set the firm's cash level such that the marginal benefits of cash equals the marginal costs of holding these assets. The benefits of holding cash are mainly that the firm saves transaction costs when raising funds, also avoiding liquidating assets to make payments, and further because the firm has the independence to finance investments with these liquid assets, not being harmed when other sources are not available. The main cost of holding cash arises from the liquidity premium discount, also defined as the opportunity cost of holding cash. This is a static trade-off approach.

On the other hand, under a pecking order theory assumption, firms would not have target cash levels. Instead, cash is used as a buffer between retained earnings and investment

needs. When retained earnings are not enough to finance new investments, firms use cash holdings to do so, and in the last circumstance, they issue debt (Ferreira & Vilela, 2004). Furthermore, there is a fixed cost of accessing external funding, so firms raise external capital infrequently, therefore relying more often on cash holdings to finance projects (Opler *et al*., 1999). Cash holdings are kept high by entrenched managers because they prefer to hold cash than to pay out more dividends to shareholders (Bates, Kahle, & Stulz, 2009). Furthermore, by holding more cash, managers increase the number of assets under their control and gain more power over the firm payment decision.

Further, according to Bates, Kahle, and Stulz (2009 firms would hold cash for four basic reasons. The first reason is the transaction costs motive, in the sense that firms hold cash to avoid incurring in the costs of converting a non-financial cash asset into a more liquid asset, to have resources to meet payments due. The second reason is called the precautionary motive, as firms hold cash to better cope with adverse shocks when external financing is costly. The third reason is about taxes because by holding more cash firms can mitigate tax burdens of repatriating profits from foreign operations (this reason is closely linked to multinational firms). Finally, the fourth reason would be agency implications, as we discussed before because entrenched managers tend to build more excess cash balances.

One first determinant of cash holdings would be the magnitude of the costs to access external funding. Firms with facilitated access to capital markets and good credit ratings from rating agencies should have lower transaction costs when accessing debt markets, so they are expected to hold less cash. On the other hand, following Acharya *et al.*, (2009), financially constrained firms, which can be firms with less easy access to capital

markets or firms that are already paying a very high cost of debt due to escalated risk of existing outstanding debt, seeking to avoid being short of funds to finance payments, would hold more cash. Mikkelson and Partch (2003) discuss whether large cash holdings can hinder operating performance, in the sense that large cash reserves could induce managers to deploy assets less efficiently because there is too much cash available to spend.

Prior works of literature show that liquid assets such as cash can be easily varied into their benefits by self-interest managers (Myers and Rajan, 1998). Because cash is the most liquid of assets, the firm incurs the greatest premium or cost from maintaining cash reserves. Several pieces of research point to two main benefits of holding liquid assets. The first benefit is “transaction motive”, it allows companies to avoid the transaction costs associated with increasing funds or liquidating assets to make current payments and it also lets firms to meet their present responsibilities without resorting to costly external financing and asset sale. Prior researches show that commission costs and costly external financing affect firms to hold more liquid assets (Myers and Majluf, 1984). The second benefit is “precautionary motive”, which means that the firm can take advantage of its liquid assets to invest when other sources of funding are not readily available or are excessively costly and it allows firms to use potentially profitable investments which would have otherwise been given up in the absence of firm cash holdings.

The precautionary motive for corporate cash holdings, however, has not been adequately and consistently modeled in the literature. It has been well documented empirically that cash flow volatility could affect a firm's cash-holding behavior. There are some shreds of evidence that firms may hold more liquid assets if their industry average cash flow

volatility is higher (Opler *et al*., 1999). They further show that firms persistently hold large cash reserves when compared with their peer firms (Mikkelson and Partch, 2003). These studies suggest that firms use internally generated funds to hedge against future cash flow uncertainty and to increase their cash holdings in response to increases in cash flow volatility. However, holding liquid assets implies an opportunity cost and causes agency problems between managers and shareholders. The free cash flow might raise discretion by managers, which against shareholders' interest (Jensen, 1986; Harford, 1999; Oler, 2008). Gao *et al.,* (2013) examine the drivers of cash policies for private and public firms in the U.S., they find agency problems affect not only the target level of cash but also how managers react to cash above the target.

2.4 Theoretical Perspectives

Four theories were used to explain the interrelationships between corporate transparency, cash holding, and tax avoidance for firms listed at the Nairobi Securities Exchange. The theories are Tax avoidance theory, Agency theory, Adam Smith Theory of Taxation and Stakeholder theory.

2.4.1 Tax Avoidance Theory

The General Theory of Tax Avoidance was propounded by Joseph E. Stiglitz in 1986. In his paper, he said that it used to be said that two things were unavoidable: death and taxes. However, there is a widespread feeling today that under our present tax code only one of these is unavoidable, and that is death. In his theory, he stated that in a perfect capital market, the principles of tax avoidance are so powerful that they can enable the astute taxpayer to eliminate all taxation on capital income, and possibly all taxation on wage income as well. He noted in particular that much of the general equilibrium gained from tax avoidance arises from differences in tax rates, both across individuals and

across classes of income rather than from postponement. Tax can be avoided. Stiglitiz (1986) pointed out that the tax laws constantly change the opportunities for tax avoidance, but underneath, there remain three basic principles of tax avoidance within an income tax which are postponement of taxes, tax arbitrage across individuals facing different tax brackets, and tax arbitrage across income streams facing different tax treatment. (Kurniawan and Nuryanah, 2017)

The first principle which is the postponement of taxes explains that the present discount value of a postponed tax is much less than that of a tax currently paid. The second principle involving tax arbitrage across individuals facing different tax brackets (or the same individual facing different marginal tax rates at different times) is a particularly effective method of reducing tax liabilities within a family. Differential tax rates may also induce transactions among individuals in different brackets which substantially reduce the aggregate tax liability. The availability of such opportunities leads to what may be referred to as "tax-induced transactions". The third principle states that tax arbitrage across income streams facing different tax treatment. Under the current law, long-term capital gains are taxed at lower rates than are other forms of income from capital. This provides an inducement to "convert" the returns to capital (or to labour) into long term capital gains. Similarly, special treatment is afforded to the return to capital in the form of housing, pensions, Retirement Benefits Authority, and the National Social Securities Fund (Atwood and Lewellen, 2019).

Many tax avoidance devices involve a combination of these three. Retirement Benefits Authority accounts can be thought of as postponing tax liabilities until retirement; in effect, the interest earned on the Retirement Benefits Authority account is tax-exempt. On the other hand, if the individual faces a lower tax rate at retirement than at the time

he earns his income, then the Retirement Benefits Authority can be viewed as tax arbitrage between different rates. Finally, if the individual can borrow to deposit funds in the Retirement Benefits Authority, and interest is tax-deductible, then the Retirement Benefits Authority is a tax arbitrage between two forms of capital, one of which is not taxed, and the other of which is (tax-deductible). Investing in assets yielding capital gains involves a tax postponement since taxes are paid only upon realization. Borrowing to invest in assets yielding capital gains involves a tax arbitrage: the interest is deductible at ordinary rates; the gain is taxed at favorable capital gains rates.

Stiglitz (1986) highlighted some basic methods of tax avoidance. The first method is a modification of the familiar technique of postponing the realization of capital gains, which gives rise to the locked-in effect. When an individual or a company builds its portfolio and continues to build on it, essentially it avoids tax. This is because as its portfolio continues to grow, no tax is levied on the increase in portfolio value since capital gains are only taxed upon realization. The second method is arbitraging between short term and long term capital gains rates. This method takes advantage of the lower rates which are afforded capital gains. The third method takes advantage of the differential treatment afforded long-term capital gains and interest. From an economic point of view, interest and capital gains are simply two alternative forms of return on capital; there would be no reason to differentiate among them. The fourth method takes advantage of the arbitrariness of the unit of time over which taxes are levied is the rollovers. It does not, however, require that there be differential tax rates on a long term and short term capital gains (Zhang, Cheong and Rasiah 2017).

2.4.2 Agency Theory

Jensen and Meckling (1976) explained that agency relationship occurs when one or more persons (principal) employ another person (agent) to provide a service and then delegate decision-making authority to that other person. The principal is a shareholder or investor, while the agent is the management who manages the company. The essence of the agency relationship is the separation of functions between ownership in investor and control in management. However, the principal cannot monitor agent activity daily to ensure that the agent works per the wishes of the shareholders, causing asymmetry of information. The existence of information asymmetry could encourage agents to hide some information that is not known by the principal to maximize profits for the agent. Conflicts of interest and the asymmetry of information can be reduced by proper monitoring mechanism to align the interests of the various parties in the company, using corporate governance mechanisms (Putra, 2012).

Agency problems due to the separation of ownership and control can affect not only a manager's tax strategy but also the design of incentive contracts and firm disclosure strategy. Further, since tax planning often involves complex structuring of transactions, it can increase both the operational and informational complexity of the firm. Desai and Dharmapala (2009), Armstrong *et al.,* (2012), and Balakrishnan *et al.,* (2012) argue that tax avoidance can impair information transparency and exacerbate agency conflicts between managers and shareholders, whereby managers may attempt to obfuscate tax strategies to facilitate rent extraction

In the context of modern corporations, where there is a separation between the agent (management) and principals (owners), it is argued that the agent does not always act and perform its duties in the best interests of owners. Due to the asymmetric information

between agents and principals, tax avoidance activities, in this case, can be used as a tool to facilitate the opportunistic behavior of managers which in the end increases costs borne by the owners (Dhaliwal *et al.,* 2011). Tax avoidance as part of tax planning can be differentiated from tax evasion, that in contrast to tax evasion, tax avoidance is conducted without violating the prevailing laws and regulations. Nevertheless, tax avoidance is such controversial activities as while a company as a taxpayer may have the right to reduce the tax burden under the law, such action is deliberately arranged and planned to minimize tax payable which at the end can be defined as illegal acts that conflict with the law spirit (Avi-Yonah 2008; Prebble and Prebble 2010).

The tax avoidance behavior undertaken by a firm provides marginal benefits and marginal costs (Chen *et al.,* 2010). Companies should be careful in analyzing and considering every action is taken, including tax management through tax avoidance. The benefits that can be obtained by the company through tax avoidance are significant tax savings of which can be transferred to owners of the company. With the action of tax savings, the tax burden paid becomes smaller so that the net income of the company becomes larger. Managers can also get benefit from the tax avoidance activities which is a higher compensation or bonus since they are performing well minimizing the tax burden paid by the company, thus benefiting the owners of companies with greater profit as well.

Nevertheless, managers can do rent extraction too. This is an action in which the managers undertake to prioritize and maximize their interests, not the interests of the company owners. Measures taken by managers include practices such as the preparation of aggressive financial statements, transactions with privileged parties, or taking resources or assets of the company to meet personal interests (Chen *et al*., 2010). While

providing marginal benefits, tax avoidance behavior has some costs that may be borne by the company. The company may get tax penalties imposed on tax fraud and may affect the fall in stock prices if it's known to the public (Desai and Dharmapala, 2006). According to Frank *et al.*, (2009), when the fraudulent taxation of the company is found by the examination and taken through unlawful means, the company must get sanction from the tax authorities. In the end, the company bears other costs such as reputational costs and political costs (Hanlon and Slemrod 2009). The company's falling reputation and decreasing stock prices are caused by investors' negative perceptions of the company, as it indicates the existence of a rent extraction action by corporate managers that can harm shareholders (Desai and Dharmapala 2006)

2.4.3 Adam Smith Theory of Taxation

Adam Smith is best known for the first theorem of welfare economics which stated that an unfettered market will automatically as if by an invisible hand, allocate nations' resources in the most efficient manner possible. Smiths' theory of taxation follows from that principle (Akinleye and Ogunmakin 2016).

Taxes should be levied only to support a limited government and should satisfy four maxims: equity, transparency, convenience, and efficiency. According to Smith, nations that maintain free markets and limited taxes will maximize their wealth. Smith believed taxes should support four legitimate functions which include national defense, justice, universal education, and good roads and communications. All four functions are beneficial to the whole society and may, therefore, without any injustice, be defrayed by the general contribution of the whole society. He added that user fees should help to cover roadway expenses and that the rich should pay for their children's education. He thus anticipated both social externalities and user-pay principles (Nyaga 2016).

The first of Smiths' tax maxims, equity: reflects his belief that the wealthiest benefit most from government and can most afford to pay. The rich should contribute to the public expense not only in proportion to their revenue, Smith believed, but something more than in that proportion. Equity, according to Smith, requires progressive taxation. Smiths' second maxim is that the tax which each individual is bound to pay ought to be certain and not arbitrary and clear and plain, that is, transparent to everyone. Transparency would help prevent unscrupulous tax-gatherers from undermining trust in the system. The third maxim is convenience. Every tax said Smith, ought to be levied at the time, or in the manner, in which it is most convenient for the contributor to pay it. Smith spoke of tax simplification in this context and said Britains' duties on customs could benefit from the same degree of simplicity, certainty, and precision, as those of excise on domestic consumption. Smiths' fourth maxim is efficiency: Every tax should be devised so as both to take out and keep out of the pockets of the people as little as possible over and above what it brings into the public treasury of a state. This requires keeping administrative costs and economic distortions to a minimum (LeFevre, 2016).

2.4.4 Stakeholder Theory

The stakeholder theory assumes that organizations are not solely responsible for their immediate shareholders but are also responsible for their other stakeholders. Accordingly, Freeman (1984) proposes that there are several stakeholders of a firm and they are identified based on their interests in the firm. As such, stakeholders include shareholders, suppliers, customers, employees, government, and even the public. Therefore, firms from this perspective are expected to engage responsibly towards this group of persons while acknowledging a duty of care. Stakeholder theory suggests that the needs of shareholders and stakeholders of an organization should be met side by side with consideration being given to both sides.

Hawkins (2006) argues that an inclusive stakeholder approach makes it possible for firms to maximize their shareholders' wealth whilst increasing the total external value added to the firm. The stakeholder theory proposes an integrative social contract between externalities to the business and its internal workings. Thus, an organization can be seen to be fair towards its externals by carrying out activities that advance their development and are not seen to be harmful towards this group. This includes refraining from tax aggressive behavior or tax avoidance.

2.5 Empirical Literature Review

This section gives a detailed analysis of earlier studies with emphasis on the context, measurement of variables, and the findings.

2.5.1 Corporate Transparency and Tax Avoidance

Corporate transparency plays an important role in the efficient allocation of resources by alleviating information asymmetry between managers and external stakeholders and thus directly affects the economic performance of firms including corporate tax decision making (Park *et al.*, 2017). Moreover, the level of tax avoidance is expected to be greatly influenced by the difference in supervision and control functions. Examining the effect of corporate transparency on tax avoidance can provide meaningful implications for tax authorities, regulators, managers, and investors. Desai and Dharmapala (2006) studied the relationship between corporate governance and tax avoidance. They argued that reward systems and corporate governance which can match the interests of management and shareholders are important determinants of tax avoidance. Managerial ownership controls the managerial private consumption, negligence, and neglect of corporate resources, and therefore the higher the ownership of the manager, the less the aggressiveness of tax reporting (Jun 2011).

Armstrong *et al.*, (2015) analyzed the effects of corporate governance (accounting expert ratio and board independence) on tax avoidance and found that improving corporate governance reduces tax avoidance which negatively affects corporate value.

Traditionally, corporate transparency and tax avoidance are expected to be positively related. However, by considering various non-tax costs such as agency costs, corporate transparency, and tax avoidance can have a positive and negative relationship with the relative size of the positive and negative effects of tax avoidance. That is if the positive effect of tax avoidance is large, corporate transparency is high and the tax avoidance level is high. However, if the negative effect of tax avoidance is largely due to various non-tax costs, corporate transparency is high and tax avoidance level is low (Park *et al.*, 2017).

This study analyzed the characteristics of corporate transparency by separating them into transparency related to financial transparency, governance transparency, social transparency, and operational transparency. The components of corporate transparency are expected to exert different effects on tax avoidance.

2.5.1.1 Financial Transparency and Tax Avoidance

A large body of literature examines the effects that the transparency of a firm's financial reporting information environment has on the capital market (Leuz and Verrecchia 2000, Daske *et al.*, 2008, Lang *et al.*, 2012, etc.) and on disciplining corporate management, such that more transparency is associated with a better selection of investments, more efficient management of assets in place, and a reduction in the expropriation of minority shareholders' wealth (Bushman and Smith 2001 and McNichols and Stubben 2008). Despite the many documented effects, only a Ltd number of studies examine the effect of transparency on corporate tax avoidance activities.

Several studies in the prior literature have examined the effect of tax avoidance on financial reporting quality and corporate transparency with mixed results. The agency theory framework in Desai and Dharmapala (2006) implies that tax avoidance could help managers mislead investors by hiding their rent extraction behavior and withholding bad news. Anecdotal evidence based on recent tax scandals is consistent with this view. For example, in an attempt to mitigate investors' concerns that energy trading firms' earnings lacked the support of operating cash flows, Dynegy misclassified cash flows created by using tax shelters as operating cash flows from 2000. This form of tax avoidance overstated the company's operating cash flows by 300 million dollars. Similarly, another energy trading firm, Enron used 12 large structured tax shelters to cover its poor operating performance and significantly overstated its earnings until the company's collapse in 2001 (Kim *et al.,* 2011). Tyco International used the complexity created by tax sheltering to mask their rent extraction behavior (Desai 2005 for a summary of the tax scandal). The revelation of the rent extraction in 2002 resulted in the firm's stock price crash (Kim *et al.,* 2011). At the aggregate level, the frequency of firms restating earnings increased significantly during the last two decades (for example, Lennox *et al.,* 2013). Contemporaneous with the upward trend in restatements is a significant drop in the average corporate effective tax rates in the U.S. (Dyreng *et al.,* 2017).

Several recent empirical studies also provide evidence of associations between aggressive tax avoidance and a more opaque corporate information environment. Frank *et al.,* (2009) found a positive association between tax aggressiveness and accrual management, suggesting that accounting standards and tax laws allow firms to manage book income and taxable income in the opposite directions. Balakrishnan *et al.,* (2019) further examine the association between tax avoidance and multiple proxies for

corporate transparency, including information asymmetry, analyst forecast errors, and earnings quality. They argue that tax avoidance increases the complexity of firms' operations and the manager's difficulty in communicating with investors. Consistent with their expectations, tax avoidance lowers corporate transparency.

Donohoe and Knechel (2014) also find that more complex tax activities increase financial reporting risk and lead to higher audit fees and presumably higher audit effort. However, on the other hand, the prior literature also provides evidence suggesting that tax avoidance could improve corporate transparency. Early studies emphasize managers' trade-offs in making tax and financial reporting decisions (Shackelford and Shevlin 2001). Although upward manipulation of book income and downward manipulation of taxable income is common, upward manipulation of book income could also result in higher tax expense. Similarly, underreporting taxable income could decrease book-income for financial reporting. Thus, tax avoidance can limit managements' reporting of both book and taxable incomes.

Erickson *et al.,* (2004) find that firms engaged in accounting frauds pay more taxes to support inflated earnings. Lennox *et al.,* (2013) find an association between tax avoidance and a lower probability of committing accounting fraud. Fu, (2006) investigated the role of financial information transparency in increased investment in the Taiwanese stock exchange. Results showed that all three aspects of transparency including financial information disclosure, ownership structure transparency, and transparency of the board structure, affect the behavior of investors in the stock exchange, and ownership structure had the highest influence. Of course, investors in stock exchange mostly care for financial information disclosure. Chiang *et al.,* (2005) investigated financial information transparency and signaling theory in Taiwan. Their

findings suggest that there is a direct relationship between corporate financial transparency and corporate performance. He found that appropriate corporate governance has a significant positive relationship with corporate performance.

Hallwood (2011) studied the reasons for transparency importance and the way of transparency measurement and the relationship between transparency and share price. His findings indicate that the information content of share price in companies with less secrecy and transparent information provision reflects the good position of such companies. Hallwood then explained the components needed for a transparent website for providing information and reports of the companies.

2.5.1.2 Governance Transparency and Tax Avoidance

There are several reasons why empirical evidence documenting a consistent relationship between governance and taxes, much less a causal relationship, has been elusive. Taxes are one of many factors considered when selecting board design and composition and hence may not be a first-order concern (Armstrong *et al.*, 2015). Furthermore, the nature of corporate governance is complex and multi-dimensional. As a result, commonly used governance measures in empirical analyses may exhibit only a modest level of reliability and construct validity (Larcker, Richardson, and Tuna 2007). Lastly (but far from least concern), corporate governance is endogenous to firms (Hanlon and Heitzman 2010).

According to Minnick and Noga (2010), there is little evidence that governance is associated with a variety of proxies intended to capture the extent of a firm's tax avoidance. Those firms that are poorly governed and which managers have high levels of equity incentives were found to engage in less tax avoidance practices, this is according to Desai and Dharmapala (2006). The results of their study indicate that tax avoidance and managerial rent extraction are corresponding activities. When corporate

governance increases the firm's level of tax avoidance reduces. In their study, Rego and Wilson (2012) sought to establish the relationship between equity risk incentives and corporate tax aggressiveness. They found out that firms in which managers have high equity-related risk-taking incentives engage more in tax avoidance practices. However, they did not find any evidence that firms' other governance mechanisms affect this relation. Seidman and Stromberg (2011) explain that Desai and Dharmapala's association between equity compensation and tax avoidance can be explained by "tax exhaustion". Finally, Desai and Dharmapala (2006) implicitly suggest that reduced rent extraction occurs at "poorly" governed firms. However, this explanation is somewhat counterintuitive if one presumes that insiders have more opportunities to extract rents at firms with "poor" governance.

In their study on tax planning and financial expertise in the audit committee, Robinson *et al.,* (2012) found that there is a positive relationship between audit committee financial expertise and tax planning. However, when tax planning becomes aggressive, then the association turns out to be negative. Khadami *et al.,* (2014) investigated the relation between tax avoidance and debt cost, and the impact of institutional ownership on this relation in the listed companies in the Tehran stock exchange from 2001 to 2010. These results indicated that tax avoidance is negatively related to the cost of debt.

Consistent with an agency theory of tax avoidance, the study by Crabtree and Kubick, (2014) investigated the extent to which tax avoidance results in a less timely annual earnings announcement. Using 16,340 firm-years across the period 1993–2010, the results showed that tax avoidance occurred when financial reporting timeliness is not observed. Fernandez *et al.,* (2013) investigated the relationships among corporate governance and value-added tax of the listed companies in the Brazilian stock exchange.

Their results showed that companies with high corporate governance reach to low value-added to pay taxes. On the other hand, the results indicated that corporate governance heavily helps firms improve performance, and shareholders' value is enhanced. Armstrong *et al.,* (2015) examined the correlation between corporate governance, motivation, and tax avoidance. The findings demonstrated that corporate governance tends to decrease high-level tax avoidance and to increase very low-level tax avoidance in order not to result in over-investment or under-investment by management.

Several authors in the academic literature and the popular business press identify lax systems of corporate governance and poor financial transparency as key risk factors in emerging markets such as Mexico (Klapper and Love 2004; Jacoby 2007). Several studies (Desai & Dharmapala, 2006; Frank, Lynch & Rego, 2009; Rego & Wilson, 2012; Dyreng, Hanlon & Maydew, 2010; Armstrong *et al*., 2015) have shown a strong link between the executive board remuneration and tax management, showing a negative relationship between increased executive board remuneration and the effective tax rates on companies' earnings. Thus, it is believed that the composition of the Board of Directors, its members' independence, segregation between the president (chairman) and the chief executive officer (CEO), and the proper design of executive board remuneration contracts are corporate governance characteristics that can influence the increased corporate performance, by reducing expenses on taxes. Furthermore, they can lead to minimizing the agency problems and the uncertainty of benefits from tax management in situations where tax management enables managerial opportunism.

Prior research documents inconsistent results concerning the association between tax avoidance and mandatory disclosure quality. Consistent with a proprietary cost explanation, some prior research documents an association between higher levels of tax

avoidance and decreased disclosure quality (Hope, Ma, and Thomas 2013; Robinson and Schmidt 2013; Dyreng *et al.,* 2014). However, Towery (2012) documents that firms complying with new tax return disclosure requirements do not reduce tax avoidance in response to these increased private disclosures to the IRS but instead alter their financial reporting of potentially sensitive tax positions. Additionally, concurrent research suggests higher tax avoidance is associated with greater financial complexity, leading to reduced corporate transparency (Balakrishnan *et al.,* 2012, Neuman *et al.,* 2013). This reduction in disclosure quality results in firms attempting to increase the volume of their disclosures to offset the reduction in transparency but without a corresponding increase in the quality of their tax disclosures (Balakrishnan *et al.,* 2012, Neuman *et al.,* 2013).

Given the mixed results concerning the complex relationship between tax avoidance and disclosure quality, we focus on tax-related SEC comment letters as an exogenous shock to firms' tax disclosures that allows us to use the firm as its control, potentially ruling out alternative explanations and providing a stronger test of the impact of increased tax-related financial statement disclosure quality on tax avoidance. There are costs to disclosing tax-related information in the financial statements. Indeed, strong corporate opposition to new disclosures is consistent with managers' belief that disclosing tax information in financial statements is informative to both the IRS and competitors (Graham *et al.,* 2012). Thus, increasing the disclosure quality of tax information can increase detection risk, thereby increasing the expected costs of tax avoidance. Tax authorities could use improved financial statement disclosures to target companies for audit and target particular tax planning strategies for examination during an audit. Increases in disclosure quality potentially reveal sensitive tax information, thereby increasing the expected cost of tax avoidance by increasing detection risk.

2.5.1.3 Social Transparency and Tax Avoidance

Over the last three decades, there has been significant growth in the investment of Corporate Social Responsibility (CSR), both at national and international levels. This is because of the effect of corporate operations on the health, culture, economic, and social life of the communities within which they operate. As a result, there have been serious public responses, particularly from the human rights agencies, social investors, and customers demanding organizations, especially multinational companies (MNCs) to control and prevent the negative effects of their activities on the environment (Banerjee, 2018). While business organizations around the world are increasingly integrating CSR into all aspects of their businesses, critics question the legitimacy and value of CSR (Tsoutsoura, 2004). Some of these studies argue that corporations are inefficient and inappropriate agents of social change because firms have the sole social responsibility of maximizing the value of shareholders (Friedman, 1970; Gelb and Strawser, 2001). However, in response to these, Preuss (2010) and Sikka (2010) noted that some firms claiming to be socially responsible are also engaged in tax aggressive activities.

The existing literature on CSR performance and tax aggressiveness has yielded different results. Lanis and Richardson (2012) studied the relationship between corporate social responsibility (CSR) and corporate tax aggressiveness. Based on a sample of 408 publicly listed Australian corporations from 2008 to 2009 financial year, the results of their analysis show that the higher the level of CSR disclosure of a corporation, the lower is the level of corporate tax aggressiveness. The findings showed a negative and statistically significant association between CSR disclosure and tax aggressiveness, thus they opined that more socially responsible corporations are likely to be less tax aggressive in nature.

Hoi *et al.,* (2013) examined the link between corporate social responsibility (CSR) and tax avoidance. They used a sample of Australian companies and their own "broad-based disclosure index" for the measurement of CSR. From an additional examination, which separates their CSR disclosure proxy into different constituents, they showed that "the social investment responsibility and corporate CSR policy of a corporation are significant components of CSR activities that have a negative impact on tax aggressiveness". Compared to Lanis and Richardson (2012), Hoi *et al.,* (2013) utilized several measures for tax avoidance using a sample of 76 U.S. firms and third-party sources to measure CSR activities (negative social ratings obtained from KLD Research & Analytics, Inc.).

Linking firm performance with tax aggressiveness, the study of Huseynov and Klamm (2012) find evidence that the borders between various CSR categories, profit, and tax fees affect tax avoidance. The results also indicate that the firms with strong CSR policies to lower cost, not only think about the advantage of the shareholders but also for the benefit of society. The firms that run into profits have a better position and can easily participate in charitable giving. Thus, for such firms, it is socially acceptable to reduce tax expense. Zimmerman (1983) studied the relationship between firm size and tax aggressiveness and finds that the fifty largest US firms in his sample experienced higher tax rates from 1969 to 1981 and are involved in one tax aggressive behavior or the other.

Similarly, Rego and Wilson (2012) find that equity risk incentives are major determinants of tax aggressiveness. Rego (2003) examines 19,737 US corporations from 1990 to 1997 and finds the opposite relationship. Studies have shown that tax aggressiveness can reduce corporate costs and increase shareholder wealth (for example, Hanlon and Heitzman, 2010). Thus, to determine just how aggressive they should be,

firms need to trade off the marginal benefits of managing taxes against the marginal costs of doing so (Chen *et al*., 2010). A large number of existing researches have examined the relationship between corporate governance and firm cash holdings (Oler, 2008). Harford *et al.,* (2008) found that firms with weaker corporate governance structures have smaller cash reserves. However, there is little evidence on whether tax aggressiveness behavior affects cash holdings.

Most works of literature provide that the goal of tax aggressiveness activities is to maximize shareholders' interest. However, Hanlon and Slemrod (2009) examine the market reaction to news about a firm's involvement in tax shelters. Kim *et al.,* (2011) find tax aggressiveness firms are likely to exhibit stock price crashes. They interpret this finding as evidence that tax aggressiveness allows managers to conceal negative news which "prevents investors and the board of directors from taking timely corrective actions or liquidating bad projects early". As far as we know, there are only a few empirical kinds of research discuss issues around tax aggressiveness and the firm's cash holding. Dhaliwal *et al.,* (2011), the amount of company's cash holdings could endanger the activities of the company and the interests of the owners of the company due to potential cash transferred by an agent of the company's: manager. Having this background, the purpose of this study was to examine how is the effect of tax avoidance on the level of cash held by public companies in the case study of Indonesia.

Following Dhaliwal *et al.,* (2011), this study examines the relationship between tax avoidance and corporate cash level in the context of a developing country. Dhaliwal *et al.,* (2012) show that tax aggressiveness activities allow managers to attain their self-interest. Myers and Rajan (1998) also mention that liquid assets such as cash can be

easily varied into their benefits by self-interest managers. Paying less tax to retain more cash, leads managers to arrange firms' resources to fulfill personal interests.

In the real world, however, there is no perfect capital market, and firms have to hold cash. Prior studies find that the determinants of corporate cash holdings include macro-economic policies (Lu and Han, 2013), firm's information asymmetry (Myers and Majluf, (1984); types I and II agency costs Jensen, (1986); Dittmar and Mahrt-Smith, (2007); Harford *et al*., (2008); Luo and Hu, (2011); Jiang and Yu, (2013), operating strategy Duchin, (2010); Wang and Song, (2012), and tax policy (Foley *et al*., 2007). Since Almeida *et al.*, (2004) proposed estimation methods of the cash flow sensitivity of cash, it has been common to use this method to study cash holdings issues and the concept of the cash flow sensitivity of cash is usually interpreted as cash savings.

Similar to liquidity management, the company can save tax expenditures without any frictions under an ideal environment (Shackelford and Shevlin, 2001). Recent studies, however, find that corporate tax avoidance can increase a firm's risk (Mills, 1998; Chan *et al*., 2010; Kim *et al*., 2011; Rego and Wilson, 2012), decrease a firm's transparency (Kim *et al*., 2011; Balakrishnan *et al*., 2012), and induce the agency problem (Desai and Hines, 2002; Desai *et al*., 2007; Desai and Dharmapala, 2009). The above factors will increase the cash flow risk and the level of financial constraint, which will affect the firm's cash saving behavior in these ways. On one hand, the precautionary motive of a firm's cash holdings increases due to tax avoidance. Firms can save money from tax avoidance activities; however, they may need to pay the tax and overdue payment when they are audited and retroactively adjusted by tax authorities in the future.

According to the Administration Law of Tax Collection of the People's Republic of China, the 52nd provision is "For a taxpayer's unpaid or underpaid taxes due to

calculation error mistakes and so on, the tax authorities can charge payment of taxes, fines in 3 years; and they can charge in 5 years under special situations." It is shown that tax avoidance increases the firms' tax risk. Based on confidential data from tax returns and tax audit results, Mills (1998) finds that the Internal Revenue Service proposed audit adjustment increases as the excess of book income over taxable income increases. Chan *et al.,* (2010) find similar results by using Chinese listed companies. Other studies find that equity risk incentives can make firms more aggressive in tax avoidance activities just as they do in investment, financing, and other projects. These findings are in line with the notion that corporate tax avoidance is positively related to cash volatility. Rego and Wilson (2012) investigate the relationship between corporate tax risk and the volatility of stock returns and earnings. They find a positive relationship between corporate tax risk and both the volatility of stock returns and the standard deviation of earnings before tax, providing direct evidence on the relationship between corporate tax avoidance and cash flow volatility. Because a firm's cash flow volatility can directly determine its cash holdings, Opler *et al.,* (1999) find that firms with greater cash flow volatility hold relatively high ratios of cash to non-cash assets.

Similar to this, Bates *et al.,* (2009) find that the average cash-to-assets ratio for US industrial firms more than doubled from 1998 to 2006, and they document that this phenomenon results from the increases in the volatility of firms' cash flow rather than the change in firms' agency conflicts. After reviewing the above studies, it is clear that the increase in firms' cash flow volatility can incur uncertainty in cash payments, requiring firms to hold more cash reserves in response to sudden situations. As a result, with the increase in the firm's tax aggressiveness, the cash flow volatility of the firm will increase. Firms will hold more cash under precautionary motives, and the cash savings ratio will likewise become higher.

On the other hand, tax avoidance will make firms more financially constrained, which will affect the cash holding policy. Balakrishnan *et al.,* (2012) investigated whether aggressive tax planning firms have less transparent information environments. They noted that tax avoidance can increase the financial complexity of the organization, and, to the extent that this greater financial complexity cannot be adequately communicated to the outside parties, transparency problems can arise. Their investigation of the association between a newly developed measure of tax aggressiveness and information asymmetry, analyst forecast errors, and earnings quality suggests that aggressive tax planning decreases a firm's transparency. Because of the information asymmetry, firms will face financial constraints due to external investors' adverse selection (Myers and Majluf, 1984). Besides, because financially constrained firms need to reserve more cash to meet future investment needs (Almeida *et al*., 2004; Wang and Zhu, 2013), the ratio of firms' cash savings will increase as they face financial constraints caused by tax avoidance.

In addition to corporate transparency, the other channel through which corporate tax avoidance can incur financial constraints is the agency cost. In more recent years, some studies have sought to investigate corporate tax avoidance within an agency context. These studies document that because the complex tax avoidance transactions can provide management with the tools, masks, and justification, tax avoidance can facilitate managerial rent extraction and hoarding bad news activities (Desai *et al*., 2007; Chen *et al*., 2010; Kim *et al*., 2011). For example, Desai *et al.,* (2007) examine the long-run stock market reaction of Russia's oil industry after the 2000 election of Putin, and they find the crack-down on oil companies' tax evasion does increase rather than damage the tax aggressive firms' value. Their findings imply that corporate tax avoidance could make insiders' rent extraction more serious. If so, it is shown that firms' agency

problems are more serious when they are more tax aggressive. Besides, because the agency problem can make firms more financially constrained (Chen *et al*., 2012; Slomka- Golebiowska, 2014), firms were more financially constrained when they are more tax aggressive, and they will exhibit higher ratios of cash savings.

2.5.1.4 Operational Transparency and Tax Avoidance

Top managers are the agents of managerial operations; therefore, they have information on the status of the firm's business, sales forecasts, and competitiveness. Such information plays an important role in tax aggressiveness, which is directly related to shareholder interests. However, if managers use the information for their interests rather than those of shareholders, there was a principal-agent problem (Chen *et al*., 2007; Kang *et al*., 2007). Therefore, a firm needs to focus on operational transparency, which means offering clear definitions and detailed explanations of its products and services from an internal perspective. Operational transparency also entails taking an external perspective to appraise competitive market and industry forces accurately and honestly. Making operations transparent can be a simple and effective way to build this relationship, by improving customer perceptions of the service provider (Buell and Norton 2011).

A similar study by Ozbay (2009) was conducted to examine the relationship between corporate financial transparency and tax avoidance in the Istanbul Stock Exchange in Turkey. Secondary data for a total of 27 companies were sampled from annual reports for a period of 11years. These companies were selected since they were thought to be the largest and the most liquid companies on the Istanbul Stock Exchange. Financial transparency was cross-checked with 36 attributes referring to accounting policies and standards, audit fees, and efficiency indicators. Panel data analysis was applied and the result of the finding showed that there was an inverse relationship between tax

avoidance and operational transparency confirming Aksu and Kosedag's (2006) findings. Linsmeier, Thornton, Venkatachalam & Welker (2002) in a study of the impact of operational disclosure on tax avoidance that tax avoidance and operational transparency have got a positive correlation. This can probably be explained due to shareholders being aware of the inherent risks and therefore coming up with mitigating mechanisms.

According to stakeholder theory, companies with a high degree of risk should disclose the most amount of risk-related information and explain the cause to reassure stakeholders that managers are prepared to address these risks (Abraham & Cox, 2007). Bhat, Hope, and Kang (2006) investigated whether governance transparency affects forecasting accuracy by the analyst. A sample of non-US firms cross-listed in the New York Stock Exchange as American Depositary Receipts was used covering 10 years. Governance transparency was found to be positively related to the accuracy of earnings forecasts by analysts. Also, it’s worth noting that governance transparency serves to explain forecasts when the operational transparency is low.

Stiglbauer (2010) investigated the transparency and disclosure of corporate governance in determining Germany companies’ success where 100 Germany firms listed in the Prime Standard segment were sampled. Secondary data from compliance statements, annual reports, compensation reports, shareholder meetings, code of conduct, and companies’ websites were used.

Governance transparency and disclosure were indicated by the disclosure index prepared as per the Germany regulation. It was established that there exists a significant positive relationship between operational transparency and disclosure with tax avoidance using content analysis. Molenkamp (2005) in a survey by KPMG discussed the operational transparency benefits. It was seen that innovation, customized to help the stakeholders

and enhanced corporate relationship made firm to enjoy long term benefits. A firm that engages in corporate social responsibility and discloses the same in their reports they are deemed to raise the esteem of the firms. Such firms are found to have a competitive advantage over other firms as they are considered to be social, friendly and thus the firms will be able to meet their long-term and short-term goals.

Chau and Gray (2002) in their research in Hong Kong and Singaporean companies found a positive association between operational disclosure and tax avoidance. Operational transparency is highly associated with tax avoidance and company with better corporate governance have a very high standard of disclosure of material fact and transparency of the firm. There is an expectation of a negative relationship between tax avoidance and corporate disclosure. However, Ball, Robin, and Wu, (2003); Clatworthy and John, (2006); Watson *et al.,* (2002) provided evidence that tax avoidance and operational disclosure could result in negative relationships. However, Wallace and Naser (1995) posit negative relationships on the empirical study between disclosure and tax avoidance. Studies by Ahmed (1999) and Akhtaruddin (2005) failed to find a significant relationship.

2.5.2 Cash Holding and Tax Avoidance

The focus on firm cash holding policy stems from its important role within the firm. Keynes (1936) noted that cash is beneficial to a firm in that it allows a firm to meet its current obligations as well as take advantage of potentially profitable investment opportunities. However, cash also engenders costs. Specifically, there is an opportunity cost of holding cash such as the higher returns that could have been earned from investing in non-liquid investments (Dhaliwal, *et al.,* 2011). Existing theory on firm cash holding policy notes that a value-maximizing manager will decide on an optimal level of

cash holdings at which "the marginal benefit of the incremental dollar of cash would equal the marginal cost of those holdings" (Opler *et al.,* 2001).

Edwards *et al.,* (2016) document that firms with higher cash holdings are less likely to be affected by increased financial constraints and, thus, less likely to engage in additional tax planning to generate internal funds. To mitigate the potential adverse effects of bear raids, corporate insiders could pursue tax-planning activities to generate additional funds for future investment opportunities as a substitute for a more expensive source of external financing from their counterparts (Chen *et al.,* 2010; Law and Mills, 2015; Edwards *et al.,* 2016). Existing research suggests that agency conflicts will result in managers using firm cash holdings for their personal benefits and that this will result in quicker dissipation of firm cash holdings. Research also suggests that investors will value cashless when the likelihood of resource diversion is high (Pinkowitz *et al.,* 2006).

2.5.3 Control Variables

The study controlled for factors (variables) that may affect the firm's tax avoidance. Firm size (the log of the market value of equity) and firm leverage (the ratio of long-term debt to total assets) are the factors that are included in the control variables according to the results of previous studies. The size of a corporation *(FSize)* may possibly increase tax avoidance due to an increase in profitability through economies of scale as the size of a corporation increases. Size also has the potential to reduce tax avoidance by increasing political costs. The higher the debt ratio (leverage), the less the tax avoidance. This is because leverage exerts a tax-saving effect on interest expense when debt and tax avoidance is used as a non-debt deduction tool.

2.6 Conceptual Framework

This is a structure that explains the natural progression of the phenomenon to be studied (Camp, 2001). This study seeks to determine the moderating effect of cash holding on the relationship between corporate transparencies and tax avoidance in Kenya. Independent variable Corporate transparency comprises four variables – Financial transparency, Governance transparency, Social transparency, and Operational transparency while the dependent variable is Tax avoidance. The interaction of the two was moderated by cash holding. Control variables to be used in the study are Firm size and Firm leverage.

Independent variable **Moderating variable** **Dependent variable**

Corporate Transparency **Cash Holding** **Tax Avoidance**

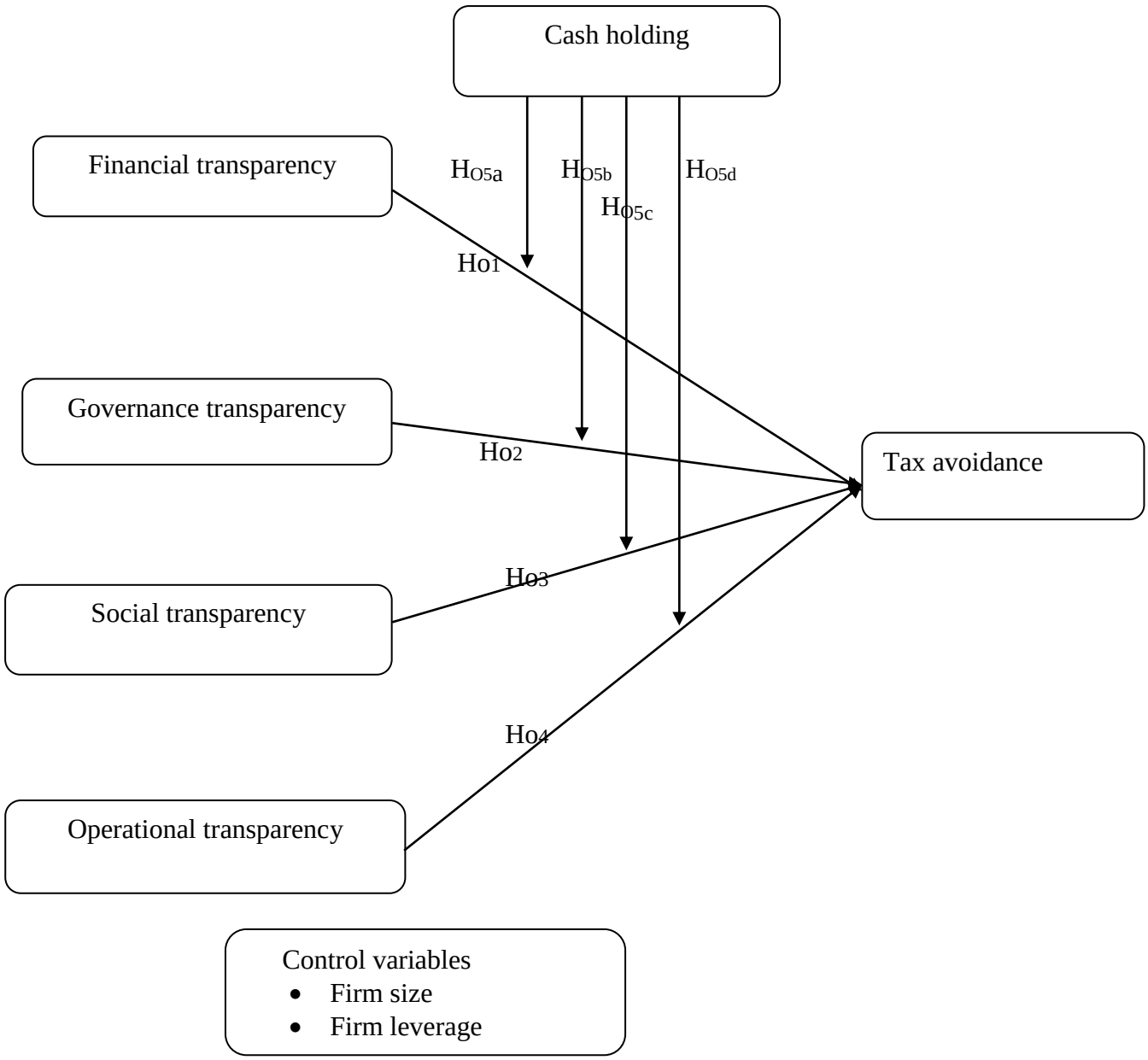


Figure 2.1: Conceptual Framework

Source: Researcher (2020)

CHAPTER THREE:

RESEARCH METHODOLOGY

3.0 Introduction

This chapter outlines the methodology, procedure, and modalities in data collection. Specifically, it covers research design, determination, and identification of the population sample size, sampling design, sampling procedure, the instruments of data collection, and sources of data collection, and methods of analyzing the data.

3.1 Research Paradigm

The study used positivism, researchers who follow the positivism view believe that the philosophical position of the natural scientist which emphasizes working with observable social reality to create generalizations (Saunders, 2016). This epistemological closeness to positivism is in line with neo-empirical research or positive accounting theory, which relies on empiricism or objective positivism. According to the researcher, knowledge of the social phenomena that was studied can be obtained primarily, however not exclusively, by searching for laws, causal relationships, and regularities between the constituents of the social world. Knowledge is thus seen as the main objective to arrive at a description of reality. In this regard, the current study's knowledge about the phenomena under investigation; corporate transparency, and tax avoidance, is gathered through quantitative measurement using content analysis of Kenya's corporate annual reports.

Regarding human nature assumptions, the current study assumes determinism. Accordingly, human beings are mainly considered as conditioned by their external circumstances. In this regard, the current research seeks objectively measurable and

observable human behaviour. The choice of methodology is directly dependent on the ontological, epistemological, and human nature assumptions of the researcher. The philosophical assumptions discussed above reveal that the current study generally follows an objective position. This implies that the study was inclined towards an objective nomothetic methodology, where quantitative research methods are used.

Therefore, the study (research) pursued a quantitatively measured description of tax avoidance practices and corporate transparency disclosures. However, when it comes to choosing the research paradigm, it follows that the transition zones that constitute multiparadigm approaches (Gioia and Pitre 1990) would be suitable for the current study. The authors argue that “multiparadigm approaches offer the possibility of creating fresh insights because they start from different ontological and epistemological assumptions and therefore can tap different facets of organizational phenomena and can produce markedly different and uniquely informative theoretical views of events understudy”.

Walliman (2017) argued that reality is independent of human beings and emphasizes the importance to reach and discover theories based on empirical research. This is summarized in the reasoning that logical reasoning and mathematical proof are rationally justified rather than focusing on subjectivity and interpretation. The argumentation discussed above is connected to this study since it is statistically tested. Positivism is often linked with quantitative, scientific, traditionalist, and objective research especially when the data is predetermined and highly structured which is related to the understanding of this research.

3.2 Research Design

This study was conducted through explanatory design and panel research design. According to Green and Tull (2009), a research design is a general model or project structure that specifies what data is to be gathered from which source and by what method. The explanatory research design is concerned with assessing the relationship among variables. It is based on the premise that if a statistically significant relationship exists between two variables, then it is possible to predict one variable using the information available on another variable (Bless *et al.,* 2006). For this study, the explanatory design was chosen because it provides rigorous and replicable procedures for understanding relationships. Also, it helps to indicate whether and to what degree a relationship exists between the quantifiable variables. The design seeks to gain insight into a phenomenon as a means of providing basic information in an area of study (Bless *et al.,* 2006).

A panel study is an observational research method in which data is gathered for the same subjects repeatedly over long periods. Panel research projects can extend over the years or even decades. In a panel cohort study, the same individuals are observed over the study period

3.3 Target Population

The target population for this study comprised of the firms listed in the Nairobi Securities Exchange (NSE) during the period 2009 to 2018. NSE is the only market in Kenya where listing of companies is done. Therefore it is expected that firms listed in this market are under strict monitoring of the Capital market authority and are seen to meet all the listing requirements. The period 2009 to 2018 had a steady corporate tax rate of 30% and this is the period after the effects of post financial crisis 2008. The

firms are listed in 12 different sectors of the economy which are: Agriculture, Automobiles & Accessories, Banking, Commercial & Services, Energy & Petroleum, Insurance, Investment sector, Investment services, Manufacturing & allied, Telecommunication and Technology, and Real Estate Investment Trust (NSE, 2018). Firm specifics, corporate transparency, and tax avoidance data for this period were obtained from the Capital Market Authority (CMA, 2009-2018), NSE website, and individual company annual reports.

Table 3.1: Target Population: Firms listed at the NSE.

NO	NAME	SECTOR	YEAR LISTED
1	Eaagads Ltd	Agriculture	1972
2	Kakuzi Ltd	Agriculture	1951
3	Kapchorua Tea Factory Ltd	Agriculture	1972
4	Limuru Tea Kenya Ltd	Agriculture	1967
5	Sasini Ltd	Agriculture	1965
6	Williamson Tea Kenya Ltd	Agriculture	1972
7	Rea Vipingo Plantations Ltd	Agriculture	Suspended
8	Car and General (Kenya) Ltd	Automobiles & Accessories	1950
9	Sameer Africa	Automobiles & Accessories	1994
10	Marshalls (E.A) Ltd	Automobiles & Accessories	Suspended
11	Barclays Bank of Kenya Ltd	Banking	1986
12	CFC Stanbic of Kenya Holdings Ltd	Banking	1970
13	Diamond Trust Bank of Kenya Ltd	Banking	1972
14	Equity Group Holdings Ltd	Banking	2006
15	Housing Finance Group Ltd	Banking	1992
16	I & M Holdings Ltd	Banking	2013
17	KCB Group Ltd	Banking	1989
18	National Bank of Kenya Ltd	Banking	1994
19	NIC Group PLC	Banking	1971
20	Standard Chartered Bank Kenya Ltd	Banking	1988
21	The Cooperative Bank of Kenya Ltd	Banking	2008
22	Atlas African Industries Ltd	Commercial & Service	2014
23	Express Kenya Ltd	Commercial & Service	1978
24	Kenya Airways Ltd	Commercial & Service	1996
25	Longhorn Publishers Ltd	Commercial & Service	2012
26	Nairobi Business Ventures Ltd	Commercial & Service	2016
27	National Media Group Ltd	Commercial & Service	1973
28	Standard Group Ltd	Commercial & Service	1954
29	TPS Eastern Africa Ltd	Commercial & Service	1997
30	Uchumi Supermarket Ltd	Commercial & Service	1992
31	WPP Scan Group Ltd	Commercial & Service	2006

32	Deacons East Africa PLC	Commercial & Service	2016
33	Hutchings Biemer Ltd	Commercial & Service	1993
34	Athi River Mining Cement Ltd	Construction & Allied	1997
35	Bamburi Cement Ltd	Construction & Allied	1951
36	Crown Paints Kenya Ltd	Construction & Allied	1992
37	E.A Cables Ltd	Construction & Allied	1973
38	E.A Portland Cement Co. Ltd	Construction & Allied	1972
39	Ken Gen Company Ltd	Energy & Petroleum	2006
40	Kenol Kobil Ltd	Energy & Petroleum	1959
41	Kenya Power & Lighting Co. Ltd	Energy & Petroleum	1954
42	Total Kenya Ltd	Energy & Petroleum	1988
43	Umeme Ltd	Energy & Petroleum	2012
44	Britam Holdings Ltd	Insurance	2011
45	CIC Insurance Group Ltd	Insurance	2012
46	Jubilee Holdings Ltd	Insurance	1984
47	Kenya Reinsurance Corporation Ltd	Insurance	2006
48	Liberty Kenya Holdings Ltd	Insurance	2007
49	Pan Africa Insurance Holdings Ltd	Insurance	1963
50	Centum Investment Company Ltd	Investment	1977
51	Home Afrika Ltd	Investment	2013
52	Kurwitu Ventures Ltd	Investment	2014
53	Olympia Capital Holdings Ltd	Investment	1974
54	Trans-Century Ltd	Investment	2011
55	Nairobi Securities Exchange Ltd	Investment Services	2014
56	B.O.C Kenya Ltd	Manufacturing & allied	1969
57	British American Tobacco Kenya Ltd	Manufacturing & allied	1969
58	Carbacid Investments Ltd	Manufacturing & allied	1972
59	East African Breweries Ltd	Manufacturing & allied	1972
60	Eveready East Africa Ltd	Manufacturing & allied	2006
61	Flame Tree Group Holdings Ltd	Manufacturing & allied	2015
62	Kenya Orchards Ltd	Manufacturing & allied	1959
63	Mumias Sugar Company Ltd	Manufacturing & allied	2001
64	Baumann Company Ltd	Manufacturing & allied	1976
65	Unga Group Ltd	Manufacturing & allied	1971
66	Safaricom Ltd	Telecomm. & Technology	2008
67	Stanlib Fahari I-Reit	Real Estate Investment Trust	2015

Source: Researcher (2020) data from N. S. E.

3.4 Inclusion/ Exclusion Criteria

Prior studies of tax avoidance excluded financial and insurance firms from their samples (Beuselinck *et al.,* 2015; Richardson and Taylor 2015; McClure *et al.,* 2018). These firms are excluded because of special regulatory constraints imposed on them that potentially affect their tax avoidance activities coupled with differences in their

application of accounting policies and derivation of accounting estimates compared to firms in other industries (Rego 2003). Also excluded are firms in Investment, Investment services sector, and Real Estate Investment Trust sectors due to their unique capital structures and the fact that trusts are not taxpayers (Allen *et al.*, 2016).

The closing data point for this study was 31st December 2018, at which point there were 67 firms listed on NSE according to the CMA report (2018). From this total, a total of 24 firms belonging to the financial services sector (banking sector (11) and insurance sector (6), Investment sector (5), Investment services sector (1), and Real Estate Investment Trust (1) were excluded. This is due to the different tax regulations that govern them. (Cen *et al.*, 2017; Chen *et al.*, 2010; Dyreng *et al.*, 2016), for example, they have unique economic characteristics most notably their high leverage, and also they have different compliance and regulatory environments under which they operate (Financial firms are subject to the Kenyan Banking and Financial Institutions Act). Six (6) newly listed firms were excluded because of the preferential tax benefits that they are accorded. The enjoy a lower tax tax (less than 30%) for a number of years following their listing. Also excluded from the study were six (6) firms suspended from trading at the Nairobi Securities Exchange during the study period that is 2009 to 2018 (Appendix II c).

The exclusion process resulted in an accessible population of 31 firms that were studied. These were the firms that traded constantly for the whole period under this study, that is, from 1st January 2009 to 31st December 2018. A survey of these firms was carried out. The study had a total of 310 firm-year observations. The sample period was restricted to this period (2009 to 2018) to help mitigate the influence of any confounding factors. Hanlon and Heitzman (2010) suggested that three (3) yearsis the minimum period for computation of long run cash ETR. The period needs to be long enough to detect

meaningful changes in tax avoidance given that corporate tax strategies are usually long-term strategies that may take some time to alter. Also, it allows the researcher to retain a large enough sample size. However, the period must be short enough so as not to incorporate too much noise into the analysis (Allen *et al.,* 2016). Creswell 2014, stated that in quatitative research, a large N is needed in order to conduct meaningful statistical tests.

Table 3.2: Surveyed Population

No.	Sector	Total Firms	Excluded	Included
1.	Agricultural	7	1	6
2.	Automobiles & Accessories	3	1	2
3.	Banking	11	11	0
4.	Commercial & Services	12	5	7
5.	Construction and Allied	5	1	4
6.	Energy & Petroleum	5	2	3
7.	Insurance	6	6	0
8.	Investment	5	5	0
9.	Investment Services	1	1	0
10.	Manufacturing & allied	10	2	8
11.	Telecommunication and Technology	1	0	1
12.	Real Estate Investment Trust	1	1	0
	Total	**67**	**36**	**31**

Source: Researcher (2020) data from N. S. E.

3.5 Measurement of Variables

3.5.1 Dependent Variable: - Tax Avoidance

Tax avoidance activities are usually veiled in a cloak of secrecy and hence unobservable to the researcher. This makes such activities difficult to measure leading to claims that the degree of tax aggressiveness is ‘in the eye of the beholder’ (Hanlon and Heitzman 2010). Several measures have been used in prior studies for tax avoidance based on estimates from the financial statements. A widely used measure of tax avoidance is the effective tax rate (ETRs) (Lanis and Richardson, 2011). It is utilized because ETR helps

to estimate the effectiveness of companies' tax planning activities (Phillips 2003). According to Lin *et al.,* (2014), no single measure is likely to capture all tax aggressive behavior.

Following prior research, (for example, Chen *et al.,* 2010; Rego and Wilson 2012; Lennox *et al.,* 2013; Bird and Karolyi 2017; McClure *et al.,* 2018), the study used the annual cash effective tax rate (CASH ETR) as the measure of tax avoidance. *CASH ETR* is computed as income tax paid from the cash flow statement in year *t* divided by pretax income in the same period, and it captures a firm's ability to pay a low amount of cash taxes relative to earnings (Brown 2018). To be consistent with prior literature, CASH ETR was truncated to the range of 0 and 1 and each measure is multiplied by negative one (-1) so that larger values of CASH ETR indicated higher levels of tax avoidance. The measure of tax avoidance used is the cash effective tax rate (CASH ETR).

The annual cash effective tax rate captures both permanent and temporary deferral strategies (Dyreng *et al.*, 2008; Koester *et al.*, 2017). According to Hanlon, Maydew, and Saavedra, 2017) CASH ETR is defined as cash taxes paid divided by pre-tax book income adjusted for special items. CASH ETR reflects the assumption that managers view effective tax planning as the ability to minimize cash taxes paid. CASH ETR also reflects tax avoidance strategies that defer cash taxes paid to later periods as well as those that avoid tax entirely. Larger values of CASH ETR represent higher levels of tax avoidance.

$$\text{CASH ETR} = (\text{Cash Tax Paid} / \text{Pre-tax Income}) * -1$$

3.5.2 Independent Varirable: - Corporate Transparency

Corporate Transparency which is the independent variable was measured using a corporate transparency index devised from the transparency and disclosure scoring

checklist as adopted from previous studies, (Aksu and Espahbodi (2016), Aksu, and Kosedag (2006), Patel., *et al.*, (2002)). The scoring is based on audited financial reports of the firms. The score checklist is divided into several sections that capture the various dimensions of corporate transparency. Specifically, the corporate transparency scoring checklist was divided into four subsections: financial transparency, governance transparency, social transparency, and operational transparency (*Appendix VId*). The study used annual reports and any other reliable, relevant information from other sources, such as the corporate website, and official documents disclosed through the Capital Markets Authority and the Nairobi Securities Exchange.

To compose the index and specifically using the Standard and Poor's attributes and scoring methodology, the study calculated the transparency and disclosure scores of the sample firms from 2009 to 2018 by manually searching for and identifying which of the 38 information items are disclosed in each company's annual reports and websites. The overall index contains 38 items: 10 items on financial transparency, 12 items on governance transparency, 8 items on social transparency, and 8 items on operational transparency. If a company provided the information, it got one (1) otherwise it was awarded zero (0). Then the numbers of items disclosed in each category were expressed as a percentage of the maximum possible "Yes" answers in that category for each firm. The level of disclosure for every firm was calculated as:

$$Level\ of\ disclosure = \frac{Actual\ items\ disclosed}{Total\ possible\ items\ in\ the\ index}$$

3.5.3 Moderating Variable: - Cash Holding

The study moderated the effect of corporate transparency on tax avoidance by the firm's cash holding. According to Wang (2015), cash policy is a major factor that affects tax avoidance in any one 6company. *Cash Holding (CH),* measured by total cash and cash

equivalent held divided by net asset of firm i in year t. Cash holding is determined by the magnitude of costs to access external funding to meet its objectives and meet the challenges facing it. Cash holding, the moderating variable was measured by total cash held by the firm, divided by net asset of the firm $_i$ in year $_t$ (Arfan *et al.,* 2017).

$$CH = TC_{it}/NA_{it}$$

Where: CH = Cash Holding of firm *i* at time *t*

TC_{it} =Total Cash held by firm *i* at time *t*

NA_{it} =Net Assets held by firm *i* at time *t*

3.5.4 Control Variables: Firm Size and Firm Leverage

The study drew upon prior governance transparency and tax avoidance studies to identify other variables that could influence tax avoidance. The study controlled for the firm size following most prior studies (Street and Gray, 2001; Al-Shammari *et al.,* 2008; Al Mutawaa & Hewaidy, 2010; Manaligod, 2012; Glaum *et al.,* 2013; Yiadom & Atsunyo, 2014; Demir & Bahadir, 2014). Firm Size *(Fsize)*, was measured by the natural logarithm of total assets of firm $_i$ in year $_t$. Owing to their large size, firms are more likely to be more transparent in their operations and reporting. They may also be able to source for tax planning and legal services. These will lead to the firm exploiting the tax laws and end up avoiding more tax. (Loderer and Waelchli, 2020).

Moreover, the study controlled for the company's leverage level. Based on agency theory, leverage has been suggested as a relevant factor to explain the compliance level in prior research (Al- Shammari *et al.,* 2008; Demir & Bahadir, 2014; Yiadom & Atsunyo 2014). Indeed, Jensen & Meckling (1976) & Fama and Jensen (1983) suggest that agency conflicts between the principals (for example debt holders) and their agents (for example managers acting in the interests of the shareholders) give rise to agency

costs which are expected to be higher for indebted firms. Hence, firms with higher leverage can be expected to disclose more information to reduce agency costs by reassuring the debt holders that their interests are protected (Sellami, & Fendri, (2017). Firm Leverage (Lev.), *was* measured by the ratio of total debt (liabilities) to total assets of firm $_{i}$ in year $_{t}$ (Arfan *et al.*, 2017).

These variables were controlled as they may influence the level of tax avoidance. They were controlled to enable a clearer view of the influence of the independent variables as well as the moderating variables on the dependent variable. By controlling, it was easy to isolate the direct and moderated effect of corporate transparency on tax avoidance.

3.6 Nature and Type of the Data

The study used secondary data collected from the audited annual financial reports which were sourced from the Capital Market Authority, Nairobi Securities Exchange or downloaded from the companies' websites. The audited annual financial reports were also downloaded from *https://www.cmarcp.or.keindex.php/financial-reports-account* and *https://africanfinancials.com.*

3.6.1 Data Collection

The study utilized a document analysis guide as a data collection instrument. The study was conducted using secondary sources which were achieved by analyzing the content of the financial reports of 31 selected firms listed at the Nairobi Securities Exchange. This was suitable for the study because all the audited financial reports and other information about the companies were readily available for the public as mandated by the Company law of Kenya Cap 2015. Oso & Onen (2009) noted that document analysis was used because data being collected is secondary. Furthermore, Corbetta (2003) recognized some document benefits over other research techniques. First, it is a non-

reactive technique where the information given in a document is not subject to a possible distortion as a result of interaction between the researcher and the respondent. Patten (2002) noted that the document may have some constraints in terms of the accuracy and completeness of the data.

3.6.2 Content Analysis

Content analysis is a research method for an objective, systematic, and quantitative description of the manifest of communication (Gray *et al.*, 2001). Content analysis is a data collection technique that has been widely used in researching different areas of social sciences for many years (Krippendorff, 1980). In an accounting disclosure context, content analysis has been extensively used in examining corporate governance and tax avoidance (Campbell, 2004; Cormier et al., 2005; Haniffa and Cooke, 2005; Magness, 2006; Rupley *et al.*, 2012). Further, content analysis can be described merely as a study method to make replicable and valid information inferences depending on their context (Krippendorff, 1980). According to Abbott and Monsen (1979), content analysis is also defined as a method for collecting data that consists of codifying anecdotal and literary qualitative information into categories to derive quantitative scales of distinct levels of complexity. Furthermore, according to (Abeysekera & Guthrie, 2005; Haniffa & Cooke 2005), content analysis has been used widely to examine the voluntary disclosure of a company.

Data collection using content analysis is considered quantitative due to the requirement that systematic counting procedures be followed, which deems the method more objective (Marshall & Rossman, 1999). The quantity of disclosure is indicative of the importance that is placed on the item being disclosed by the reporting company (Unerman, 2000; Campbell, 2003). In addition, content analysis can cope with, and

hence permits the analysis of, large volumes of data as those comprised within annual reports (Krippendorff, 1980). Generally, content analysis is concerned with both the quantitative and qualitative aspects of disclosures (da Silva Monteiro, & Aibar-Guzmán, 2010). Tax avoidance content analysis involves the construction of a classification scheme and establishing a set of decision rules for coding, measuring, and recording the data being examined (Milne & Adler, 1999).

3.6.3 Annual Reports.

The annual report is a formal document published by companies and is used as a communication media or sampling unit, Krippendorff, (1980). The vast majority of corporate transparency and tax avoidance literature used the annual report as the primary source of corporate disclosure. The annual report is a secondary data source (Hussey & Hussey, 1997) that is employed in the current study to examine the corporate transparency and tax avoidance practices of Kenyan companies for ten years from 2009 to 2018.

Gray *et al.,* (2001) explain that audited annual reports are more credible and more informative as compared to other sources of information like websites and company newsletters. Content analysis has been used by most of the studies provided in the empirical studies as a way of examining disclosures. Annual reports are the most important media through which an organization reveals corporate information to the public (Botosan, 1997; Adams *et al*., 1998) and the main channel of corporate communication of corporate transparency and tax avoidance (Van der Laan Smith *et al.*, 2005; Gibson *et al*., 2007). Annual reports are also characterized by their high degree of credibility (Tilt, 1994; Unerman, 2000; Wilmshurst and Frost, 2000), formality and statutory nature, the consistency as well as usefulness to various stakeholders (Tilt,

1994; Deegan and Rankin, 1997; Buhr, 1998; Neu *et al*., 1998). Presentation of financial information, social and corporate transparency, and tax avoidance information within the same report is an important element in demonstrating how the company reconciles the possible conflict between the financial and social objectives and interests of different stakeholders (Gray, *et al*., 1995).

Halme and Huse, (1997) argued that annual reports are likely to reflect corporate environmental concerns by addressing environmental issues and interests of various stakeholders. In this respect, the use of annual reports as a communication channel with stakeholders is compatible with stakeholders theory values (Van *et al*., 2005). Accordingly, Unerman (2000) asserted that although multiple disclosure media are accessible to guarantee completeness and consistency of information, the restriction must be set on the spectrum of documents examined in any specific studies. Nevertheless, research and analysis of all possible media for corporate environmental disclosure proves pragmatically, financially, and technically impossible (Hanaffi, 2006).

3.6.4 Checklist

Conducting content analysis research requires a clear and accurate definition of the phenomena under investigation. This necessitates specific identification of the main categories of environmental disclosure along with the relevant informational items within each of these categories, all of which being incorporated in what is called a checklist. Disclosure checklists are extensive lists of selected items which may be disclosed in company reports. A checklist of corporate transparency disclosure items listed by the disclosure category is constructed to capture corporate transparency disclosure practices in annual reports.

The checklist is composed of different sections showing the different categories or areas to which each corporate transparency disclosure (information) belongs. A preliminary checklist that contains the expected corporate transparency disclosures (information) items is prepared based on prior studies that have extensively examined corporate transparency disclosure practices (Burritt, 1997; Cormier and Magnan, 2003; Cormier *et al.,* 2005; Clarkson *et al.,* 2008; Cormier *et al.,* 2011

3.6.5 Corporate transparency Disclosure Quantity Coding

Having decided on the classification framework of corporate transparency disclosures, the next step is to quantify the volume of the disclosed information. Corporate transparency disclosure quantity is coded by identifying each corporate transparency information item in the annual report with one of the checklist items using predetermined decision rules. This procedure allowed the codification of the disclosed information into predefined categories. As long as quantity measurement is intended, dichotomous scores are used to examine the presence or absence of the different items of the checklist using binary codes. According to (Haniffa and Cooke, 2005; Haji 2013; Khan *et al.,* 2013), the presence or disclosure of an item in the annual reports is coded (1), while the absence or nondisclosure of an item in the annual reports is coded (0). As no specific user group is of particular interest to the research, but rather all diverse stakeholder groups are targeted, an un-weighed scoring is deemed appropriate. This approach does not discriminate between the relative importance of the items of information, that is, it only emphasizes the presence of the disclosures. The un-weighted scores help in mitigating the problems of subjectivity by minimizing the scoring bias associated with the weighting approach (Chau and Gray 2002). Quantification for each of the transparency disclosure categories, therefore, consisted of recording whether or

not a company disclosed in the category. When added together, they form the total amount of corporate transparency disclosure per company.

Having processed the coding or recording of the disclosed corporate transparency information items among the four (Financial transparency, governance transparency, social transparency, and operational transparency) disclosure categories, the next step is to analyze the nature of such information. Corporate transparency disclosure quality is coded by assessing the informational content or the qualitative characteristics of the different disclosure items found in the checklist. Botosan (2004) argued that the quality concept should be based on well-supported frameworks established by qualified accounting bodies and standard setters as they represent a commonly accepted notion of quality of disclosure. This perspective quite fits with the purpose of the current study as no specific user group is of particular interest to the research, but rather all diverse stakeholder groups are targeted. A broader all-purpose definition of disclosure quality, therefore, seems appropriate.

Furthermore, consistent with Botosan's, (2004) approach, corporate transparency disclosure quality is described in the current study in terms of the information qualities or characteristics identified by the International Accounting Standards Board (IASB); comparability, understandability, relevance, and reliability (IASB, 1989). For the current study, comparability, understandability, relevance, and reliability are defined in a manner consistent with the IASB framework. The current study proposed operational definitions for these informational qualities based on prior literature to help assess the informational content of the different disclosure items of the checklist. Further, comparability is permitted with the financial quantification of information that can be elaborated through non-financial quantification and descriptive forms. Understandability

is facilitated when the economic direction or sign of information is clear. Relevance is achieved via the provision of forward-looking information in addition to historical information while reliability is assured through verification or auditing.

3.7 Data Analysis and Presentation

Data processing starts with data preparation, coding, editing, and cleaning**.** Both descriptive and inferential statistics were used to analyze data in this study.

Descriptive statistics present data in a meaningful way to understand what if anything will need to be done to the data to prepare it for analysis. Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data. Many statistical tests can be utilized. To interpret the key results for descriptive statistics, several observations were made. This described the size of the sample. To describe the location of data or where data tend to fall, the mean (center of data) was computed. To describe how spread out data was, the standard deviation was used. Finally, to assess the shape and spread of data distribution this was tested using Skewness and Kurtosis.

Inferential statistics are closely tied to the logic of hypothesis testing discussed. Inferential statistics used included the Pearson Correlation and multiple regression analysis. Pearson correlation assumes the data is linear and shows the relationship/ association between the dependent variable and independent variable whereas moderated regression shows the extent of the effect of the independent variables on the dependent variable. Data was first to be analyzed for correlation using the coefficient of correlation r for association and coefficient of determination R^2 to establish the extent to which corporate transparency accounts for changes in tax avoidance.

3.8 Model Specification

The study used panel data from 2009 to 2018. Hypotheses were tested using multiple regression analysis. The Hausman specification test was employed to determine the suitability of choice between fixed-effect regression and random-effect regression, as a basis for explaining the relationship between the predictor variable and the dependent variable. The study employed the hierarchical multiple regression model (Baron and Kenny 1986) to test the direct and moderating effects. The hypotheses were tested using a series of hierarchical linear regression analysis. The model specifications and the regression equations for panel data analysis were applied as shown below.

$$TA_{it} = \beta_{0it} + \beta_1 FSize_{it} + \beta_2 FLev_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \textit{Model 1}$$

$$TA_{it} = \beta_0 + C + \beta_1 FT_{it} + \beta_2 GT_{it} + \beta_3 OT_{it} + \beta_4 ST_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots \textit{Model 2}$$

Where:

TA = tax avoidance.

FT_{it} = financial transparency of firm *i* at year *t*.

GT_{it} = governance transparency of firm *i* at year *t*.

OT_{it} = operational transparency of firm *i* at year *t*.

ST_{it} = social transparency of firm *i* at year *t*.

$FSize_{it}$ = Size of firm *i* at year *t*.

$FLev_{it}$ = Leverage of firm *i* at year *t*.

C = Control Variables (Firm Size and Firm Leverage)

$\beta_1 \ldots \beta_5$ = Coefficients of the concerned explanatory variables.

β_{0i} = *y*-intercept of firm *i*.

ε_{it} = error term of firm *i* at year *t*. (random variation due to other unmeasured factors).

3.8.1 Moderating Testing

Moderator is a variable that affects the direction and strength of the relationship between an independent and dependent variable (Baron and Kenny 1986). It is a variable that can strengthen, diminish, negate, or otherwise alter the association between independent and dependent variables and can also change the direction of this relationship (Allen, 2017). This effect is different at different values of the moderator. Increasing the levels of moderator could lead to a further increase in the effect of the independent variable on the dependent variable. This is an improving or enhancing moderator. An increase in moderator could also lead to a decrease in the effect of the predictor variable on the dependent variable. This effect is known as the buffering effect. Further, an increase in moderator could reverse the effect of the predictor variable and this is known as the antagonistic effect. For moderation to take place, three important conditions must be fulfilled (Hayes, 2013). The amount of variance accounted for with the interaction should be significantly more than the variance accounted for without the interaction. The coefficient for the interaction terms should be different from zero. The overall models with and without the interaction should be significant.

The study used hierarchical regression models to test the direct effect of corporate transparency on tax avoidance and the moderating effect of cash holding. This regression model allows each variable to be entered at a time. Therefore, in every stage, the change in R^2 was determined to show the rate at which the variance change can be accounted for, by the independent variables with an additional predictor (Little et al., 2012). The investigation models were as follows:

$$TA_{it} = \beta_0 + C + \beta_1 FT_{it} + \beta_2 GT_{it} + \beta_3 OT_{it} + \beta_4 ST_{it} + \beta_5 CH_{it} + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots 3$$

$$TA_{it} = \beta_0 + C + \beta_1 FT_{it} + \beta_2 GT_{it} + \beta_3 OT_{it} + \beta_4 ST_{it} + \beta_5 CH_{it} + \beta_{6it} FT * CH_{it} + \varepsilon \ldots 4$$

$$TA_{it} = \beta_0 + C + \beta_1 FT_{it} + \beta_2 GT_{it} + \beta_3 OT_{it} + \beta_4 ST_{it} + \beta_5 CH_{it} + \beta_{6it} FT * CH_{it} + \beta_{7it} GT * CH_{it} + \varepsilon \ldots\ldots 5$$

$$TA_{it} = \beta_0 + C + \beta_1 FT_{it} + \beta_2 GT_{it} + \beta_3 OT_{it} + \beta_4 ST_{it} + \beta_5 CH_{it} + \beta_{6it} FT * CH_{it} + \beta_{7it} GT * CH_{it} + \beta_{8it} OT * CH_{it} + \varepsilon \ldots\ldots 6$$

$$TA_{it} = \beta_0 + C + \beta_1 FT_{it} + \beta_2 GT_{it} + \beta_3 OT_{it} + \beta_4 ST_{it} + \beta_5 CH_{it} + \beta_{6it} FT * CH_{it} + \beta_{7it} GT * CH_{it} + \beta_{8it} OT * CH_{it} + \beta_{9it} ST * CH_{it} + \varepsilon \ldots\ldots 7$$

Where:

TA = tax avoidance.

FT_{it} = financial transparency of firm *i* at year *t*.

GT_{it} = governance transparency of firm *i* at year *t*.

OT_{it} = operational transparency of firm *i* at year *t*.

ST_{it} = social transparency of firm *i* at year *t*.

CH_{it} = Cash Holding of firm *i* at year *t*.

C = Control Variables (Firm Size and Firm Age)

$\beta_1 \ldots \beta_5$ = Coefficients of the concerned explanatory variables.

β_{0i} = *y*-intercept of firm *i*.

ε_{it} = error term of firm *i* at year *t.* (random variation due to other unmeasured factors).

3.9 Diagnostic Tests and Assumption of Multiple Linear Regression

The study conducted several diagnostic tests for exploring problems inherent to regression analysis and determining whether certain assumptions appear reasonable. Some econometric problems have the potential to make the regression results biased and spurious if they are not found. Regression models have several assumptions that must

hold before data analysis. These assumptions include linearity, normality, multicollinearity, and homoscedasticity (Hayes, 2018).

3.9.1 Multicollinearity

Multicollinearity implies the existence of a linear relationship between two or more explanatory variables. Multicollinearity makes it difficult to differentiate the individual effects of the explanatory variables and regression estimators may be biased in that they tend to have large variances (Murray, 2006). Furthermore, if there is a perfect linear relationship among the explanatory variables, the estimates for a regression model cannot be uniquely computed. The possible existence of multicollinearity is tested based on the correlation matrix incorporating all the independent and control variables. Both Pearson and Spearman's rank correlation matrices show that correlation coefficients are less than 0.8, the limit or cut off correlation percentage commonly suggested by prior studies after which multicollinearity is likely to exist (Gujarati, 2012). These results suggest that there is no need to be concerned about the correlation of either the independent variables to each other, the control variables to each other, or the independent variables to the control variables.

The problem of Multicollinearity occurs when the relative movements of two or more independent variables match. In this, the standard OLS estimates become unable to distinguish between the variables. Given that many other independent variables in this study may have a prior suspect of multicollinearity, Variance Inflation Factors (VIF) was tested after each standard OLS regression to examine the level of correlation between the variables. Nor *et al.*, 2008 argued that the VIF score that exceeds 10 indicates the presence of multicollinearity.

$$VIF = \frac{1}{1 - R^2}$$

where R^2 is R squared

3.9.2 Heteroskedasticity

The problem of heteroskedasticity occurs when the residuals of the regression are heteroskedastic. That is, the variance of residuals is not constant for all observations. In such a case the standard OLS estimators no longer produce a minimum variance. The standard error of the coefficients gives inaccurate estimates. In the presence of heteroskedasticity, the estimated parameters may remain consistent but inefficient. To test for heteroskedasticity the study performed Breusch Pagan/Cook-Weisberg (1979) test. The said test is the Lagrange Multiplier test that bases on the assumption that residuals are normally distributed with K degree of freedom. The null hypothesis states that the variance of the disturbance terms is homoskedastic. In other words, the variance of the error terms is constant.

The hypothesis tested was:

Ho: Error variance is homogeneous

Ha: Error variance is not homogeneous

3.9.3 Autocorrelation

One of the fundamental assumptions of the Linear Regression Model is that the covariance between the error terms over time is equal to zero, or the error terms are not correlated with each other (Brooks, 2010). If, however, the error terms are correlated it creates the problem of autocorrelation or serial correlation, which leads to making the standard error biased. Hence, the standard OLS estimators no longer remain the minimum variance ones. This follows that a diagnostic test is required to check for the presence of serial correlation after each standard OLS regression of my analysis. With the analysis of a long time series of 10 years, we may have a prior suspect of

autocorrelation. The graphical method is commonly used as a first-hand method to judge the presence of autocorrelation. But to confirm the presence of autocorrelation a formal statistical test is required to apply. Tests such as Durbin-Watson, Breusch- Godfrey, and Wooldridge are the simplest and commonly used tests in time series analysis to detect autocorrelation. Wooldridge statistic test was used in testing first-order correlation in the study.

3.9.4 Normality Test

The study performed the Jarque- Bera test for normality. Additionally, skewness and kurtosis were used as proposed by Jarque and Bera (1987) for the omnibus test. Improved Jarque- Bera tests have been discussed by many authors. The Jarque- Bera statistic follows the chi-squares distribution with two degrees of freedom. Under the null hypothesis of normality, the expected value of the statistic is two.

The hypothesis tested was

Ho: Data distribution is normal

Ha: Data distribution is not normal

3.9.5 Unit Root Test

The study used panel data and therefore, there was a need to determine whether the variables in question were stationary or non-stationary. Whenever there is stationarity, a series of finite variance and uniform oscillations from the mean can be observed (Baltangi, 2005). Consequently, there is a need to test whether the variables have a uniform mean and variance across time variation. It is possible to have deceptive inferences if the information collected is not stationary and regression models gained may be spurious or affected by uneven regression problems. This study conducted several tests of unit root. These include Levin- Lin Chu, Breitung, and Im-Pesaran-Shin.

Time series data consists of observations that are considered to be random variables that can be described by some stochastic processes. Time series is only possible where data is stationary. This means the data must have statistical properties (mean, variance, and covariance) that never vary with time. Therefore, one must first test a time series to see if it is stationary or not (Dwivedi and Subba, 2011).

The hypothesis tested was:

Null hypothesis (H_o): Panel data contains unit root [non-stationary].

Alternative hypothesis (H_a): Panel data is stationary.

3.9.6 Random and Fixed Effects

A panel data framework was used to test the hypotheses. Panel data, as noted by Hsiao (1986), has several distinct advantages: it provides more degrees of freedom, increases variations in the data and thereby reduces the chances of multicollinearity, and makes it possible to control for fixed effects, panel data have the strength of accommodating more observations hence increases the degrees of freedom. Besides, it reduces the problem of collinearity of regressors and modeling flexibility of behavior differences within and between countries and/or groups or institutions (Biwott, 2011; Hsiao, 2007).

Panel data was analyzed using a fixed-effect model and a random-effects model. The fixed-effects model is used when controlling for omitted variables that differ between individuals but are constant over time. If some omitted variables might be constant over time but vary between individuals, and others might be fixed between individuals but vary over time, then the random-effects model was of help in taking the two types into account. The random-effects model would be appropriate if data are representative of a sample rather than the entire population because the individual effect term can be a random outcome rather than a fixed parameter.

According to Lee (2008) to compare the usefulness of these models, three tests were run. First, fixed effects were tested by the F test, and the null hypothesis all individual effects terms except one are zero was rejected at a 0.1% significance level. This suggests that the fixed effects model is better than the pooled OLS model. Second, random effects were examined by the Lagrange multiplier test, and the null hypothesis cross-sectional variance components are zero and were rejected at a 0.1% significance level. This argues in favor of the random effects model against the pooled data model.

3.9.7 Hausman Test

Finally, the Hausman test was conducted to decide whether the fixed effect or the random effect is the appropriate model to explain the relationship between variables. The null hypothesis is that the random effect model is more suitable. If the null hypothesis is rejected, then the fixed effect model should be used. (Greene, 2008). The null hypothesis is that there is no significant correlation between the individual effects and the regressors. The null hypothesis is rejected if the probability obtained is less than 5%. Again if the test value of Chi-square is higher than the critical value, the null hypothesis is rejected and the fixed effect is a better estimation method.

The hypothesis tested was:

Ho: Random effect model is appropriate

Ha: Fixed effect model is appropriate

Decision criteria: Reject H_o if the p-values obtained are less than the level of significance (0.05 used in this study).

3.10 Ethical Considerations

The purpose of ethical considerations is to direct the researcher in ensuring that participants are protected in addition to building confidence in them. Ethical considerations focus on the privacy of respondents and also the intended use of the data collected. This study posed few, if any, ethical considerations due to the following reasons. First, the study used published financial reports which are published by the firms and available for the investors and other stakeholders. These financial reports are openly available on the company's websites and the Nairobi Securities Exchange. However, the author observed the following ethical issues; data were collected in an objective approach as specified in data collecting schedules to ensure the results are objective. All information sources were cited in the document and later referenced by the researcher. Moreover, the author followed all the required procedures in carrying out such a study. This includes getting approval from the University to proceed to the field and collect research data (Appendix VII) and also obtaining a license to research the area of interest from the National Commission for Science and Technology (NACOSTI), (*Appendix VIII*).

3.11 Limitations of the Study

This study is not without its limitations. First, tax return data is private, and therefore tax avoidance proxies were constructed based on publicly available financial statement data. The efficacy of such measures has been questioned (Hanlon & Heitzman 2010; Blouin 2014), so the results should be interpreted with caution. Another limitation is that the study concentrated on the non-financial firms which accounted for 46.3% of the total firms listed at the Nairobi Securities Exchange on 31 December 2018. The results of this sample may not portray the real extent of tax avoidance by the Kenyan firms and this may limit the generalizability of the findings. Thirdly, the sample included only Nairobi

Securities Exchange-listed firms and the results may therefore be unique to a Kenya (a developing country) setting and not necessarily generalizable to other jurisdictions, specifically other developed countries. Another limitation is that effective tax rate (Cash ETR) was used as a measure of tax avoidance. Although this measure has been widely used as a proxy for tax avoidance in the literature, alternative measures such as Book-Tax Difference (BTD) and Current ETR could also be used. BTD is measured by pre-tax income minus taxable income divided by total assets while Current ETR is measured by Total Tax Expense minus Deferred Tax Expense divided by pretax income. These are long-run effective tax rates and may provide different results. Lastly, Disclosure items given same weight. Market may place higher emphasis on certain elements leading to different items of disclosure having more weidht than the others.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, AND INTERPRETATION

4.0 Introduction

This chapter presents the results of the study based on the formulated objectives and hypotheses as presented in chapter one. This chapter presents the results from the various statistical techniques and data analysis procedures as discussed in the last chapter. The findings are presented in seven key sections; data description, descriptive statistics, diagnostic tests, assumptions/ robustness tests, correlation analysis, hypotheses testing, and moderation results.

4.1 Data Preparation.

Before analyzing any data set, it is important to first understand the data. Descriptive statistics present data in a meaningful way to understand what if anything will need to be done to the data to prepare it for analysis. Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data (McCarthy *et al.*, 2019).

The target population of this study was 67 firms that are listed at the Nairobi Securities Exchange. A total of 31 firms passed the exclusion /inclusion criteria as discussed in the previous chapter. These are firms that traded consistently during the study period of ten years from 2009 to 2018. Data was collected from the audited published financial reports of these firms. Where data was not found on the company's website, the researcher contacted the Nairobi Securities Exchange (NSE) and the Capital Markets Authority (CMA) and data was provided. Data collected were coded, edited, and cleaned

before being run into STATA. Data screening was also done to identify missing values and the existence of outliers that could potentially influence coefficients of study variables. Raw (untransformed) data was used for descriptive statistics. Data were transformed into logs to facilitate inferential statistics to be computed.

Descriptive statistics results were used in describing the basic features of data by providing simple summaries about the sample and the measures used. Tronchim, (2006) contends that; along with simple graphics analysis, descriptive analysis virtually forms the basis of every quantitative analysis of data. Kothari (2011) argued that through descriptive survey design the research seeks to describe the situation as it is. They were appropriate for the current study since the researcher sought to describe the level of corporate transparency among companies listed in Kenya.

In this study, descriptive statistics were employed to provide: means, maximum, minimum, and standard deviation of data collected on corporate transparency and tax avoidance of the listed companies in Kenya. The mean score is associated with a typical response among respondents, while the standard deviation is an indicator of the consistency with which the particular mean scores were made (Sekaran, 2015). Consequently, small values for the standard deviation are indicative of high levels of consistency and large values are an indication of low levels of consistency). Skewness statistics were used to indicate whether the data gathered for respective scales were normally distributed (Gravetter, *et al.,* 2014). Moreover, the value of the Kurtosis statistic was used as an indicator of the degree of peakedness in the collected data as suggested by Cain, *et al.,* (2017).

4.2 Descriptive Statistics of the Study Variables

Table 4.1 presents summary descriptive statistics results for the untransformed data on the relationship between the corporate transparencies (financial, governance, social and operational) as they relate to tax avoidance by the listed companies in Kenya as moderated by cash holding and taking into account the effect of firm size and firm leverage as control variables.

Table 4.3: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Tax Avoidance	310	0.225	0.139	0.007	0.509
Financial Transparency	310	0.578	0.112	0.250	0.833
Governance Transparency	310	0.793	0.178	0.300	1.000
Social Transparency	310	0.629	0.180	0.250	1.000
Operational Transparency	310	0.698	0.204	0.375	1.000
Cash holding	310	0.059	0.006	0.001	0.485
Firm Size	310	6.836	0.085	4.707	8.579
Firm Leverage	310	0.417	0.160	0.132	0.806

Source: Researcher (2020)

Data were analyzed for 31 listed companies and observed for ten years. This gave an observation of 310 firm years, the size of this study's data (Table 4.1). The findings indicate that the average annual cash effective tax rate (tax avoidance) was 0.225. This implies that firms avoid tax to a tune of 22.5%. Under normal circumstances, companies are taxed at a corporation tax rate of 30% of their pre-tax profit and are expected to pay at the end of each financial year. The minimum tax avoidance was 7% while the maximum tax avoidance was 50.9%. The tax avoidance by the firms was lower than the 30% top statutory corporate tax rate. This could be attributable to either presence of foreign operations and/ or tax planning (avoidance). The results are comparable to those reported in recent studies (for example in Balakrishnan, *et al.*, 2019 (25.2%) and Li, *et al* 2017 (27.1%)).

The standard deviation of CASH ETR = 0.139 is relatively high indicating substantial cross-sectional variation in tax avoidance). The CASH ETR measure is a size-industry adjusted variable and it indicated that substantial variation exists within industry and size groupings. The mean financial transparency, measured by financial transparency index, was 0.578 (minimum = 0.250 and maximum = 0.833; standard deviation = 0.112). The High financial transparency scores are explained by the fact that disclosure items and procedures of financial information are strictly stipulated when a firm in the stock market prepares an annual report. The average of governance transparency, measured by governance transparency index, was 0.793 (minimum = 0.300 and maximum = 1.000: standard deviation = 0.168).

The mean social transparency, measured by the social transparency index, was much lower than that of financial transparency and governance transparency with 0.629 (minimum= 0.250 and maximum = 1.000: standard deviation = 0.180). This is because the score of social transparency has annexed characteristics compared to the other transparency indices, such as voluntary disclosure of corporate information, social contribution, and ethical management. Moreover, a high operational transparency score as measured by the operational transparency index was 0.698 (minimum= 0.375 and maximum = 1.000: standard deviation = 0.204) is reasonable, as most of the items in the operational transparency index include current operational statistics that the stock market requires of firms. Further, cash holding, total cash, and cash equivalent held divided by net asset, had a mean of 0.059 with (minimum = 0.001 and maximum = 0.485: standard deviation = 0.060).

Statistics for the control variables are also comparable to those reported in recent studies. For example, the average firm size (LnTA) had a mean of 6.836 which is close

to the average size (6.350 in Balakrishnan, *et al.*, 2019) and (6.131 in Li *et al.*, 2017). Firm size minimum = 4.707 and maximum = 8.579; standard deviation = 0.764. The mean firm leverage was 0.417 which is close to the average size (0.476 in Li *et al.*, 2017). (Minimum= 0.132 and maximum = 0.806; standard deviation = 0.160).

4.3 Inferential analysis

The study conceptualized that the corporate transparency dimensions of financial transparency, governance transparency, social transparency, and operational transparency had a direct effect on tax avoidance and an indirect effect moderated by cash holding. The hierarchical regression analysis approach was employed to examine whether cash holding was indeed a moderator to the relationship between corporate transparency and tax avoidance in the context of firms listed at the NSE. Hierarchical regression has previously been used in moderation models (Baron & Kenny, 1986). Besides, the presence of a control variable made it more ideal in testing for moderation while controlling for cash holding. Data was therefore first transformed into logs to have the composite response scores for each variable. Data measuring a particular variable were standardized using logarithms before inferential analyses were done.

4.3.1 Assumption of Linear Regression and Diagnostic Tests

This study uses a linear regression that must qualify Best Linear Unbiased Estimates (BLUE). Multiple regression analysis is known to work under several assumptions. Before selecting which panel regression model to use and to eliminate regression problems, these assumptions were tested following recommendations by Tabachnick and Fidell (2013). The transformed data were employed in testing the assumptions. Five assumptions that included normality, multicollinearity, unit root/ stationarity, heteroskedasticity, and autocorrelation were tested (Hair *et al.*, 2010; Cohen, *et al.*,

2003). Model specification test was carried out so as establish whether the model is mis-specified or with omitted variables

4.3.2 Normality Tests

Normality test for data were done as a prerequisite to conducting regression analysis (Cramer & Howitt, 2004). The study data was tested using the Skewness/ Kurtosis test (Table 4.2). Skewness/ Kurtosis shows the number of observations (310) and the probability of skewness, which is 0.0606 implying that skewness is asymptotically normally distributed (ρ-value of skewness > 0.05). Furthermore, the probability of Kurtosis is 0.2193 which indicates that kurtosis is asymptotically distributed (ρ-value of kurtosis > 0.05). Finally, the joint Prob>chi (2) is 0.0800 > 0.05 implying that the null hypothesis cannot be rejected. The results of the skewness /kurtosis test for normality indicate that the residuals are normally distributed.

Ho: Data distribution is normal

Ha: Data distribution is not normal

Table 4.4: Skweness/Kurtosis tests for Normality

	Skewness/Kurtosis tests for Normality				
				------- joint ------	
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi^2(2)	Prob>chi2
Residuals	310	0.0606	0.2193	5.05	0.0800

Source: Researcher (2020)

In order to confirm that the residuals are normally distributed, two more normality tests were done, these are Jarque-Bera and Shapiro Wilk tests of normality. For the Jarque-Bera Test, if the ρ-value is lower than the Pro > Chi (2) value, the null hypothesis cannot be rejected implying that the residuals are normally distributed. As per table 4.3, the P-value is less than chi (2). Chi (2) is 0.1211 which is greater than 0.05 and therefore we

fail to reject the null hypothesis. (*Prob> chi (2) = 0.1211 >0.05*). This implies that the residuals are normally distributed.

Table 4.5: Jarque-Bera normality test

Jarque-Bera	normality test: 4.22	Chi(2) 0.1211
Jarque-Bera test for normality	Ho: normality:	

Source: Researcher (2020)

For the Shapiro- Wilk test, the null hypothesis is that the residuals are normally distributed while the alternative hypothesis is that the residuals are not normally distributed. The null hypothesis will be rejected if the p-value is less than 0.05. The results of the Shapiro - Wilk test in Table 4.4 indicate that the ρ-value (0.057) is larger than 0.05, and therefore the hypothesis of normality cannot be rejected.

Table 4.6: Shapiro – Wilk normality test for normality

Shapiro-Wilk test for normal data					
Variable	Obs W	W	V z	z	Prob>z
Residuals	310	0.98523	3.238	2.763	0.057

Source: Researcher (2020)

4.3.3 Multicollinearity test

Multicollinearity refers to the level of correlation or multiple correlations that are sufficient in magnitude to potentially adversely affect regression estimates (Hair *et al.,* 2010). Multicollinearity is said to occur in the event that, one or more independent variables correlate strongly (when correlation coefficients are above 0.8 -Garson, 2013; Gujarati, 2012) with each other, producing unreliable estimates of the dependent variable in regression analysis (Hair *et al.,* 2010). Other adverse effects of multicollinearity include inflated regression coefficient estimators (β_1), inflated standard

errors, and conflicting statistical significance levels associated with beta weights (negative or positive magnitudes of β_1).

To identify potential problems of multicollinearity among independent variables, two major methods were used. These are the tolerance test and the Variance Inflation Factor (V.I.F.). Under Tolerance and Variance inflation factor (VIF) multicollinearity is present if tolerance is less than 0.1 and the VIF value is higher than 10 (Gujarati, 2012).

$$VIF = \frac{1}{1 - R^2}$$

where R^2 is R squared

Tolerance = 1 / VIF

The diagnostic test was conducted to find out whether the independent variables were related to each other instead of being related to the criterion variable. However, for enhancement of regression validity, the multicollinearity test was performed.

Ho: data contains no multicollinearity

Ha: data have multicollinearity

The results as shown in Table 4.5 show that the lowest Tolerance is 0.516 which is more than 0.10. The average value of VIF is 1.42 with the highest value being 1.94 which is below 10 which is the limit at which we begin to have a serious problem of multicollinearity. Hence, the assumption of multicollinearity (that data contains no multicollinearity) is not violated by the variables.

Table 4.7: Tolerance and VIF test

Variable	VIF (1/1-R^2)	1/VIF(Tolerance)
Operational Transparency	1.94	0.515911
Financial Transparency	1.61	0.621789
Social Transparency	1.46	0.685826
Firm Size	1.42	0.706492
Governance Transparency	1.35	0.739046

Cash Holding	1.07	0.932408
Leverage	1.07	0.934741
Mean VIF	1.42	

Source: Researcher (2020)

4.3.4 Stationarity/ Unit root test

A key assumption of regression analysis is that the time series data is stationary. Stationarity is the probability that time series variables do not change over time. Non-stationary leads to spurious regression relationships and the validity of t-test and F-tests. Stationary infers that the mean, variance, and auto-covariance are time-invariant. Non-stationary data refers to a data series that does not have a constant mean, variance, and auto-covariance at various lags over time (Hossain & Hossain, 2015). Under the unit root test, to rule out the presence of unit root (rejecting the null hypothesis, 'the panels contain unit root'), the computed p-values must be less than 0.05.

Ho: All data panels contain unit root.

Ha: At least one data panel is stationary

Results in Table 4.6 shows that there is no unit root in our data. This is because all the p-values are way below the conventional significance levels of 0.05. This, therefore, implied that all variables were stationary, and robust regression models would be fitted without lags (at levels).

Table 4.8: Unit Root / Stationarity test

Variable	Levin-Lin-Chu	Harris-Tzavalis	Breitung
Log Tax Avoidance	-3.7510	-12.6430	-5.0547
ρ-value	(0.000)	(0.000)	(0.000)
Log Financial Transparency	-6.7380	-12.8023	-5.1936
ρ-value	(0.000)	(0.000)	(0.000)
Log Governance Transparency	-4.7518	-10.4551	-5.4074
ρ-value	(0.000)	(0.000)	(0.000)
Log Social Transparency	-2.0886	5.035484	-3.3342

ρ-value	(0.018)	(0.000)	(0.000)
Log Operational Transparency	-2.2281	-13.4340	-6.7606
ρ-value	(0.013)	(0.000)	(0.000)
Log Firm Leverage	-6.3653	-6.8470	-3.8133
ρ-value	(0.000)	(0.000)	(0.000)
Log Firm Size	-5.6313	-15.3176	-3.5536
ρ-value	(0.000)	(0.000)	(0.000)
Log Cash holding	-5.7672	-10.2441	-4.7584
ρ-value	(0.000)	(0.000)	(0.000)

Source: Researcher (2020)

4.3.5 Heteroskedasticity test

Heteroskedasticity occurs when the variance of residuals is not constant for all observations. The heteroskedasticity problem arises in the data when the variance of the residuals is not constant across all observations. This may be as a result of sub-population differences, the model being not correctly specified, or if there are any other intervention effects in the data or omission of very important variables from the model. To test heteroskedasticity, the study used the Breusch-Pagan and Cook-Weisberg test where the arch error terms test (LM) is performed. If the test statistic has a p-value below an appropriate threshold ($p < 0.05$) then the null hypothesis of homoskedasticity is rejected and heteroskedasticity assumed (that is, if the significance level of f-statistics is not significant in 5% error level, homogeneity of variance is confirmed and heteroskedasticity of error terms are rejected.). The null hypothesis states that the panel data is homoskedastic (has constant variance) while the alternative hypothesis states that the data is heteroskedastic.

Ho: Error variance is homogenous

Ha: Error variance is not homogenous

The findings in Table 4.7 indicated that (chi^2 (1) was *1.680, ρ-value of 0.1944* revealing that the null hypothesis cannot be rejected hence the assumption of constant variance was not violated meaning that there is no heteroscedasticity in the data.

Table 4.9: Heteroskedasticity test - Breusch Pagan / Cook-Weisberg test

Ho:	Constant variance		
Variables:	fitted values of log Tax Avoidance		
Chi^2 (1)		=	1.680
Prob > chi^2		=	0.1944

Source: Researcher (2020)

4.3.6 Autocorrelation test

The other classical BLUE assumption requirement is an autocorrelation which ensures that observation data have no time-to-moment relationship. Autocorrelation represents the degree of similarity between a given time series and a lagged version of itself over successive time intervals. Autocorrelation measures the relationship between a variable's current value and its past values. To test the presence of autocorrelation several formal statistical tests are done. Some of them include Wooldridge**,** Durbin Watson, and Breusch-Godfrey. These are simple and commonly used tests in time series analysis. However, Drukker (2003) argues that the results of most of these tests have their own limitations. As a result, Drukker (2003) recommends Wooldridge (2002), which he says is immune from such limitations, besides, the test can deal with unbalanced panel data with and without gaps in the observations.

Therefore, the Wooldridge test was conducted to ascertain whether the model has any autocorrelation problem. The basis for determining the violation of this assumption is seen from Prob > F. If the value is lower than 0.05 then there is a violation of this assumption. Table 4.8 shows that the ρ-value is 0.04623 and this indicates that the null hypothesis cannot be rejected at a 5% significance level. This is because there is no first-

order autocorrelation in the data. Consistent with the early study of Ntim *et al.*, (2012), a serial correlation was found not to pose a problem.

Table 4.10: Autocorrelation - Wooldridge test

Wooldridge test for autocorrelation in panel data		
Ho:	no first-order autocorrelation	
	F(1, 30)	= 0.554
	Prob >	F = 0.4623

Source: Researcher (2020)

4.3.7 Model Specification test – Ramsey RESET test

To tests for model specification (whether the model is misspecified with omitted variables), the Ramsey RESET test was used. The null hypothesis is that the model has no omitted variables. The null hypothesis would be rejected if the p-value is less value is less than 0.05. Results in Table 4.9 gave a p-value of 0.06 implying that the null hypothesis cannot be rejected at a 0.05 level of significance. It was concluded that the study model is okay.

Table 4.11: Ramsey RESET Test (using powers of the fitted values of Tax Avoidance)

Ho:	the model has no omitted variables		
	F(3, 310)	=	12.30
	Prob > F	=	0.0608

Source: Researcher (2020)

4.4 Correlation Analysis

Bivariate/ pairwise correlations were conducted as a precursor to regression analysis. It is argued that before performing a regression analysis; linear associations between variables should be confirmed. Pearson product-moment correlations were run to examine associations between the variables (Chee, 2013). Correlation analysis shows the

nature and magnitude of the relationship between variables. Table 4.10 displays the correlation coefficient values between dependent and independent variables and between the dependent variables themselves. The examination of the correlation coefficients helps in accepting or rejecting the null hypothesis that there is no correlation between the explanatory variables. The degree of the linear relationship between two variables in correlation ranges between +1 and -1. A correlation of +1 implies that there is a perfect positive linear relationship between variables hence the concern of multicollinearity problem (Sekran, 2003). Overall the correlations were very low. Only firm size and tax avoidance had a correlation coefficient of 0.653. However, the rest of the variables had correlation coefficients that were generally moderate (less than 0.528). Overall the correlation coefficients were far much less than the 0.8 thresholds indicating that there was no concern for multicollinearity.

The Pearson correlation results in table 4.10 show that financial transparency and tax avoidance had a negative and significant correlation ($r = -0.337; \rho < 0.05$). The table further shows that governance transparency and tax avoidance were negatively but significantly correlated ($r = -0.335; \rho < 0.05$). The correlation also results indicated that social transparency and tax avoidance had a negative correlation ($r = -0.061; \rho < 0.05$) which was not significant. Further, the correlation between operational transparency and tax avoidance was negative but significant ($r = -0 .561; \rho < 0.05$). The results further show that firm size and tax avoidance had a positive and significant correlation ($r = 0.653$; $\rho < 0.05$). Besides, the results indicate that firm leverage had a negative but insignificant relation to tax avoidance ($r = -0.048$; $p < 0.05$). Finally, the output shows that cash holding was positively and significantly correlated to tax avoidance at ($r = 0.329$; $\rho < 0.05$).

Table 4.12: Results of Pairwise Correlation Matrix

	TA	FT	GT	ST	OT	FSize	FLev	CH
Tax Avoidance	1.0000							
Financial Transparency	-0.3365*	1.0000						
Governance Transparency	-0.3347*	0.4140*	1.000					
Social Transparency	-0.0606	0.3276*	0.2044*	1.0000				
Operational Transparency	-0.5607*	0.5281*	0.2769*	0.4424*	1.0000			
Firm Size	0.6533*	-0.2344*	-0.3114*	0.0751	-0.3964*	1.0000		
Firm Leverage	-0.0481	-0.0415	0.1490*	-0.1076	0.0530	-0.1382*	1.0000	
Cash Holding	0.3290*	-0.2068*	-0.1524*	-0.0321	-0.2040*	0.1379*	0.0008	1.0000

* Correlation is significant at the 0.05 level (2-tailed).
TA - Tax Avoidance, FT- Financial Transparency, GT- Governance Transparency, ST- Social Transparency, OT- Operational Transparency, FSize- Firm Size, FLev- Firm Leverage, and CH- Cash Holding.
Source: Researcher (2020)

4.5 Regression Analysis.

The study used a hierarchical regression model in testing for effects as argued by Baron and Kenny (1986). The hierarchical regression model involves entering variables in blocks. Step one involved entering the control variables and observe its effects on the dependent variable (model 1). Step two involved entering the pooled elements of the independent variable and observe their effects on the dependent variable (model 2). Step three involved entering the moderator and observe its effects on the dependent variable (model 3). Steps 4, 5, 6, and 7 involved entering each of the interactions between elements of the independent variable and the moderator as shown in the regression models 4, 5, 6, and 7 respectively.

4.5.1 Effects of Control Variables

The study controlled for the following factors which, based on prior literature, might be associated with tax avoidance or variance in effective tax rates. Studies have shown that firm size has an association with tax avoidance activities (Rego, 2003; Wilson, 2009; Zimmerman, 1983). Leverage (LEV) was included as a control variable since tax avoidance activities were found to vary across firms as a function of leverage (Graham & Tucker, 2006) Firms with more complex financing arrangements are also considered to have increased incentives and opportunities for tax avoidance activities (Kerr, 2019).

The study examined the influence of the control variables (firm size and firm leverage) on the dependent variable (tax avoidance) to ascertain their explanatory power. Table 4.11 shows regression results for control variables under fixed effects. The study results found a significant positive association between firm size and tax avoidance ($\beta = 0.214$,

ρ<0.05). A one-unit increase in firm size led to 0.214 increases in tax avoidance. This finding suggests that larger firms could have more resources to spend on engaging tax experts who can do tax planning for them and avoid more tax. This is consistent with Al-Shammari *et al.,* (2008) in the Gulf Co-Operation Council Member States; Al Mutawaa and Hewaidy (2010) in Kuwait; and Yiadom and Atsunyo, (2014) in Ghana. Richardson and Lanis (2007) found that larger corporations are likely to be more tax aggressive than smaller corporations because they possess greater economic and political power relative to smaller corporations and can reduce their tax burdens accordingly.

Furthermore, the study results found a significant positive association between firm leverage and tax avoidance (*β= 0.689, ρ<0.05*) indicating that a one-unit increase in firm leverage caused a 0.689 increase in tax avoidance. This is consistent with Abdullah *et al.,* (2015) who found that leverage is positively associated with tax avoidance and this is due to tax-deductible interest payments. The results are, however, contrary to those of Park *et al.,* (2017) who found a negative relationship between leverage and tax avoidance. This indicates that firms with high debt ratios are passive in tax avoidance because of the burden on various non-tax costs such as reputation risk, caused by tax avoidance rather than the effect of reducing agent cost. Both of the control variables (firm size and firm leverage) had a positive and significant effect on tax avoidance.

Table 4.13: Regression results for Control Variables - Fixed Effects

Fixed-effects (within) regression				Number of obs	=	310
Group variable: FirmID				Number of groups	=	31
R-sq: within = 0.1752				Obs per group: min	=	10
between = 0.2452				avg	=	10.0
overall = 0.2182				max	=	10
				F(2,277)	=	29.41
corr(u_i, Xb) = 0.1500				Prob > F	=	0.0000
Tax Avoid	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
Firm size	.2143269	.0396327	5.41	0.000	.1363073	.2923465
Firm Leverage	.6888618	.1361017	5.06	0.000	.4209366	.9567869
_cons	-.3305473	.0656299	-5.04	0.000	-.459744	-.2013506
sigma_u	.35125238					
sigma_e	.22926529					
rho	.70124853(fraction of variance due to u_i)					

F test that all u_i=0: F (30, 277) = 14.28 Prob > F = 0.0000

Source: Researcher (2020)

Table 4.12 shows regression results for control variables under random effects. The results indicate that firm size had a positive and significant effect on tax avoidance (β= *0.289,* ρ*<0.05*) implying that an increase in firm size by one unit led to an increase in tax avoidance by 0.289 units. Furthermore, firm leverage also had a positive and significant effect on tax avoidance (β*= 0.511,* ρ*<0.05*) indicating that an increase in one unit of firm leverage led to an increase in tax avoidance of 0.511 units.

Table 4.14: Regression results for Control Variables - Random Effects

Random-effects GLS regression				Number of obs	=	310
Group variable: FirmID				Number of groups	=	31
R-sq: within = 0.1636				Obs per group: min	=	10
between = 0.4618				avg	=	10.0
overall = 0.3453				max	=	10
				Wald chi2(2)	=	75.75
corr(u_i, X) = 0 (assumed)				Prob > chi2	=	0.0000
Tax Avoid	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Firm size	.2893721	.0377769	7.66	0.000	.2153308	.3634134
Firm Leverage	.5113993	.1284382	3.98	0.000	.4209366	.7631335
_cons	-.3378078	. .0775752	-4.35	0.000	-.4898525	-.1857631
sigma_u	.23746726					
sigma_e	.22926529					
rho	.51756773 (fraction of variance due to u_i)					
F	test that all u_i=0:		F(30,277)		= 14.28	Prob > F = 0.0000

Source: Researcher (2020)

The results of the Hausman test (*(chi2 (2) = 40.09 and Prob >chi2= 0.0001< 0.05*) presented in Table 4.13 supported the use of fixed-effect regression model. This is because the test value of Chi-square (chi^2) is higher than the critical value.

Table 4.15: Hausman Test Results for Control Variables

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt (diag (V_b-V_B))
	fe	re		S.E.
Firm size	.2143269	.2893721	-.0750452	.0119859
Firm Leverage	.6888618	.5113993	.1774625	.0450256

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic
(chi2 (2) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 40.09
Prob>chi2 = 0.0000

4.5.2 Effect of Corporate Transparency on Tax Avoidance (Direct Effect)

This effect entails examining the influence of the predictor variables (financial transparency, governance transparency, social transparency, and operational transparency) on the dependent variable (tax avoidance) as shown in model 2. The regression results for the fixed effect and random effect estimation model are discussed in the subsequent subsections.

4.5.2.1 Fixed Effect

The fit of the direct effects model involving corporate transparency was tested by first examining the variation in tax avoidance as explained by the four dimensions of corporate transparency, and then checking whether manipulation of these dimensions could predict tax avoidance significantly. The fixed-effect model considers the independence of each firm. According to Bickel, (2007), the fixed-effect model comprised of unique attributes that do not vary across time. The regression results of the direct effect for the fixed effect model are shown in Table 4.14. The results revealed that the four dimensions of corporate transparency explained 34.72% (R square within = 0.3472) of the variance in tax avoidance.

The results further show that financial transparency ($\beta = -0.698, \rho<0.05$) had a negative and significant effect on tax avoidance. This means that a one-unit increase in financial transparency leads to a negative change (drop) of 0.698 in tax avoidance. Governance transparency had a negative and significant effect on tax avoidance ($\beta = -0.489, \rho<0.05$). This implies that a one-unit increase in governance transparency leads to a negative change (drop) of 0.488 in tax avoidance. Operational transparency had a negative and significant effect on tax avoidance ($\beta = -0.611, \rho<0.05$). This shows that a one-unit

increase in operational transparency leads to a negative change (drop) of 0.611 in tax avoidance. These three variables had a negative and significant effect on tax avoidance thus leading to rejection of the null hypothesis. The model also revealed that social transparency had a strong positive and significant effect on tax avoidance. ($\beta = 0.525$, $\rho<0.05$). Therefore a one-unit increase in social transparency leads to a 52.5% increase in tax avoidance. The null hypotheses were rejected and it was concluded that indeed corporate transparency had significant effects on tax avoidance.

Table 4.16: Regressing Tax Avoidance on Corporate Transparency- Fixed Effect

Fixed-effects (within) regression				Number of obs	= 310	
Group variable: Firm ID				Number of groups	= 31	
R-sq: within = 0.3472				Obs per group: min	= 10	
between = 0.4825				Avg	= 10.0	
overall = 0.4141				Max	= 10	
				F(6,273)	= 24.20	
corr(u_i, Xb) = 0.2873				Prob > F	= 0.0000	
Tax Av	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
F Size	.1418128	.037034	3.83	0.000	.0689043	.2147212
F Lev	.5308045	.1242307	4.27	0.000	.2862325	.7753765
Fin Tr	-.6977089	.1828732	-3.82	0.000	-1.05773	-.3376878
Govn Tr	-.4891752	.1731202	-2.83	0.005	-.8299956	-.1483549
Socl Tr	.5246221	.2075933	2.53	0.012	.1159349	.9333093
Oper Tr	-.6110448	.1651147	-3.70	0.000	-.9361047	-.2859849
_cons	.6497982	.1774568	3.66	0.000	.3004405	.9991559
sigma_u	.31032016					
sigma_e	.20545565					
Rho	.69524342(fraction of variance due to u_i)					

F test that all u_i=0: F(30, 273) = 13.82 Prob > F = 0.0000

Source: Researcher (2020)

4.5.2.2 Random Effect

The random effect model estimates the coefficients based on the assumption that the individual or group effects are uncorrelated with other independent variables. The regression results of the direct effect for the random effect model are shown in Table 4.15. The findings indicate that corporate transparency explains 33.85% variation (as shown by the R- squared) in tax avoidance for the firms listed at the Nairobi Securities Exchange. The results show that financial transparency had a strong negative but significant effect on tax avoidance ($\beta = -0.600, \rho<0.05$). This shows that an increase in financial transparency by one unit leads to a decrease in tax avoidance by 0.6 units. Additionally, the results indicate that governance transparency ($\beta = -0.508, \rho<0.05$) had a weak negative but significant relation or effect on tax avoidance. The implication is that an increase in one unit of governance transparency leads to a decrease in tax avoidance by 0.508 units.

The results further showed that operational transparency ($\beta = -0.775, \rho<0.05$) had a very strong negative and significant effect on tax avoidance. An increase in operational transparency by 1 unit leads to a decrease in tax avoidance of 0.775 units. Finally, social transparency had a positive and significant effect on tax avoidance. ($\beta = 0.550, \rho<0.05$). Noticeably, a one percent increase in social transparency triggered an increase in tax avoidance by 0.55 units. The null hypothesis both under the fixed effect and random effect were rejected and it was concluded that corporate transparency had significant effects on tax avoidance.

Table 4.17: Regressing Tax Avoidance on Corporate Transparency Random- Effect

Random-effects GLS regression	Number of obs	=	310
Group variable: FirmID	Number of groups	=	31
R-sq: within = 0.3385	Obs per group: min	=	10
between = 0.6014	Avg	=	10.0
overall = 0.4919	Max	=	10
	Wald chi2(6)	=	175.32
corr(u_i, X) = 0 (assumed)	Prob > chi2	=	0.0000

Tax Av	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
F Size	.1941245	.0356827	3.83	0.000	.1241876	.2640614
F Lev	.3973615	.1164163	4.27	0.001	.1691898	.6255332
Fin Tr	-.5996926	.1868939	-3.82	0.001	-.965998	-.2333873
Govn Tr	-.5083042	.170562	-2.83	0.003	-.8425995	-.1740089
Socl Tr	.5501858	.1886166	2.53	0.004	.1805039	.9198676
Oper Tr	-.7747054	.1619004	-3.70	0.000	-1.092024	-.4573865
_cons	.6786465	.1789737	3.66	0.000	.3278645	1.029428
sigma_u	.21287427					
sigma_e	.20545565					
rho	.51772833(fraction of variance due to u_i)					

Source: Researcher (2020)

4.5.2.3 Hausman Test

Panel data is usually analyzed using either the fixed effect regression model or the random effect regression model, and the decision on which model to use is based on the results of the Hausman test. Hausman test is to choose between fixed effects and random effects. Following Bepari and Molik (2015), the study performed the Hausman test to determine whether a fixed or a random effect panel regression is the appropriate model to explain the relationship between variables and which should be used in the research study. The Hausman test has two hypotheses; the null hypothesis where the preferred model is random-effect and the alternative hypothesis supporting the fixed-effect model (Brooks 2019, Green 2008). The hypothesis for the test is as follows:

Null hypothesis (H_o): Random effect model is appropriate

Alternative (H_a): Fixed effect model is appropriate

According to Hausman (1978), if ρ-value is less than the alpha (in this study 0.05), then the null hypothesis (preferred model is random-effect) is rejected and therefore the alternative hypothesis (fixed-effect model) should not be rejected. Based on the results in Table 4.16 (*(chi^2 (6) = 41.58 and Prob >chi2= 0.0000< 0.05*), the null hypothesis was rejected (that the difference in coefficients is systematic) because the ρ- value = 0.0000 of the chi-square was less than 0.05. Accordingly, the Hausman test results suggest that tax avoidance should be analyzed using the fixed effect panel regressions model. The results indicated that fixed effect panel regressions are an appropriate model for use in this study. If the robust Hausman test confirms the suitable model, then the strength of the model is checked using the F statistic and the R^2 in the model results (Injeni *et al.*, 2019).

Table 4.18: Hausman Test – Direct Effect

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt (diag (V_b-V_B))
	fe	re	Difference	S.E.
Firm Size	.1418128	.1941245	-.0523117	.0099124
Firm Leverage	.5308045	.3973615	.133443	.043365
Financial Transparency	-.6977089	-.5996926	-.0980162	.
Governance Transparency	-.4891752	-.5083042	.019129	.0296518
Social Transparency	.5246221	.5501858	-.0255637	.0867107
Operational Transparency	-.6110448	-.7747054	.1636606	.032421

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic
$chi^2(6)$ = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 41.58
Prob>chi2 = 0.0000
(V_b-V_B is not positive definite)

Source: Researcher (2020)

4.5.3 Effect of Cash Holding on Tax Avoidance

This effect entails examining the influence of the moderator variable (cash holding) on the dependent variable (tax avoidance) as depicted in model 3. The regression results for the fixed effect and random effect estimation model are shown in Table 4.17 and Table 4.18 respectively. The results for fixed effects (Table 4.17) revealed that cash holding explained 38.39% (R square change = 0.3839) of the variance in tax avoidance. The results further show that cash holding ($\beta = 0.121, \rho<0.05$) had a weak positive but significant effect on tax avoidance. This means that a one-unit increase in cash holding led to a positive increase of 0.121 units in tax avoidance.

Table 4.19: Regressing Tax Avoidance on Cash Holding- Fixed Effects

Fixed-effects (within) regression			Number of obs	= 310
Group variable: Firm ID			Number of groups	= 31
R-sq: within = 0.3839			Obs per group: min	= 10
between = 0.5489			Avg	= 10.0
overall = 0.4595			Max	= 10
			F(7,272)	= 24.21
corr(u_i, Xb) = 0.3331			Prob > F	= 0.0000
Tax Av	Coef.	Std. Err.	t P>t	[95% Conf. Interval]
F Size	.1400607	.036045	3.89 0.000	.0690981 .2110233
F Lev	.4948487	.1212334	4.08 0.000	.2561736 .7335238
Fin Tr	-.5690843	.1808181	-3.15 0.002	-.9250652 -.2131035
Govn Tr	-.4518934	.1687388	-2.68 0.008	-.7840936 -.1196933
Socl Tr	.4599125	.2026724	2.27 0.024	.0609064 .8589186
Oper Tr	-.5765649	.1609214	-3.58 0.000	-.8933747 -.2597551
Cash H	.1210318	.0300444	4.03 0.000	.0618827 .1801808
_cons	.6841623	.1729158	3.96 0.000	.3437388 1.024586
sigma_u	.30124447			
sigma_e	.19995447			
rho	.69416521(fraction of variance due to u_i)			

Ftest that allu_i=0 F(30, 272 = 13.4 Prob > F = 0.0000

Source: Researcher (2020)

The results for random effects (Table 4.18) revealed that cash holding explained 37.6% (R square change = 0.3760) of the variance in tax avoidance. The results further show that cash holding had a weak positive but significant effect on tax avoidance ($\beta = 0.130$, $\rho<0.05$). This shows that an increase in cash holding by one unit leads to an increase in tax avoidance by 0.13 units.

Table 4.20: Regressing Tax Avoidance on Cash Holding- Random Effects

Random-effects GLS regression	Number of obs	= 310
Group variable: Firm ID	Number of groups	= 31

R-sq: within = 0.3760		Obs per group: min	= 10
between = 0.6535		Avg	= 10.0
overall = 0.5306		Max	= 10
		Wald chi2(7)	= 203.44
corr(u_i, X) = 0 (assumed)		Prob > chi2	= 0.0000

Tax Av	Coef.	Std. Err.	Z	P>|z|	[95% Conf. Interval]	
F Size	.191717	.0347071	5.52	0.000	.1236923	.2597417
F Lev	.3668922	.1134832	3.23	0.001	.1444692	.5893152
Fin Tr	-.469045	.1842693	-2.25	0.011	-.8302062	-.1078839
Gov Tr	-.468449	.1661187	-2.82	0.005	-.7940358	-.1428624
Socl Tr	.4874362	.1841041	2.65	0.008	.1265988	.8482737
Oper Tr	.7307507	.1577583	-4.63	0.000	-1.039951	-.42155
Cash H	.130827	.0305972	4.28	0.000	.0708575	.1907965
_cons	.7163942	.1743012	4.11	0.000	.37477	1.058018
sigma_u	.20815141					
sigma_e	.19995447					
rho	..52007724 (fraction of variance due to u_i)					

Source: Researcher (2020)

The results of the Hausman test (*(chi2 (2) = 40.09 and Prob >chi2= 0.0001< 0.05*) presented in Table 4.19 supported the use of fixed-effect regression model. This is because the test value of Chi-square (chi^2) is higher than the critical value.

Table 4.21: Hausman Test Results for Moderator Variable (Cash Holding)

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt (diag (V_b-V_B))
	Fe	re	Difference	S.E.
F Size	.1400607	.191717	-.0516563	.0097292
F Lev	.4948487	.3668922	.1279565	.0426509
Fin Tr	-.5690843	-.469045	-.1000393	.
Govn Tr	-.4518934	-.4684491	.0165557	.0296204
Socl Tr	.4599125	.4874362	-.0275237	.0847454
Oper Tr	-.5765649	-.7307507	.1541858	.0317492
Cash H	.1210318	.130827	-.0097952	.
	b = consistent under Ho and Ha; obtained from xtreg B = inconsistent under Ha, efficient under Ho; obtained from xtreg Test: Ho: difference in coefficients not systematic chi2(7) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 40.31 Prob>chi2 = 0.0000 (V_b-V_B is not positive definite)			

Source: Researcher (2020)

4.5.4 Regression Results for Moderated Effects

Testing the moderation effect entails examining the influence of the moderator variable (cash holding) on the relationship between the independent variable (corporate transparency) and the dependent variable (tax avoidance). Bolin (2014) posits that moderation is the magnitude of change in the causal relationship between two variables caused by a third variable. Moderation is present if the amount of variance accounted for with the interaction is significantly more than the variance without the interaction and the coefficient of the interaction term is different from zero.

Objective five of the study sought to assess the moderating effect of cash holding on the relationship between corporate transparency and tax avoidance for the firms listed in the Nairobi Securities exchange. The moderating effect was therefore examined hierarchically for each of the four dimensions of corporate transparency (financial transparency, governance transparency, social transparency, and operational transparency) and tax avoidance. The regression results of regression models 4, 5, 6, and 7 are presented in Table 4.23.

In model 4, the dependent variable (tax avoidance) was regressed against the control variables (firm size and firm leverage), the independent variables (financial transparency, governance transparency, social transparency, and operational transparency), the moderator (cash holding), and the first interaction (financial transparency* cash holding). These hypotheses were tested using the results of fixed-effect regression as supported by the results of the Hausman test (*Prob >chi2= 0.0001< 0.05*) for model 4, model 5, model 6, and model 7. The regression results presented in Table 4.17 (without an interaction) had an R -squared of 0.3839, F (30, 272) = 13.4, Prob > F = 0.0000 while with an interaction term, the results changed (R^2 = 0.4013, F (30, 271) = 13.06, Prob > F = 0.0000). Further, this interaction term had a weak positive but significant effect on tax avoidance as evidenced by the results ($\beta = 0.131, \rho<0.05$). Basing on the two models, the R^2 changed by 1.74% as shown in Table 4.23.

In model 5, the dependent variable (tax avoidance) was regressed against the control variables (firm size and firm leverage), the independent variables (financial transparency, governance transparency, social transparency, and operational transparency), the

moderator(cash holding), the first interaction and the second interaction (governance transparency* cash holding). The regression results (without this interaction) had an R^2 = 0.4013, F (30, 271) = 13.06, Prob > F = 0.0000 while with an interaction term, the results changed (R^2 = 0.4192, F (30, 270) = 13.22, Prob > F = 0.0000). This shows that the R^2 changed by 1.79% as shown in Table 4.23. Moreover, the interaction term had a negative but significant effect on tax avoidance as evidenced by the results ($\beta = -0.222, \rho<0.05$).

In model 6, the dependent variable (tax avoidance) was regressed against the control variables (firm size and firm leverage), the independent variables (financial transparency, governance transparency, social transparency, and operational transparency), the moderator(cash holding), the first interaction, the second interaction and the third interaction (social transparency* cash holding). The regression results (without this interaction) had an R^2 = 0.4192, F (30, 270) = 13.22, Prob > F = 0.0000 while with this interaction term, the results changed to (R^2 = 0.4277, F (30, 269) = 13.45, Prob > F = 0.0000). This implies that the R^2 increased by 0.85% as shown in Table 4.23 The interaction term had a weak positive but significant effect on tax avoidance as evidenced by the results ($\beta = 0.093, \rho<0.05$).

In the last model number 7, the dependent variable, control variables, independent variables, and the interactions were regressed. The regression results (without this interaction) had an R^2 = 0.4277, F (30, 269) = 13.45, Prob > F = 0.0000 while with this interaction term, the results changed to (R^2 = 0.4365, F (30, 268) = 13.69, Prob > F = 0.0000). This implies that the R^2 increased by 0.88% as shown in Table 4.23. The overall change as a result of moderation is 5.26%. This is represented in the change of R^2 from an R^2 = 0.3839 model 3 to an R^2 = 0.4365 model 7. The overall regression results for model

7 both fixed effects and random effect together with the Hausman test are shown below in tables 4.20, 4,21, and 4.22 respectively.

The results for fixed effects (Table 4.20) revealed that operational transparency had a negative but significant effect on tax avoidance (β= *-0.136,* ρ*<0.05*). This shows that an increase in cash holding by one unit leads to a decrease in tax avoidance by 0.136 units.

Table 4.22: Regressing Results of Tax Avoidance on Cash Holding and Corporate Transparency -Fixed Effects

Fixed-effects GLS regression				Number of obs	=	310
Group variable: FirmID				Number of groups	=	31
R-sq: within = 0.4365				Obs per group: min	=	10
between = 0.5614				Avg	=	10.0
overall = 0.4752				Max	=	10
				F(11,268)	=	18.87
Corr (u_i, X) = 0 0.3334				Prob > F	=	0.0000
Tax Av	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
F Size	.1303676	.03517118	3.71	0.000	.0611194	.1996158
F Lev	.4888013	.11714	4.17	0.000	.2581696	.7194331
Fin Tr	-.6967471	.1769752	-3.94	0.000	-1.045186	-.3483085
Govn Tr	-.3344012	.1681074	-1.99	0.048	-.6653802	-.0034221
Socl Tr	.4368306	.1955698	2.23	0.026	.0517821	.8218791
Oper Tr	-.512563	.156407	-3.28	0.001	-.8205057	-.2046203
Cash H	.1003253	.0317703	3.16	0.002	.0377741	.1628765
Fin_Tax	.2673447	.07673382	3.48	0.001	.1162582	.4184312
Gov_Tax	-.1676037	.0805149	-2.08	0.038	-.3261259	-.0090815
Soc_Tax	.0988827	.0463272	2.13	0.034	-.0076712	.1900942
Ope_Tax	-.1357155	.0663708	-2.04	0.042	-.26639	-.0050411
_cons	.6380291	.1685852	3.78	0.000	.3061094	.9699489
sigma_u	.30064948					
sigma_e	.19265931					
rho	.70889912 (fraction of variance due to u_i)					

Ftest that all u_i=0: F (30,268) = 13.69 Prob > F = 0.0000

Source: Researcher (2020)

The results for random effects (Table 4.21) show that operational transparency had a negative but significant effect on tax avoidance (β = *-0.118,* ρ*<0.05*). This shows that an increase in operational transparency by one unit leads to a decrease in tax avoidance by 0.118 units.

Table 4.23: Regression Results of Tax Avoidance on Cash Holding and Corporate Transparency –Random Effect

Random-effects GLS regression				Number of obs	=	310
Group variable: Firm ID				Number of groups	=	31
R-sq: within = 0.4284				Obs per group: min	=	10
between = 0.6735				avg	=	10.0
overall = 0.5520				max	=	10
				Wald chi2(11)	=	239.53
Corr (u_i, X) = 0 (assumed)				Prob > chi2	=	0.0000
Tax Av	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]
F Size	.1815105	.0339867	5.34	0.000	.1148978	.2481233
F Lev	.3624912	.1103323	3.29	0.001	.1462439	.5787385
Fin Tr	-.6022365	.1805615	-3.34	0.001	-.9561304	-.2483425
Govn Tr	-.3611889	.1663511	-2.17	0.030	-.6872311	-.0351468
Socl Tr	.4613989	.1790628	2.58	0.010	.1104423	.8123555
Oper Tr	-.6561743	.1538726	-4.26	0.000	-.957759	-.3545896
Cash H	.1081889	.0324236	3.34	0.001	.0446398	.171738
Fin_Tax	.2874074	.078726	3.65	0.000	.1331073	.4417074
Gov_Tax	-.1841106	.0824963	-2.23	0.026	-.3458003	-.0224209
Soc_Tax	.0834741	.0474758	1.76	0.079	-.0095768	.1765251
Ope_Tax	-.118268	.0679555	-1.74	0.082	-.2514584	.0149224
_cons	.6783034	.1706766	3.97	0.000	.3437835	1.012823
sigma_u	.20831571					
sigma_e	.19265931					
rho	.53898638(fraction of variance due to u_i)					

Source: Researcher (2020)

The results of the Hausman test (*(chi2 (2) = 37.58 and Prob >chi2= 0.0001< 0.05*) presented in Table 4.22 supported the use of fixed effect regression model.

Table 4.24: Testing Operational Transparency, Cash Holding and Tax Avoidance

	---- Coefficients ----			
	(b)	(B)	**(b-B)**	sqrt (diag (V_b-V_B))
	fe	re	Difference	S.E.
F Size	.1303676	.1815105	-.0511429	.0090531
F Lev	.4888013	.3624912	.1263101	.0393519
Fin Tr	-.6967471	-.6022365	-.0945107	.
Govn Tr	-.3344012	-.3611889	.0267878	.0242363
Socl Tr	.4368306	.4613989	-.0245683	.0786387
Oper Tr	-.512563	-.6561743	.1436113	.0280423
Cash H	.1003253	.1081889	-.0078636	.
Fin_Tax	.2673447	.2874074	-.0200627	.
Gov_Tax	-.1676037	-.1841106	.0165069	.
Soc_Tax	.0988827	.0834741	.0154085	.
Ope_Tax	-.1357155	-.118268	-.0174475	.

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic
(chi2 (11) = (b-B)'[(V_b-V_B) ^(-1)](b-B)
= 37.58

Prob>chi2 = 0.0001 (V_b-V_B is not positive definite)

Source: Researcher (2020)

4.6 Testing of Hypothesis

The study had two sets of hypotheses. The first set of hypotheses Ho_1, Ho_2, Ho_3, and Ho_4 tested the direct effect of corporate transparency on tax avoidance. The second set tested hypotheses Ho_{5a}, Ho_{5b}, Ho_{5c}, and Ho_{5d} the moderation effect of cash holding on tax avoidance.

4.6.1 Testing Effects for the Direct Effect

Based on the Hausman test results (Table 4.16), the study hypotheses were tested using the fixed-effect model. The overall explanatory power of the model as evidenced by the results in (Table 4.14), R-square of 0.4141 reveal a moderate strength of the relationship between the model and the study variables, indicating that approximately 41.4% of the variation in the output can be explained by the independent variables in the model. Furthermore, this relationship is statistically significant since the F value (= 24.20, $p<0.000$) of the model is significant at the 0.05 level. The specific hypotheses are:

> Hypothesis 1 (H_{O1}) stated that: *Financial transparency has no significant effect on tax avoidance for firms listed in the Nairobi Securities Exchange.*

The study findings shown in Table 4.16 revealed that financial transparency was a negative and significant predictor of tax avoidance ($\beta_1 = -0.698$ and ρ-value<0.05). This signifies that every unit of increase in the standard deviations for the financial transparency variable was likely to lead to a 0.698 decrease in the standard deviation of tax avoidance, other measures being held constant. Thus, the hypothesis stating that financial transparency had no significant effect on tax avoidance in the context of firms listed at the Nairobi Securities Exchange in Kenya was therefore not supported. The results are similar to those of Crabtree and Kubick, (2014) who found that tax avoidance was high for those firms that do not observe financial reporting timeliness.

Furthermore, the results are in line with those of Balakrishnan *et al.*, (2012), who found a negative association between transparency and tax avoidance for a US-only setting. In their paper, Balakrishnan *et al.,* (2012) argue that the negative association may be due to increased organizational complexity leading to greater tax avoidance. In contrast, Wang

(2010) found that greater transparency is associated with higher levels of tax avoidance. Wang (2010) argues that this positive relation between transparency and tax avoidance is a result of a firm's obtaining value from tax avoidance when transparency is high.

Hypothesis 2 (H_{O2}) postulated that: *Governance transparency has no significant effect on tax avoidance for firms listed in the Nairobi Securities Exchange.*

The study revealed that governance transparency was a negative and significant predictor of tax avoidance ($\beta = -0.489$, $p<0.05$). This signifies that every unit of increase in the standard deviations for the governance transparency variable was likely to lead to a 0.489 decrease in the standard deviation of tax avoidance, other measures being held constant. Thus, the hypothesis stating that governance transparency had no significant effect on tax avoidance in the context of firms listed at the Nairobi Securities Exchange was therefore not supported. Desai and Dharmapala (2006) found similar results in their study that governance transparency reduces tax avoidance practices. Furthermore, Guay, Samuels, and Taylor (2016) who investigated whether corporate transparency is associated with tax aggressiveness found that managers are reluctant to publicly reveal much information as this could lead to more tax queries. They, therefore, disclose less information and engage more in tax avoidance activities.

Hypothesis 3 (H_{O3}) suggested that: *Social transparency had no significant effect on tax avoidance for firms listed in the Nairobi Securities Exchange.*

The result of the multiple regression revealed that the effect of social transparency on tax avoidance was positive and significant ($\beta = 0.525$, $p <0.05$). Therefore the null hypothesis stating that social transparency had no significant effect on the tax avoidance for firms

listed in the Nairobi Securities Exchange was not supported. The regression coefficient value of 0.525 implies that social transparency had a positive effect on tax avoidance. A unit increase in social transparency led to a 0.525 unit increase in tax avoidance. The results are similar to those of Lanis & Richardson (2013) who found that firms that produce more CSR disclosures actively violate the tax regulations to cover up their opportunistic acts. These results are also similar to those of Hoi *et al.*, (2013) who studied CSR and tax avoidance practices of 2,620 US firms from 2003 to 2009. They found out that those firms with excessive irresponsible CSR activities are more aggressive in avoiding taxes. (Amidu *et al.*, 2016). On the contrary, the results of the study by Watson's (2011) results show that socially irresponsible firms have larger total Unrecognized Tax benefits (UTBs) than socially conscious firms, indicating greater tax aggressiveness. This evidence suggests that CSR activities reduce the tax avoidance practices of firms.

Hypothesis 4 (H_{O4}) stated that: *Operational transparency has no significant effect on tax avoidance for firms listed in the Nairobi Securities Exchange.*

The regression results in Table 4.14 illustrates that operational transparency had a negative and significant effect on tax avoidance (β_3 = -0.611, $\rho<0.05$). The results indicated that a one-unit increase in operational transparency caused a 0.611 unit decrease in tax avoidance. The results are similar to those of Aksu and Kosedag (2006) and Ozbay, 2009 which indicated that there was an inverse relationship between tax avoidance and operational transparency. The results are however contrary to those of Linsmeier, *et al.*, (2002) who in their study of the impact of operational disclosure on tax avoidance found that tax avoidance and operational transparency have a positive correlation.

4.6.2 Testing Hypothesis for Moderating Effect

Based on the Hausman test results (Table 4.22), the study hypotheses for testing the moderating effect used the fixed-effect model. Accordingly, four sub-hypotheses were formulated to show moderation effects on the four measures of corporate transparency (financial transparency, governance transparency, social transparency, and operational transparency). These hypotheses were tested by regressing tax avoidance on each corporate transparency dimension while moderating for the cash holding. Results in Table 4.20 shows the full model of the study as conceptualized in the conceptual framework. As shown, the findings in model 7 indicate an R squared of 0.437, which indicates that 43.7% of the variation in tax avoidance can be explained jointly by financial transparency, governance transparency, social transparency, and operational transparency, while the remaining percentage can be accounted by other factors. An F-statistic of 18.87 with a p-value of 0.000, indicate a joint significant contribution of the study variables.

On the control variables, firm size had a beta coefficient of $\beta = 0.130$ and a standard error of 0.035 with a $\rho<0.05$). Firm Leverage had a beta coefficient of $\beta= 0.489$ and a standard error of 0.117 with a. $\rho<0.05$). The controls jointly explained an R^2 of 0.175 (17.5%) on the overall model. Thus, the control variables had a positive and significant effect on firm tax avoidance. The role of control variables is to reduce the effect of the confounding variables not testing hypotheses.

Hypothesis 5 (H_{O5a}) stated that:

$H_{O5a:}$ *Cash holding had no moderating effect on the relationship between financial transparency and tax avoidance for firms listed in the Nairobi Securities Exchange.*

The results ($\beta_{5a} = 0.267$; $\rho < 0.05$) indicated a positive and significant moderating effect of cash holding on the relationship between financial transparency and tax avoidance. The empirical results suggested that a one percent change in cash holding led to a 26.7% increase in the firm's tax avoidance. Hence the hypothesis H_{o5a} was rejected. This implies that cash holding enhances the relationship between financial transparency and tax avoidance.

Further, Hypothesis 5 (H_{O5b}) stated that:

Cash holding had no moderating effect on the relationship between governance transparency and tax avoidance for firms listed in the Nairobi Securities Exchange.

The results indicated a negative and significant moderating effect of cash holding on the relationship between governance transparency and tax avoidance for the firms listed at the Nairobi Securities Exchange ($\beta_{5b} = -0.167$; $\rho < 0.05$). Hence the hypothesis H_{O5b} stating that cash holding does not significantly moderate the relationship between governance transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange was rejected. This, therefore, shows that with the increase in cash holding, the relationship between governance transparency and tax avoidance is weakened by 16.7%.

Hypothesis 5 (H_{O5c}) stated that:

> *Cash holding had no moderating effect on the relationship between social transparency and tax avoidance for firms listed in the Nairobi Securities Exchange*

The results further showed that cash holding a positive and significant moderating effect on the relationship between social transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange (β_{5c} = 0.099; ρ <0.05). Therefore the hypothesis that cash holding does not significantly moderate the relationship between social transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange was rejected. An increase in cash holding by one percent caused an increase in tax avoidance by 9.9%

Finally, Hypothesis 5 (H_{O5d}) stated that:

> *Cash holding had no moderating effect on the relationship between operational transparency and tax avoidance for firms listed in the Nairobi Securities Exchange.*

The results showed a negative and significant moderating effect of cash holding and the relationship between operational transparency and tax avoidance among firms listed in the Nairobi Securities Exchange (β_{5d} = -0.136; ρ <0.05). The hypothesis that cash holding does not significantly moderate the relationship between operational transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange was rejected. Results suggested that a one percent change in cash holding led to a drop in the firm's tax avoidance by 13.6%.

Table 4.25: Hierarchical Logistic Regression Model for Moderation Effect of Cash Holding between predictors and DV

Variables (Logs)	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**	**Model 7**
Constant	-0.331**	0.650**	0.684**	0.700**	0.678**	0.686**	0.638**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Firm Size	0.214**	0.142**	0.140**	0.141**	0.143**	0.142**	0.130**
	(0.396)	(0.370)	(0.360)	(0.356)	(0.035)	(0.035)	(0.035)
Firm Leverage	0.689**	0.531**	0.495**	0.505**	0.486**	0.494**	0.489**
	(0.136)	(0.124)	(0.121)	(0.120)	(0.118)	(0.118)	(0.117)
Financial		-0.698**	-0.569**	-0.583**	-0.660**	-0.691**	-0.697**
transparency		(0.183)	(0.181)	(0.179)	(0.178)	(0.178)	(0.177)
Governance		-0.489**	-0.452**	-0.485**	-0.382**	-0.340**	-0.344**
transparency		(0.173)	(0.166)	(0.167)	(0.169)	(0.169)	(0.168)
Social transparency		0.525**	0.460**	0.463**	0.441**	0.428**	0.436**
		(0.208)	(0.203)	(0.200)	(0.198)	(0.197)	(0.196)
Operational		-0.611**	-0.577**	-0.536**	-0.551**	-0.538**	-0.513**
transparency		(0.165)	(0.161)	(0.160)	(0.158)	(0.157)	(0.156)
Cash holding			0.121**	0.869**	0.099**	0.095**	0.100**
			(0.030)	(0.321)	0.032	(0.032)	(0.032)
Financial T × Cash				0.131**	0.263**	0.205**	0.267**
hold				(0.047)	(0.065)	(0.071)	(0.077)
Governan T ×					-0.222**	-0.222**	-0.167**
Cash hold					(0.077)	(0.077)	(0.080)
Social T × Cash						0.093**	0.099**
hold						(0.046)	(0.046)
Operation T ×							-0.136**
Cash hold							(0.066)
R-squared	0.175	0.347	0.384	0.401	0.419	0.428	0.437
Δ R-squared		0.172	0.037	0.017	0.018	0.009	0.009
Hausman Test	0.001	0.001	0.001	0.001	0.001	0.001	0.001
F- Value	29.41	24.2	24.21	22.71	21.65	20.10	18.87
Probability	0.000	0.000	0.000	0.000	0.000	0.000	0.000

** means significance at 5% significance level

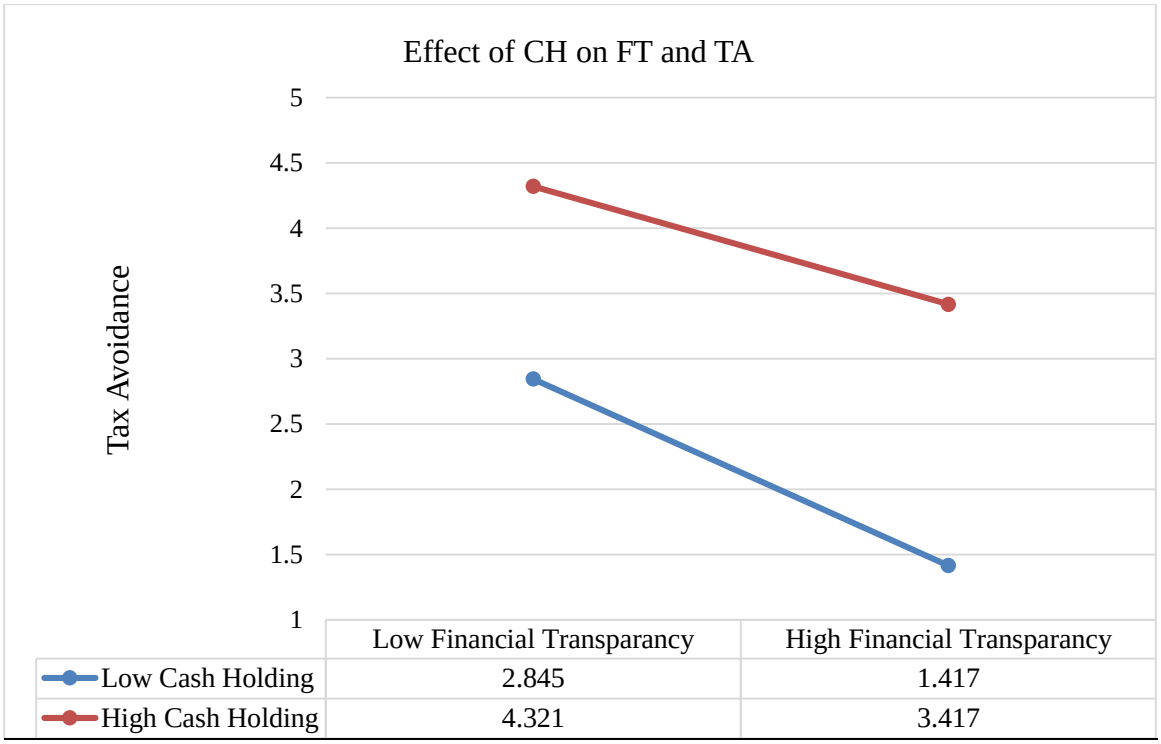
(Value in parenthesis is the standard error) **Source: Researcher (2020)**

4.6.3 Nature of Moderation

Moderation effects are difficult to interpret without a graph (Kwan and Chan, 2018). Graphs help to show the effect of the independent variable at different values of the moderator. Cohen and Cohen (1983) suggested a conventional way of plotting modgraphs which is to use three values of the moderator: the mean, the value one standard deviation above, and the value one standard deviation below the mean, and this has been popularized by Aiken and West (1991). Furthermore, they indicated that it is insufficient to conclude there is interaction without probing the nature of interaction at different levels of moderation that is, low, medium, and high levels.

The study used modgraph as recommended by Jose, (2008) to determine whether the cash holding had buffering, enhancing, or antagonistic effects on the relationship between corporate transparency and tax avoidance. The findings in figure 4.1 show that at lower levels of financial transparency, tax avoidance is high for firms with high cash holding and low for firms with low cash holding. As financial transparency increases, tax avoidances reduce at a higher rate for firms with low levels of cash holding compared to firms with high cash holding. This is shown by the steepness of the slopes and also by the statistics. Therefore the hypothesis that Cash holding had no moderating effect on the relationship between financial transparency and tax avoidance for firms listed in the Nairobi Securities Exchange was not supported and it was concluded that cash holding is a buffering moderator.

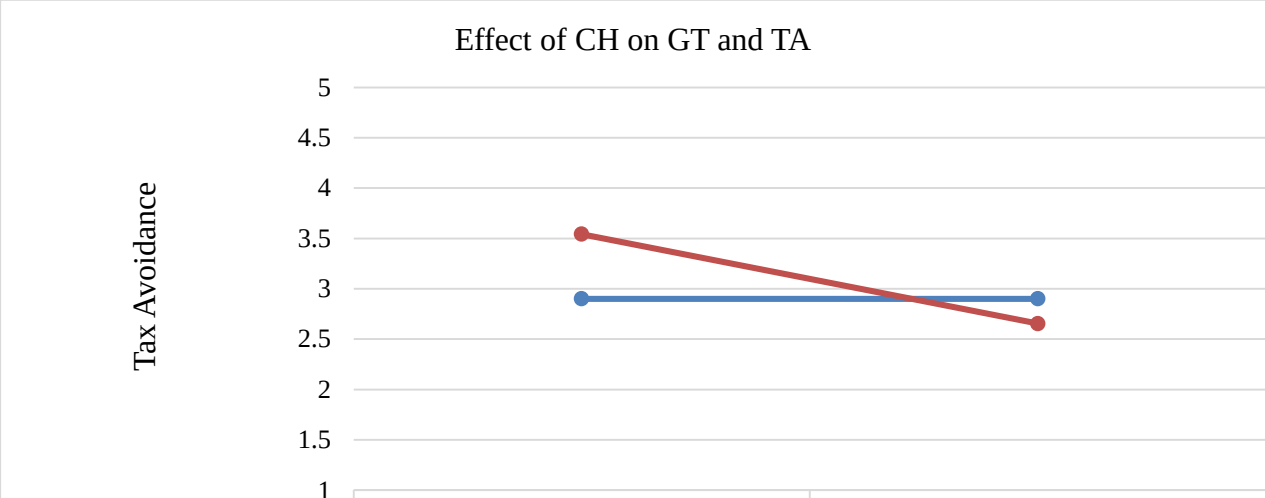
Figure 4.1: Modgraph for the moderating effect of Cash holding on the relationship between Financial Transparency and Tax Avoidance.



Source: Researcher (2020)

The interaction plot as shown in figure 4.2 displays a buffering effect of cash holding on the relationship between governance transparency and tax avoidance. At low levels of governance transparency tax avoidance is higher for firms with high levels of cash holding as compared to firms with low levels of cash holding. Further, at a high level of governance transparency tax avoidance reduces for firms with high levels of cash holding whereas tax avoidance remains constant for firms with low levels of cash holding. This is indicated by the gradient of the slopes and the statistics as shown in Figure 4.2 below. Therefore the hypothesis Cash holding had no moderating effect on the relationship between governance transparency and tax avoidance for firms listed in the Nairobi Securities Exchange was rejected and it was concluded that cash holding is a buffering moderator in this case.

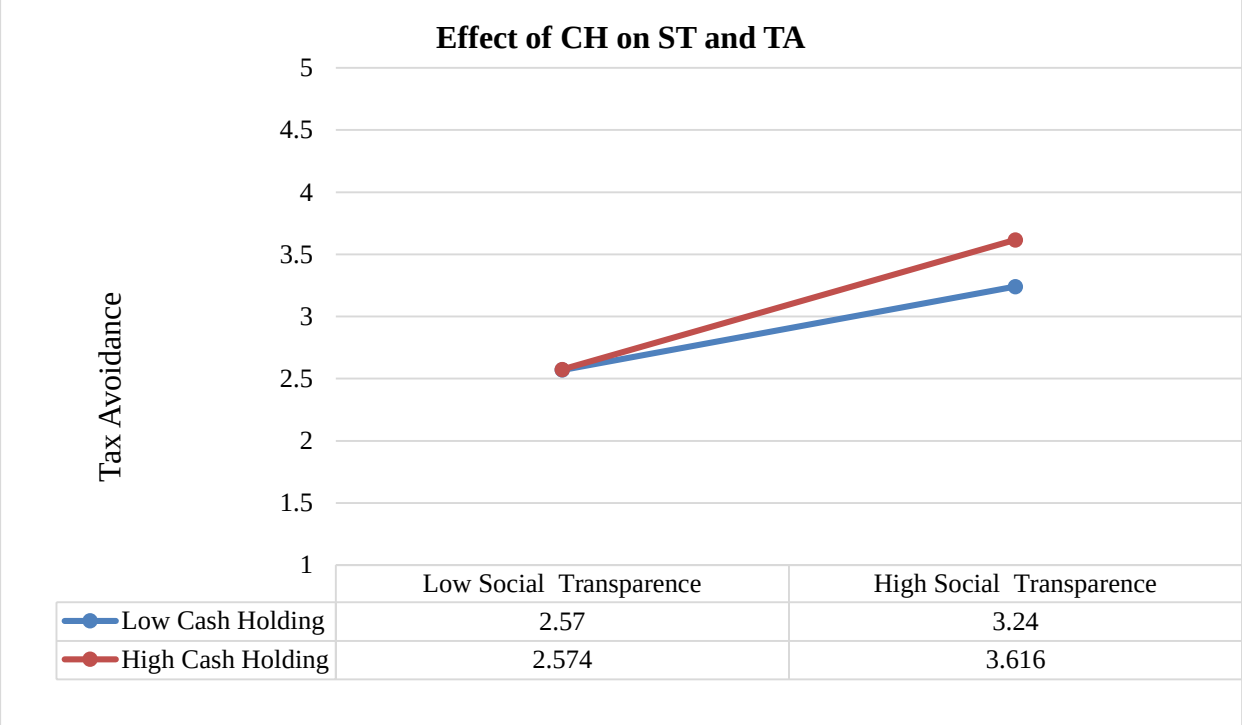
Figure 4.2: Modgraph for the moderating effect of Cash holding on the relationship between Governance Transparency and Tax Avoidance.



Source: Researcher (2020)

Cash holding has an enhancing effect on social transparency and tax avoidance as shown in Figure 4.3. At low levels of social transparency, tax avoidance is low for all levels of cash holding. As social transparency increases, tax avoidance increases for all levels of cash holding. However, tax avoidance increases more for firms with high cash holding compared to those firms with low cash holding. Therefore the hypothesis that Cash holding had no moderating effect on the relationship between social transparency and tax avoidance for firms listed in the Nairobi Securities Exchange was not supported and it was concluded that cash holding is an enhancing moderator (strengthens the relationship).

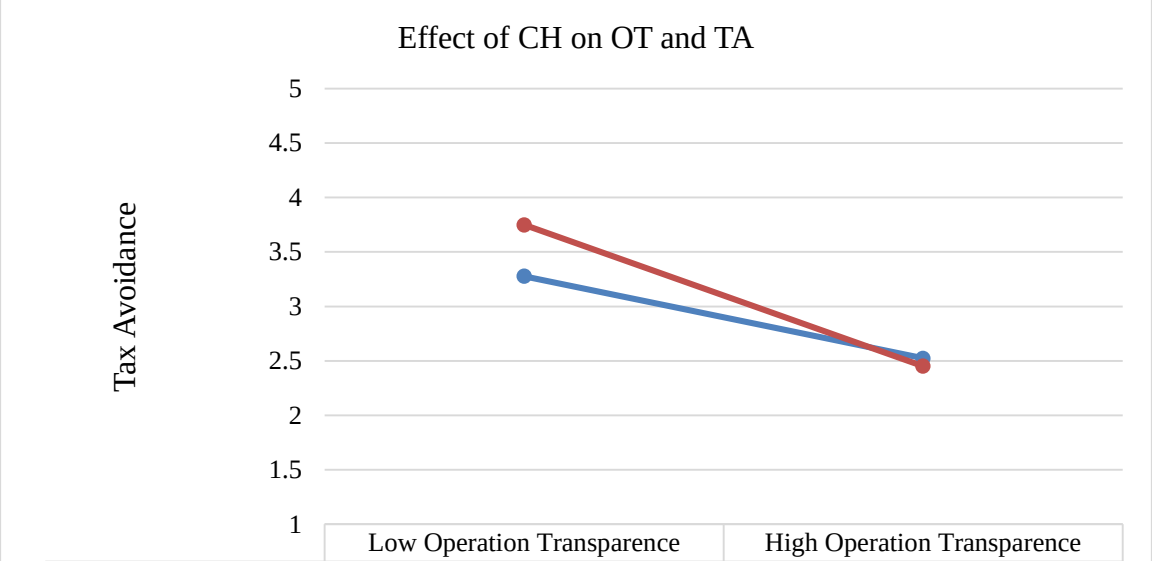
Figure 4.3: Modgraph for the moderating effect of Cash holding on the relationship between Social Transparency and Tax Avoidance.



Source: Researcher (2020)

Finally, the interaction plot as shown in Figure 4.4 indicates that at lower levels of operational transparency, tax avoidance is higher for firms with high cash holding as compared to firms with low cash holding. At a higher level of operational transparency, tax avoidance reduces both for firms with high cash holding as well as for firms with low cash holding. However, the change in the level of tax avoidance is high for firms with high levels of cash holding compared to those firms with low cash holding. Firms with low levels of cash holding end up avoiding more tax compared to firms with high levels of cash holding. Therefore, the hypothesis that Cash holding had no moderating effect on the relationship between operational transparency and tax avoidance for firms listed in the Nairobi Securities Exchange was not supported and it was concluded that cash holding is an antagonistic moderator.

Figure 4.4: Modgraph for the moderating effect of Cash holding on the relationship between Operational Transparency and Tax Avoidance.



	Low Operation Transparence	High Operation Transparence
Low Cash Holding	3.277	2.523
High Cash Holding	3.749	2.451

Source: Researcher (2020)

4.7 Chapter Summary

This chapter reports the results of the descriptive statistics, the diagnostic tests, correlation analysis, regression analysis, and moderation. Diagnostic tests were carried out to test the assumptions of multiple regressions. The assumption of normality was tested through Jarque-Bera and Shapiro Wilk tests and the results confirmed that the data was normal and thus suitable for further analysis.

Multicollinearity was tested by the Variance Inflation Factor (VIF) and the test results showed that the research variables do not suffer from multicollinearity as the VIF was below the recommended 10 and the tolerance was more than 0.1. Additionally, the study applied Levin- Lin Chu, Harris Tzavalis, and Breitung test to check for stationarity on the balanced panel data. The results for the three tests indicated that there was no unit root in

the data as all the p- values were below the conventional significance level of 0.05. Homoskedasticity was tested through Breusch – Pagan and Cook – Weisberg tests, and the results indicated that (chi^2 (1) was *1.680, ρ-value of 0.1944* revealing that there was no heteroscedasticity in the data. The Wooldridge test ruled out the presence of autocorrelation since the *ρ-value was 0.0462* which is lower than *0.05*. The means of the untransformed data were; Tax Avoidance (0.225), financial transparency (6.931), governance transparency (8.223), social transparency (5.035), operational transparency (5.668), cash holding (0.059), firm size (6.917), and firm leverage (0.417).

Based on the results presented in Table 4.11, the control variables (firm size and firm leverage) had a positive and significant effect on tax avoidance (*β= 0.214, ρ<0.05*) and (*β= 0.689, ρ<0.05*) respectively. The results of the fixed effect analysis, Table 4.14, show that three of the components of the predictor variable (corporate transparency that is; financial transparency, governance transparency, and operational transparency had a negative and significant effect on the dependent variable (tax avoidance) while social transparency had a positive and significant effect on tax avoidance of the firms listed at the Nairobi Securities Exchange, at 5% level of significance.

Table 4. 26: Summary of Hypotheses and Findings

H_O	Hypothesis	Findings	Conclusion
H_{O1}	Financial transparency has no significant effect on tax avoidance for firms listed in the Nairobi Securities Exchange.	$\beta = -0.698$; $\rho = 0.0001 < 0.05$	Reject
H_{O2}	Governance transparency has no significant effect on tax avoidance firms listed in the Nairobi Securities Exchange.	$\beta = -0.489$; $\rho = 0.0001 < 0.05$	Reject
H_{O3}	Social transparency has no significant effect on tax avoidance firms listed in the Nairobi Securities Exchange.	$\beta = 0.525$; $\rho = 0.0001 < 0.05$	Reject
H_{O4}	Operational transparency has no significant effect on tax avoidance firms listed in the Nairobi Securities Exchange.	$\beta = -0.611$; $\rho = 0.0001 < 0.05$	Reject
H_{O5a}	Cash holding does not significantly moderate the relationship between financial transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange.	$\beta = 0.131$; $\rho = 0.0001 < 0.05$	Reject
H_{O5b}	Cash holding does not significantly moderate the relationship between governance transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange.	$\beta = -0.222$; $\rho = 0.0001 < 0.05$	Reject
H_{O5c}	Cash holding does not significantly moderate the relationship between social transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange.	$\beta = 0.093$; $\rho = 0.0001 < 0.05$	Reject
H_{O5d}	Cash holding does not significantly moderate the relationship between operational transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange.	$\beta = -0.136$; $\rho = 0.0001 < 0.05$	Reject

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Itroduction

The main objective of this chapter is to provide a summary of the findings, draw conclusions, and make necessary recommendations based on the quantitative analysis presented in chapter four. The results are compared with those of previous empirical studies and the existing theoretical literature. The conclusion relates directly to the specific objectives, while the recommendations are deducted from the conclusion and the findings. The chapter is structured in three sections: summaries of findings, conclusion, and recommendations of the study.

5.1 Summary of Findings

The study was informed by the growing empirical debate on corporate transparency and tax avoidance causality in the era of knowledge-based economies; and the increased appetite for tax avoidance by the listed firms in Kenya. The study's conclusions and recommendations are focused on addressing the purpose of the study which was to establish the moderating effect of cash holding on the relationship between corporate transparency and tax avoidance among firms listed at the Nairobi Securities Exchange. This section summarizes the findings based on the study's objectives. The first objective of the study was to investigate the effect of financial transparency on tax avoidance for the firms listed in the Nairobi Securities Exchange. The second objective of the study was to assess the effect of governance transparency on tax avoidance for the firms listed in the Nairobi Securities Exchange.

The third objective of the study was to examine the effect of operational transparency on tax avoidance for the firms listed in the Nairobi Securities Exchange. The fourth objective was to investigate the effect of social transparency on tax avoidance for the firms listed in the Nairobi Securities Exchange. The fifth objective was to investigate the moderating effect of Cash holding on the relationship between corporate transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange. The hypothesis was drawn from these objectives and tested. The findings established by the study are summarized below as follows.

5.1.1 Effect of Financial Transparency on Tax Avoidance

The first specific objective one sought to examine the effect of financial transparency on tax avoidance for the firms listed in the Nairobi Securities Exchange. The results of the fixed effect regression showed that financial transparency had a negative and statistically significant effect on tax avoidance ($\beta = -0698;\ \rho < 0.05$). The negative effect of financial transparency on tax avoidance was expected. This is because the disclosure items and procedures of financial information are strictly stipulated when a firm in the stock market prepares an annual report. The attempts by management to relay private financial information to investors would also result in an increase in information to all outside parties (other stakeholders) to the extent that this results in an increase in transparent, low-cost, publicly available information. This would result in management being less likely to engage in aggressive tax avoidance activities (Kerr, 2019).

The results are similar to those of Kerr, (2019); Balakrishnan *et al.*, (2012), who found a negative relationship between financial transparency and tax avoidance. These results imply that increased financial transparency reduces corporate tax avoidance. however, the results

contrast those of Wang (2010), who found that greater transparency is associated with higher levels of tax avoidance. This could be due to firms obtaining value from tax avoidance when financial transparency is high.

5.1.2 Effect of Governance Transparency on Tax Avoidance

The second objective sought to evaluate the effect of governance transparency on tax avoidance for the firms listed in the Nairobi Securities Exchange. The study found that governance transparency had a negative and significant effect on tax avoidance for the studied firms ($\beta = -0.489, \rho < 0.05$). The results are similar to those of Zeng, (2019) who found that, firms resident in countries with stronger country-level governance transparency engage less in tax avoidancepractices. Also similar is the results of a study by Lanis and Richardson's (2011) considered the effect of the board of directors' composition on tax aggressiveness. They found a negative and statistically significant association between outside board of directors and tax aggressiveness (avoidance). The results of the study by Hoseini, *et al.,* (2019) indicate that firms with a larger size of board of directors are associated with more tax avoidance. Additionally, female presence on the board of directors reduces the corporate tax avoidance.

Howver, the results contradict those of researcher like Barros & Sarmento (2020). The results of their study confirmed that frequency of board meetings and corporate tax avoidance are positively associated. Similarly, Robinson *et al.,* (2012), found that there is a positive relationship between audit committee financial expertise and tax planning. Moreover, results of the study by Jamei, (2017) indicated that there is no significant relationship between number of board members, managerial ownership, proportion of

on-duty members, institutional ownership (corporate governance transparency) and tax avoidance.

5.1.3 Effect of Social Transparency on Tax Avoidance

The third objective sought to evaluate the effect of social transparency on tax avoidance for the firms listed in the Nairobi Securities Exchange. The study found that social transparency had a positive and significant effect on tax avoidance for the studied firms ($\beta = 0.525, \rho < 0.05$). The motive(s) of a firm to engage in social activities is the desire to improve on its corporate image and profitability (Garst, *et al*., (2017) and also to positively affect the health, culture, economic, and social life of the communities within which they operate (Samet, & Jarboui 2017). The huge financial investments in social activities conflicts with the main objective of the firm which is the maximization of shareholders' wealth (Manchiraju, & Rajgopal, 2017). To meet the two conflicting objectives, firm managers are likely to engage in tax avoidance and this leads to the positive relationship between social transparency and tax avoidance. These findings are similar to those of previous studies by Hoi *et al*. (2013); Lanis & Richardson (2013) Davis; (2016) and Watson (2015) who also found a positive and significant relationship between CSR activities and tax avoidance. However, the findings of this study contradict those of Lanis & Richardson (2012), Lanis & Richardson (2015), and Ki (2012) who found that firms with higher CSR performance are less likely to engage in tax avoidance. Social transparency helps to enhance corporate value by raising a firm's reputation and credibility, suggesting a desirable corporate vision for social contribution. In particular, a firm's engagement in local communities may enhance its reputation among investors.

5.1.4 Effect of Operational Transparency on Tax Avoidance

The fourth objective sought to evaluate the effect of operational transparency on tax avoidance for the firms listed in the Nairobi Securities Exchange. The study found that operational transparency had a negative and significant effect on tax avoidance for the studied firms (β = *-0.611,* ρ< *0.05*). Ozbay, 2009; Aksu and Kosedag (2006) found similar results where there was an inverse relationship between operational transparency and tax avoidance. The evaluation items for operational transparency include information about the market and industry in which the firm is involved and the competitive situation in that same market and industry. However, the results of the study by Linsmeier, *et al.,* (2002) show contrary findings. They found out that operational transparency and tax avoidance have a positive correlation. This could be due to the fact that disclosing details about a firm's operation and competitiveness may change uncertainty into a risk for firm sustainability (Kim *et al.,* 2013). Consequently, a firm with a high level of operational transparency may not attract potential investors due to exposed management and operations risks through its disclosure practices.

5.1.5 Moderated Effect of Cash Holding on Tax Avoidance

The study began by investigating whether cash holding had a moderating effect on the relationship between financial transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange. The results shown in Model 4 indicated cash holding significantly moderated the relationship between financial transparency and tax avoidance (β=*0.131* ρ<*0.05*). Further, the study investigated whether cash holding had a moderating effect on the relationship between governance transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange. The results shown in

Model 5 indicate cash holding had a negative and significant moderating effect on the relationship between governance transparency and tax avoidance (β=-0.222 ρ<0.05).

The study also looked at the moderating role of cash holding on the relationship between social transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange. The results indicated a positive and significant moderating effect of cash holding on the relationship between social transparency and tax avoidance for the firms listed in the Nairobi Securities Exchange (β=0.093 ρ<0.05). Lastly, the study investigated whether cash holding moderated the relationship between operational transparency and tax avoidance for the firms listed at the Nairobi Securities Exchange. The results (β=-0.136 ρ<0.05) indicate that cash holding has a negative and significant moderating effect on the relationship between operational transparency and tax avoidance.

5. 2 Conclusions of the Study

Through an extensive literature review, the study developed a conceptual framework that aided the formulation of research hypotheses. The study focused on the moderating effect of cash holding on the relationship between corporate transparency and tax avoidance for firms listed at the Nairobi Securities Exchange. The data was obtained utilizing the content analysis of the firms' audited annual financial reports. These reports were obtained from the firm's website and the Capital market Authority's annual supervisory reports.

The study found that firms that are more transparent in the disclosure of their corporate affairs also have higher effective tax rates. It is therefore concluded that firms with

increased corporate transparency are less involved in tax avoidance. These findings are consistent with those of Hope *et al.*, (2013) and Kerr (2019), who also found a negative relationship between corporate transparency and tax avoidance as well as Overesch and Wolff (2019) and Brown *et al.*, (2019) who also found a negative association between mandatory tax transparency reporting and tax avoidance. It is, however, in contrast with the conclusion reached by Balakrishnan *et al.,* (2019) that increased voluntary tax transparency disclosure mitigates increased tax avoidance.

5.3 Recommendations of the Study

The study findings resulted in several recommendations and implications which can be broadly grouped into managerial and policy implications and theoretical implication.

5.3.1 Managerial and Policy Implications

Financial transparency had a negative and statistically significant effect on tax avoidance for the selected firms at the Nairobi Securities Exchange. Disclosures of financial aspects of the firms, for example, a summary of financial data over the last five or more years, investment plans for coming years, directors remuneration report related party transactions among others is very important. Therefore, there is need for management to ensure that high levels of financial disclosures are maintained as this will eventually lead to lower levels of tax avoidance. This will result in stakeholders' assurance that their firm(s) will not be in any danger of facing heavy penalties and other costs associated with tax avoidance.

Governance transparency and operational transparency, just like financial transparency, had a negative and significant effect on tax avoidance for the studied firms. This shows

that where firms are more transparent in the disclosure of their management team and their operations, they tend to lower tax avoidance. Where directors and the management team disclose their age and qualifications, their stock ownership in the firms, board structure among others, tax avoidance becomes less. Therefore the management team needs to make more disclosures about themselves and also about the firm's operations.

Social transparency had a positive and significant effect on tax avoidance for the selected firms in the NSE. Therefore, there is a need for management to look into the issue of social transparency. Information on social disclosure by companies should be made mandatory rather than voluntary.

The study results have important implications for practicing tax experts and tax accountants. The results will form the basis for understanding tax management through corporate transparency and maintaining optimal cash holding levels within the firms.

The findings of this study may be useful to inform public policy debate regarding corporate transparency and corporate tax avoidance. It may assist firms to recognize the importance and benefits of increased corporate transparency. Regulators may find it valuable, to recognize the effect of increased corporate transparency disclosures on corporate tax avoidance behaviour. Furthermore, it can be used by regulators to implement increased mandatory corporate disclosure requirements in an attempt to combat tax avoidance. The study can be of value to economic development specialists, investors, and business consultants seeking to identify the circumstances under which a firm’s activities can be used for tax avoidance purposes.

5.3.2 Theoretical Implications

This study contributes to the literature in several ways: first, by providing empirical evidence that firms are more or less likely to engage in tax avoidance activities depending on the transparency dimensions they have developed and the level of their cash holding.

The study contributes to the existing body of knowledge by providing evidence in support of an emerging research paradigm in the area of corporate transparency, cash holding, and tax aggressiveness, as these three areas have yet to be examined together. It adds to the Ltd academic literature on corporate transparency and cash holding reporting in public reports. The findings of the study may also be useful to inform the academic debate regarding corporate transparency and corporate tax avoidance.

5.4 Areas for further research

After this study, several possible considerations for future research have emerged. These include conducting a study to determine the best (optimal) level of cash holding that firms should maintain to minimize instances of tax avoidance. The same study can also be carried out using a cross-country sample, as this would yield larger sample sizes and provide greater insights into global corporate transparency and tax avoidance behaviour. Furthermore, continuous research can focus on financial firms to exam their relationship.

This study was limited to firms listed at the Nairobi Securities Exchange, Kenya. Similar studies can be done using other sets of taxpayers in order to obtain a full picture of the subject matter. Although the study rejected the null hypothesis and accepted the alternative hypothesis, there is need for further research to be carried out to establish what other factors affect the effective corporate tax rate.

The same study can also be carried out in a larger area for example in the East African Securities Exchanges which include: Nairobi Securitiee Exchange, Uganda securities Exchange, Dar es Salam Securities Exchange and Rwanda Securities Exchange as this would yield larger sample sizes and provide greater insights into global corporate transparency and tax avoidance behaviour. Finally, this study utilized cash tax paid (Cash ETR) in the computation of tax avoidance. Alternative measures of tax avoidance such as Book-Tax Difference (BTD) and Current ETR could be used in other studies.

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APPENDICES

Appendix I: Listed firms status

NO	NAME	SECTOR	LISTING STATUS
1	Eaagads Ltd	Agriculture	1972
2	Kakuzi Ltd	Agriculture	1951
3	Kapchorua Tea Factory Ltd	Agriculture	1972
4	Limuru Tea Kenya Ltd	Agriculture	1967
5	Sasini Ltd	Agriculture	1965
6	Williamson Tea Kenya Ltd	Agriculture	1972
7	Rea Vipingo Plantations Ltd	Agriculture	Suspended
8	Car and General (Kenya) Ltd	Automobiles & Accessories	1950
9	Sameer Africa	Automobiles & Accessories	1994
10	Marshalls (E.A) Ltd	Automobiles & Accessories	Suspended
11	Barclays Bank of Kenya Ltd	Banking	1986
12	CFC Stanbic of Kenya Holdings Ltd	Banking	1970
13	Diamond Trust Bank of Kenya Ltd	Banking	1972
14	Equity Group Holdings Ltd	Banking	2006
15	Housing Finance Group Ltd	Banking	1992
16	I&M Holdings Ltd	Banking	2013
17	KCB Group Ltd	Banking	1989
18	National Bank of Kenya Ltd	Banking	1994
19	NIC Group PLC	Banking	1971
20	Standard Chartered Bank Kenya Ltd	Banking	1988
21	The Cooperative Bank of Kenya Ltd	Banking	2008
22	Atlas African Industries Ltd	Commercial & Service	New List
23	Express Kenya Ltd	Commercial & Service	1978
24	Kenya Airways Ltd	Commercial & Service	1996
25	Longhorn Publishers Ltd	Commercial & Service	New List
26	Nairobi Business Ventures Ltd	Commercial & Service	New list
27	National Media Group Ltd	Commercial & Service	1973
28	Standard Group Ltd	Commercial & Service	1954
29	TPS Eastern Africa Ltd	Commercial & Service	1997
30	Uchumi Supermarket Ltd	Commercial & Service	1992
31	WPP Scan Group Ltd	Commercial & Service	2006
32	Deacons East Africa PLC	Commercial & Service	New List
33	Hutchings Biemer Ltd	Commercial & Service	Suspended
34	Athi River Mining Cement Ltd	Construction &Allied	Suspended
35	Bamburi Cement Ltd	Construction &Allied	1951
36	Crown Paints Kenya Ltd	Construction &Allied	1992
37	E.A Cables Ltd	Construction &Allied	1973
38	E.A Portland Cement Company Ltd	Construction &Allied	1972

39	Ken Gen Company Ltd	Energy & Petroleum	2006
40	Kenol Kobil Ltd	Energy & Petroleum	Suspended
41	Kenya Power &Lighting Company Ltd	Energy & Petroleum	1954
42	Total Kenya Ltd	Energy & Petroleum	1988
43	Umeme Ltd	Energy & Petroleum	New List
44	Britam Holdings Ltd	Insurance	2011
45	CIC Insurance Group Ltd	Insurance	2012
46	Jubilee Holdings Ltd	Insurance	1984
47	Kenya Reinsurance Corporation Ltd	Insurance	2006
48	Liberty Kenya Holdings Ltd	Insurance	2007
49	Pan Africa Insurance Holdings Ltd	Insurance	1963
50	Centum Investment Company Ltd	Investment	1977
51	Home Afrika Ltd	Investment	2013
52	Kurwitu Ventures Ltd	Investment	2014
53	Olympia Capital Holdings Ltd	Investment	1974
54	Trans-Century Ltd	Investment	2011
55	Nairobi Securities Exchange Ltd	Investment Services	2014
56	B.O.C Kenya Ltd	Manufacturing & allied	1969
57	British American Tobacco Kenya Ltd	Manufacturing & allied	1969
58	Carbacid Investments Ltd	Manufacturing & allied	1972
59	East African Breweries Ltd	Manufacturing & allied	1972
60	Eveready East Africa Ltd	Manufacturing & allied	2006
61	Flame Tree Group Holdings Ltd	Manufacturing & allied	New List
62	Kenya Orchards Ltd	Manufacturing & allied	1959
63	Mumias Sugar Company Ltd	Manufacturing & allied	2001
64	Baumann Company Ltd	Manufacturing & allied	Suspended
65	Unga Group Ltd	Manufacturing & allied	1971
66	Safaricom Ltd	Telecomm. & Technology	2008
67	Stanlib Fahari I-Reit	Real Estate Investment Trust	2015

Source: Researcher (2020). Data from the NSE

Appendix II (a): Selection criteria for firms listed at the NSE.

Criteria	**No. of firms**
Firms listed at the NSE	**67**
Subtract firm in the following 5 sectors:	
✓ Banking	(11)
✓ Insurance	(6)
✓ Real Estate Investment Trust	(1)
✓ Investment	(5)
✓ Investment services	(1)
Newly listed firms	(6)
Firms suspended from trading at the NSE	(6)
• *Total firms excluded from the study*	(36)
❖ **Total firms included in the study**	**31**

Source: Researcher (2020). Data from the NSE

Appendix II (b): Surveyed Population

No.	**Sector**	**Total Firms**	**Excluded**	**Included**
1	Agricultural	7	1	6
1	Automobiles & Accessories	3	1	2
2	Banking	11	11	0
3	Commercial & Services	12	5	7
4	Construction and Allied	5	1	4
5	Energy & Petroleum	5	2	3
6	Insurance	6	6	0
7	Investment Sector	5	5	0
8	Investment Services	1	1	0
9	Manufacturing & allied	10	2	8
11	Real Estate Investment Trust	1	1	0
12	Telecommunication and Technology	1	0	1
	Total	**67**	**36**	**31**

Source: Researcher (2020). Data from the NSE

Appendix II (c): Excluded Firms

1. Banking 11
2. Insurance 6
3. Investment Sector 5
4. Investment Service 1
5. Real Estate Investment Trust 1
6. Newly Listed:
    i. Atlas African Industries Ltd
    ii. Longhorn Publishers Ltd
    iii. Nairobi Business Ventures Ltd
    iv. Deacons E.A Plc
    v. Umeme Ltd
    vi. Flame Tree Group Holding Ltd
7. Suspended:
    i. Rea Vipingo Plantations Ltd
    ii. Marshall E.A. Ltd
    iii. Hutchings Biemer Ltd
    iv. Athi River Mining Cement Ltd
    v. Kenol/ kobil Ltd
    vi. BaumannCo. Ltd

Source: Researcher (2020). Data from the NSE

Appendix III: Hierarchical Regression Output

Model 1 controls- Size and Leverage. Fixed - Effects

Fixed-effects (within) regression	Number of obs	=	310
Group variable: FirmID	Number of groups	=	31
R-sq: within = 0.1752	Obs per group: min	=	10
between = 0.2452	avg	=	10.0
overall = 0.2182	max	=	10
	F(2,277)	=	29.41
corr(u_i, Xb) = 0.1500	Prob > F	=	0.0000

Tax Av	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
F Size	.2143269	.0396327	5.41	0.000	.1363073	.2923465
F Lev	.6888618	.1361017	5.06	0.000	.4209366	.9567869
_cons	-.3305473	.0656299	-5.04	0.000	-.459744	-.2013506
sigma_u	.35125238					
sigma_e	.22926529					
rho	.70124853 (fraction of variance due to u_i)					

F test that all u_i=0: F(30, 277) = 14.28
Prob > F = 0.0000

Model 1 controls- Size and Leverage. Random - Effects

Random-effects GLS regression		Number of obs	= 310
Group variable: FirmID		Number of groups	= 31
R-sq: within = 0.1636		Obs per group: min	= 10
between = 0.4618		avg	= 10.0
overall = 0.3453		max	= 10
		Wald chi2(2)	= 75.75
corr(u_i, X) = 0 (assumed)		Prob > chi2	= 0.0000

Tax Av	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
F Size	.2893721	.0377769	7.66	0.000	.2153308	.3634134
F Lev	.5113993	.1284382	3.98	0.000	.4209366	.7631335
_cons	-.3378078	. .0775752	-4.35	0.000	-.4898525	-.1857631
sigma_u	.23746726					
sigma_e	.22926529					
rho	.51756773(fraction of variance due to u_i)					

F	test that all	u_i=0:	F(30, 277)	= 14.28 Prob > F = 0.0000

Model 2 Direct effect- Regressing TA on FT, GT, ST, and OT. Fixed - Effects

Fixed-effects (within) regression		Number of obs	= 310
Group variable: FirmID		Number of groups	= 31
R-sq: within = 0.3472		Obs per group: min	= 10
between = 0.4825		Avg	= 10.0
overall = 0.4141		Max	= 10
		F(6,273)	= 24.20
corr(u_i, Xb) = 0.2873		Prob > F	= 0.0000

Tax Av	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
F Size	.1418128	.037034	3.83	0.000	.0689043	.2147212
F Lev	.5308045	.1242307	4.27	0.000	.2862325	.7753765
Fin Tr	-.6977089	.1828732	-3.82	0.000	-1.05773	-.3376878
Govn Tr	-.4891752	.1731202	-2.83	0.005	-.8299956	-.1483549
Socl Tr	.5246221	.2075933	2.53	0.012	.1159349	.9333093
Oper Tr	-.6110448	.1651147	-3.70	0.000	-.9361047	-.2859849
_cons	.6497982	.1774568	3.66	0.000	.3004405	.9991559

sigma_u	.31032016
sigma_e	.20545565
Rho	.69524342(fraction of variance due to u_i)

F test that all u_i=0: F(30, 273) = 13.82 Prob > F = 0.0000

Model 2 Direct effect- Regressing TA on FT, GT, ST, and OT. Random - Effects

Random-effects GLS regression	Number of obs	=	310
Group variable: FirmID	Number of groups	=	31
R-sq: within = 0.3385	Obs per group: min	=	10
between = 0.6014	Avg	=	10.0
overall = 0.4919	Max	=	10
	Wald chi2(6)	=	175.32
corr(u_i, X) = 0 (assumed)	Prob > chi2	=	0.0000

Tax Av	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
F Size	.1941245	.0356827	3.83	0.000	.1241876	.2640614
F Lev	.3973615	.1164163	4.27	0.001	.1691898	.6255332
Fin Tr	-.5996926	.1868939	-3.82	0.001	-.965998	-.2333873
Govn Tr	-.5083042	.170562	-2.83	0.003	-.8425995	-.1740089
Socl Tr	.5501858	.1886166	2.53	0.004	.1805039	.9198676
Oper Tr	-.7747054	.1619004	-3.70	0.000	-1.092024	-.4573865
_cons	.6786465	.1789737	3.66	0.000	.3278645	1.029428
sigma_u	.21287427					
sigma_e	.20545565					
rho	.51772833(fraction of variance due to u_i)					

Moderator model 3 Regressing TA on Moderator and IVS. Random - Effects

Random-effects GLS regression	Number of obs	=	310
Group variable: FirmID	Number of groups	=	31
R-sq: within = 0.3760	Obs per group: min	=	10
between = 0.6535	Avg	=	10.0
overall = 0.5306	Max	=	10
	Wald chi2(7)	=	203.44
corr(u_i, X) = 0 (assumed)	Prob > chi2	=	0.0000

Tax Av	Coef.	Std. Err.	Z	P>|z|	[95% Conf.	Interval]
F Size	.191717	.0347071	5.52	0.000	.1236923	.2597417
F Lev	.3668922	.1134832	3.23	0.001	.1444692	.5893152
Fin Tr	-.469045	.1842693	-2.25	0.011	-.8302062	-.1078839
Govn Tr	-.4684491	.1661187	-2.82	0.005	-.7940358	-.1428624
Socl Tr	.4874362	.1841041	2.65	0.008	.1265988	.8482737
Oper Tr	.7307507	.1577583	-4.63	0.000	-1.039951	-.42155
Cash H	.130827	.0305972	4.28	0.000	.0708575	.1907965
_cons	.7163942	.1743012	4.11	0.000	.37477	1.058018

sigma_u	.20815141
sigma_e	.19995447
rho	..52007724 (fraction of variance due to u_i)

Moderator model 3 Regressing TA on Moderator and IVS. Fixed - Effects

Fixed-effects (within) regression	Number of obs	=	310
Group variable: FirmID	Number of groups	=	31
R-sq: within = 0.3839	Obs per group: min	=	10
between = 0.5489	Avg	=	10.0
overall = 0.4595	Max	=	10
	F(7,272)	=	24.21
corr(u_i, Xb) = 0.3331	Prob > F	=	0.0000

Tax Av	Coef.	Std. Err.	t P>t	[95% Conf. Interval]
F Size	.1400607	.036045	3.89 0.000	.0690981 .2110233
F Lev	.4948487	.1212334	4.08 0.000	.2561736 .7335238
Fin Tr	-.5690843	.1808181	-3.15 0.002	-.9250652 -.2131035
Govn Tr	-.4518934	.1687388	-2.68 0.008	-.7840936 -.1196933
Socl Tr	.4599125	.2026724	2.27 0.024	.0609064 .8589186
Oper Tr	-.5765649	.1609214	-3.58 0.000	-.8933747 -.2597551
Cash H	.1210318	.0300444	4.03 0.000	.0618827 .1801808
_cons	.6841623	.1729158	3.96 0.000	.3437388 1.024586
sigma_u	.30124447			
sigma_e	.19995447			
rho	.69416521(fraction of variance due to u_i)			

Ftest that allu_i=0 F(30, 272 = 13.4 Prob > F = 0.0000

Moderator model 4 Regressing TA on MV, IVs, and Interaction FT and Cash Holding. Fixed - Effects

Fixed-effects (within) regression	Number of obs	=	310

Group variable: FirmID		Number of groups	= 31
R-sq: within = 0.4013		Obs per group: min	= 10
between = 0.5779		avg	= 10.0
overall = 0.4820		max	= 10
		F(8,271)	= 22.71
corr(u_i, Xb) = 0.3501		Prob > F	= 0.0000

Tax Av	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]
F Size	.141141	.0356003	3.96	0.000	.0710527 .2112294
F Lev	.5050862	.1197865	4.22	0.000	.2692559 .7409165
Fin Tr	-.5832813	.1786488	-3.26	0.001	-.9349971 -.2315654
Govn Tr	-.4852412	.1670709	-2.90	0.004	-.8141632 -.1563192
Socl Tr	.462764	.2001631	2.31	0.022	.0686915 .8568364
Oper Tr	-.5355423	.1595983	-3.36	0.001	-.8497525 -.221332
Cash H	.0868809	.0320722	2.71	0.007	.0237385 .1500233
Fin_Tax	.1306066	.0465571	2.81	0.005	.038947 .2222663
_cons	.7004488	.1708714	4.10	0.000	.3640447 1.036853
sigma_u	.29591889				
sigma_e	.19747626				
rho	.69188231(fraction of variance due to u_i)				
F	test that allu_i=0:F(30, 271)= 13.06Prob > F = 0.0000				

Moderator model 4 Regressing TA on MV, IVs, and Interaction FT and Cash Holding. Random - Effects

Random-effects GLS regression	Number of obs	=	310
Group variable: FirmID	Number of groups	=	31

R-sq: within = 0.3933	Obs per group: min	=	10
between = 0.6791	Avg	=	10.0
overall = 0.5516	Max	=	10
	Wald chi2(8)	=	218.64
corr(u_i, X) = 0 (assumed)	Prob > chi2	=	0.0000

Tax Av	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]	
F Size	.1928702	.0342491	5.63	0.000	.1257432	.2599973
F Lev	.3764255	.1119915	3.36	0.00`	.1569262	.5959249
Fin Tr	-.4858266	.182112	-2.67	0.008	-.8427596	-.1288937
Govn Tr	-.5073856	.1644783	-3.08	0.002	-.8297572	-.185014
Socl Tr	.4865715	.1815028	2.68	0.007	.1308326	.8423105
Oper Tr	-.682482	.1566096	-4.36	0.000	-.9894313	-.3755328
Cash H	.0935701	.0326327	2.87	0.004	.0296112	.157529
Fin_Tax	.1445914	.0475588	3.04	0.002	.0513778	.2378049
_cons	.737786	.1721128	4.29	0.000	.4004511	1.075121
sigma_u	.20339269					
sigma_e	.19747626					
rho	.51475579 (fraction of variance due to u_i)					

Moderator model 5 Regressing TA on MV, IVs, and Interaction GT and Cash Holding. Fixed - Effects

Fixed-effects (within) regression	Number of obs	=	310
Group variable: FirmID	Number of groups	=	31
R-sq: within = 0.4192	Obs per group: min	=	10

between = 0.5833	avg	=	10.0
overall = 0.4923	max	=	10
	F(9,270)	=	21.65
corr(u_i, Xb) = 0.3480	Prob > F	=	0.0000

Tax Av	Coef.	Std. Err.	t	P>t	95% Conf. Interval]
F Size	.1425766	.0351339	4.06	0.000	.0734053 .211748
F Lev	.4859144	.1183925	4.10	0.000	.2528245 .7190043
Fin Tr	-.6596727	.178274	-3.70	0.000	-1.010657 -.3086887
Govn Tr	-.3817299	.1687361	-2.26	0.024	-.7139356 -.0495241
Socl Tr	.440639	.1976703	2.23	0.027	.0514678 .8298101
Oper Tr	-.5505578	.1575779	-3.49	0.001	-.8607955 -.2403201
Cash H	.09939	.0319454	3.11	0.002	.0364963 .1622837
Fin_Tax	.2625517	.0648743	4.05	0.000	.134828 .3902755
Gov_Tax	-.2215991	.0769258	-2.88	0.004	-.3730498 -.0701483
_cons	.6782708	.1687916	4.02	0.000	.3459557 1.010586
sigma_u	.2934132				
sigma_e	.19486966				
rho	.69391823 (fraction of variance due to u_i)				

F test that all u_i=0: F(30, 270) = 13.22 Prob > F = 0.0000

Moderator model 6. Regressing TA on MV, IVs, and Interaction ST and Cash Holding. Fixed - Effects

Fixed-effects (within) regression	Number of obs	= 310
Group variable: FirmID	Number of groups	= 31

R-sq: within = 0.4277		Obs per group: min	= 10
between = 0.5639		Avg	= 10.0
overall = 0.4808		Max	= 10
		F(10,269)	= 20.10
corr(u_i, Xb) = 0.3330		Prob > F	= 0.0000

Tax Av	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
F Size	.1416195	.0349435	4.05	0.000	.072822	.2104171
F Lev	.4937741	.1178053	4.19	0.000	.2618365	.7257117
Fin Tr	-.691406	.1779992	-3.88	0.000	-1.041855	-.3409572
Govn Tr	-.3403979	.1690727	-2.01	0.045	-.673272	-.0075238
Socl Tr	.4282663	.1966777	2.18	0.030	. 041043	.8154896
Oper Tr	-.5377875	.156839	-3.43	0.001	-.8465756	-.2289994
Cash H	.0949317	.0318473	2.98	0.003	.03223	.1576334
Fin_Tax	.2045293	.0707358	2.89	0.004	.0652631	.3437955
Gov_Tax	-.2216482	.0765017	-2.90	0.004	-.3722664	-.0710301
Soc_Tax	.0930505	.0465119	2.00	0.046	.0014768	.1846242
_cons	.6862928	.1679088	4.09	0.000	. 3557102	1.016875
sigma_u	.29743054					
sigma_e	.19379518					
rho	.70198283 (fraction of variance due to u_i)					

Ftest that allu_i=0:F(30, 269)= 13.45Prob > F = 0.0000

Moderator model 6. Regressing TA on MV, IVs, and Interaction ST and Cash Holding. Random - Effects

Random-effects GLS regression	Number of obs	=	310
Group variable: FirmID	Number of groups	=	31
R-sq: within = 0.4197	Obs per group: min	=	10

between = 0.6727	Avg	=	10.0
overall = 0.5544	Max	=	10

Fixed-effects (within) regression	Number of obs	=	310

	Wald chi2(10)	=	235.47
corr(u_i, X) = 0 (assumed)	Prob > chi2	=	0.0000

Tax Av	Coef.	Std. Err.	z	P>t	[95% Conf.	Interval]
F Size	.1917468	.033717	5.69	0.000	.1256626	.2578309
F Lev	.3639404	.1106319	3.29	0.001	.147106	.5807749
Fin Tr	-.5961692	.1814849	-3.28	0.001	-.9518731	-.2404652
Govn Tr	-.3661558	.1670476	-2.19	0.028	-.6935631	-.0387484
Socl Tr	.456167	.1794478	2.54	0.011	.1044557	.8078782
Oper Tr	-.678438	.1541325	-4.40	0.000	-.9805322	-.3763437
Cash H	.1032963	.0324563	3.18	0.001	.0396831	.1669094
Fin_Tax	.2330799	.0724689	3.22	0.001	.0910435	.3751163
Gov_Tax	-.230714	.0784939	-2.94	0.003	-.3845592	-.0768688
Soc_Tax	.0781387	.0476415	2.64	0.021	-.015237	.1715144
_cons	.71676	.1698952	4.22	0.001	.3837716	1.049748

sigma_u	.20604437					
sigma_e	.19379518					
rho	.53060655	(fraction	of variance due		to	u_i)

Group variable: FirmID		Number of groups	= 31
R-sq: within = 0.4365		Obs per group: min	= 10
between = 0.5614		Avg	= 10.0
overall = 0.4754		Max	= 10
		F(11,268)	= 18.87
corr(u_i, Xb) = 0.3334		Prob > F	= 0.0000

Tax Av	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
F Size	.1303676	.0351718	3.71	0.000	.0611194	.1996158
F Lev	.4888013	.11714	4.17	0.000	.2581696	.7194331
Fin Tr	-.6967471	.1769752	-3.94	0.000	-1.045186	-.3483085
Govn Tr	-.3344012	.1681074	-1.99	0.048	-.6653802	-.0034221
Socl Tr	.4368306	.1955698	2.23	0.026	.0517821	.8218791
Oper Tr	-.512563	.156407	-3.28	0.001	-.8205057	-.2046203
Cash H	.1003253	.0317703	3.16	0.002	.0377741	.1628765
Fin_Tax	.2673447	.0767382	3.48	0.001	.1162582	.4184312
Gov_Tax	-.1676037	.0805149	-2.08	0.038	-.3261259	-.0090815
Soc_Tax	.0988827	.0463272	2.13	0.034	.0076712	.1900942
Ope_Tax	-.1357155	.0663708	-2.04	0.042	-.26639	-.0050411
_cons	.6380291	.1685852	3.78	0.000	.3061094	.9699489
sigma_u	.30064948					
sigma_e	.19265931					
rho	.70889912(fraction of variance due to u_i)					

Ftest that all u_i=0:F(30, 268)= 13.69Prob > F = 0.0000

Moderator model 7 - Regressing TA on MV, IVs, and Interaction OT and Cash Holding. Fixed - Effects

Moderator model 7 - Regressing TA on MV, IVs and Interaction OT and Cash Holding Fixed - Effects

Random-effects GLS regression	Number of obs	=	310
Group variable: FirmID	Number of groups	=	31
R-sq: within = 0.4365	Obs per group: min	=	10
between = 0.5614	Avg	=	10.0
overall = 0.4752	Max	=	10
	F(11,268)	=	18.87
Corr (u_i, X) = 0 0.3334	Prob > F	=	0.0000

Tax Av	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
F Size	.1303676	.03517118	3.71	0.000	.0611194	.1996158
F Lev	.4888013	.11714	4.17	0.000	.2581696	.7194331
Fin Tr	-.6967471	.1769752	-3.94	0.000	-1.045186	-.3483085
Govn Tr	-.3344012	.1681074	-1.99	0.048	-.6653802	-.0034221
Socl Tr	.4368306	.1955698	2.23	0.026	.0517821	.8218791
Oper Tr	-.512563	.156407	-3.28	0.001	-.8205057	-.2046203
Cash H	.1003253	.0317703	3.16	0.002	.0377741	.1628765
Fin_Tax	.2673447	.07673382	3.48	0.001	.1162582	.4184312
Gov_Tax	-.1676037	.0805149	-2.08	0.038	-.3261259	-.0090815
Soc_Tax	.0988827	.0463272	2.13	0.034	-.0076712	.1900942
Ope_Tax	-.1357155	.0663708	-2.04	0.042	-.26639	-.0050411
_cons	.6380291	.1685852	3.78	0.000	.3061094	.9699489
sigma_u	.30064948					
sigma_e	.19265931					
rho	.70889912 (fraction of variance due to u_i)					

Ftest that all u_i=0: F(30,268) = 13.69 Prob > F = 0.0000

Appendix IV: Hausman Tests:

Model 1: Testing Control Variables

	---- Coefficients ----			
	(b) fe	(B) re	(b-B)	sqrt (diag (V_b-V_B)) S.E.
F Size	.2143269	.2893721	-.0750452	.0119859
F Lev	.6888618	.5113993	.1774625	.0450256

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(2) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 40.09
Prob>chi2 = 0.0000

Model 2 Testing the Direct Effect

	---- Coefficients ----			
	(b) fe	(B) re	(b-B) Difference	sqrt (diag (V_b-V_B)) S.E.
F Size	.1418128	.1941245	-.0523117	.0099124
F Lev	.5308045	.3973615	.133443	.043365
Fin Tr	-.6977089	-.5996926	-.0980162	.
Govn Tr	-.4891752	-.5083042	.019129	.0296518
Socl Tr	.5246221	.5501858	-.0255637	.0867107
Oper Tr	-.6110448	-.7747054	.1636606	.032421

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic
$chi^2(6)$ = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 41.58
Prob>chi2 = 0.0000
(V_b-V_B is not positive definite)

Model 3 Testing Corporate Transparency, Cash Holding, and Tax Avoidance

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt (diag (V_b-V_B))
	Fe	re	Difference	S.E.
F Size	.1400607	.191717	-.0516563	.0097292
F Lev	.4948487	.3668922	.1279565	.0426509
Fin Tr	-.5690843	-.469045	-.1000393	.
Govn Tr	-.4518934	-.4684491	.0165557	.0296204
Socl Tr	.4599125	.4874362	-.0275237	.0847454
Oper Tr	-.5765649	-.7307507	.1541858	.0317492
Cash H	.1210318	.130827	-.0097952	.

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic
chi2(7) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 40.31
Prob>chi2 = 0.0000
(V_b-V_B is not positive definite)

Model 4: Testing Financial Transparency, Cash Holding, and Tax Avoidance

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt (diag (V_b-V_B))
	fe	Re	Difference	S.E.
F Size	.141141	.1928702	-.0517292	.009715
F Lev	.5050862	.3764255	.1286607	.0425052
Fin Tr	-.5832813	-.4858266	-.0974547	.
Govn Tr	-.4852412	-.5073856	.0221444	.0293187
Socl Tr	.462764	.4865715	-.0238076	.084392
Oper Tr	-.5355423	-.682482	.1469398	.0307416
Cash H	.0868809	.0935701	-.0066892	.
Fin_Tax	.1306066	.1445914	-.0139847	.
	b = consistent under Ho and Ha; obtained from xtreg B = inconsistent under Ha, efficient under Ho; obtained from xtreg Test: Ho: difference in coefficients not systematic chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 40.06 Prob>chi2 = 0.0000 (V_b-V_B is not positive definite)			

Model 5: Testing Governance Transparency, Cash Holding, and Tax Avoidance

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt (diag (V_b-V_B))
	fe	Re	Difference	S.E.
F Size	.1425766	.1942057	-.0516291	.0094833
F Lev	.4859144	.3558561	.1300583	.0416405
Fin Tr	-.6596727	-.5656213	-.0940514	.
Govn Tr	-.3817299	-.4007504	.0190205	.0274254
Socl Tr	.440639	.4699114	-.0292725	.0831203
Oper Tr	-.5505578	-.6925746	.1420168	.0298742
Cash H	.09939	.1074242	-.0080342	.
Fin_Tax	.2625517	.2826808	-.0201291	.
Gov_Tax	-.2215991	-.2312344	.0096353	.
	b = consistent under Ho and Ha; obtained from xtreg B = inconsistent under Ha, efficient under Ho; obtained from xtreg Test: Ho: difference in coefficients not systematic chi2(9) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 36.13 Prob>chi2 = 0.0000 (V_b-V_B is not positive definite)			

Model 6: Testing Social Transparency, Cash Holding, and Tax Avoidance

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt (diag (V_b-V_B))
	fe	re	Difference	S.E.
F Size	.1416195	.1917468	-.0501272	.0091766
F Lev	.4937741	.3639404	.1298337	.0404805
Fin Tr	-.691406	-.5961692	-.0952368	.
Govn Tr	-.3403979	-.3661558	.0257579	.0260898
Socl Tr	.4282663	.456167	-.0279007	.0805021
Oper Tr	-.5377875	-.678438	.1406505	.029011
Cash H	.0949317	.1032963	-.0083646	.
Fin_Tax	.2045293	.2330799	-.0285505	.
Gov_Tax	-.2216482	-.230714	.0090658	.
Soc_Tax	.0930505	.0781387	.0149118	.

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic
chi2(10) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 36.34
Prob>chi2 = 0.0001
(V_b-V_B is not positive definite)

Model 7: Testing Operational Transparency, Cash Holding, and Tax Avoidance

	---- Coefficients ----			
	(b)	(B)	**(b-B)**	sqrt (diag (V_b-V_B))
	fe	re	Difference	S.E.
F Size	.1303676	.1815105	-.0511429	.0090531
F Lev	.4888013	.3624912	.1263101	.0393519
Fin Tr	-.6967471	-.6022365	-.0945107	.
Govn Tr	-.3344012	-.3611889	.0267878	.0242363
Socl Tr	.4368306	.4613989	-.0245683	.0786387
Oper Tr	-.512563	-.6561743	.1436113	.0280423
Cash H	.1003253	.1081889	-.0078636	.
Fin_Tax	.2673447	.2874074	-.0200627	.
Gov_Tax	-.1676037	-.1841106	.0165069	.
Soc_Tax	.0988827	.0834741	.0154085	.
Ope_Tax	-.1357155	-.118268	-.0174475	.

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic
(chi2 (11) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 37.58

Prob>chi2 = 0.0001 (V_b-V_B is not positive definite)

Appendix V: Measurements of Variables

Dependent Variable	Measurement
Corporate Tax Avoidance *(TA)*	An indicator variable that takes the value of one (1) if the ETR is more than the statutory tax rates
Independent Variable	
Corporate Transparency *(CT)*	An indicator variable, 1 for yes, otherwise, 0
Cash Holding	Cash and cash equivalent/ Net Assets
Control Variables	
Firm Size *(Fsize)*	Natural log of firms total assets
Leverage *(lev)*	Total debts to assets

Appendix VI - Data Collection Schedules

Appendix VI (a) - Dependent Variable – Tax Avoidance (TAv)

Tax Avoidance **(TAv)** = Tax paid **(TP)** / Pre-Tax Income **(Pre Tax)**

F (t=1,10)	Tax Paid (TP)	Pre-Tax Income	TAv = TP/ Pre Tax	Log TAv	Log TAv * -1
1 Bamburi Cement Ltd					
2 British American Tobacco (K) Ltd					
3 BOC Kenya Ltd					
4 Car and General (Kenya) Ltd					
5 Carbacid Investments Ltd					
6 Crown Paints Kenya Ltd					
7 E. A. Portland Cement Co. Ltd					
8 Eaagads Ltd					
9 E. A. Breweries Ltd					
10 E. A. Cables Ltd					
11 Eveready E. A. Ltd					
12 Express (K) Ltd					
13 Kakuzi Ltd					
14 Kapchorua Tea Co. Ltd					
15 Ken Gen Company Ltd					
16 Kenya Airways					
17 Kenya Orchards Ltd					
18 Kenya Power & Lighting Co. Ltd					
19 Limuru Tea Kenya Ltd					
20 Mumias Sugar Co. Ltd					
21 National Media Group Ltd					
22 Safaricom Ltd.					
23 Sameer Africa Ltd					
24 Sasini Ltd.					
25 WPP Scan Group Ltd					
26 Standard Group Ltd					
27 Total (K) Ltd					
28 TPS Eastern Africa Ltd					
29 Uchumi Supermarket Ltd					
30 Unga Group Ltd					
31 Williamson Tea Kenya Ltd					

Appendix VI (b) - Moderator Variable - Cash holding

Cash holding **(CH)** = Cash and Cash equivalent **(CC)**/ Net Assets **(NA)**.
Net Assets **(NA)** = Total Assets **(TA)** - Cash and Cash equivalent

F (t=1,10)	Total Assets = TA	Cash and Cash equivalent	NA = TA - CC	CH = CC / NA
1 Bamburi Cement Ltd				
2 British American Tobacco (K) Ltd				
3 BOC Kenya Ltd				
4 Car and General (Kenya) Ltd				
5 Carbacid Investments Ltd				
6 Crown Paints Kenya Ltd				
7 E. A. Portland Cement Co. Ltd				
8 Eaagads Ltd				
9 E. A. Breweries Ltd				
10 E. A. Cables Ltd				
11 Eveready E. A. Ltd				
12 Express (K) Ltd				
13 Kakuzi Ltd				
14 Kapchorua Tea Co. Ltd				
15 Ken Gen Company Ltd				
16 Kenya Airways				
17 Kenya Orchards Ltd				
18 Kenya Power & Lighting Co. Ltd				
19 Limuru Tea Kenya Ltd				
20 Mumias Sugar Co. Ltd				
21 National Media Group Ltd				
22 Safaricom Ltd.				
23 Sameer Africa Ltd				
24 Sasini Ltd.				
25 WPP Scan Group Ltd				
26 Standard Group Ltd				
27 Total (K) Ltd				
28 TPS Eastern Africa Ltd				
29 Uchumi Supermarket Ltd				
30 Unga Group Ltd				
31 Williamson Tea Kenya Ltd				

Appendix VI (c) - Control Variables

i). Firm Size (Fsize) = Log of Total Assets of $firm_i$ in $year_t$
ii). Firm Leverage (Flev) = TD/ TA for $firm_i$ in $year_t$
Total Debt = Non - current liabilities + current liabilities

F (t=1,10)	Total Assets = TA	Total Debt = TD	Fsize = Natural logarithm TA	Flev. = TD / TA
1 Bamburi Cement Ltd				
2 British American Tobacco (K) Ltd				
3 BOC Kenya Ltd				
4 Car and General (Kenya) Ltd				
5 Carbacid Investments Ltd				
6 Crown Paints Kenya Ltd				
7 E. A. Portland Cement Co. Ltd				
8 Eaagads Ltd				
9 E. A. Breweries Ltd				
10 E. A. Cables Ltd				
11 Eveready E. A. Ltd				
12 Express (K) Ltd				
13 Kakuzi Ltd				
14 Kapchorua Tea Co. Ltd				
15 Ken Gen Company Ltd				
16 Kenya Airways				
17 Kenya Orchards Ltd				
18 Kenya Power & Lighting Co. Ltd				
19 Limuru Tea Kenya Ltd				
20 Mumias Sugar Co.Ltd				
21 National Media Group Ltd				
22 Safaricom Ltd.				
23 Sameer Africa Ltd				
24 Sasini Ltd.				
25 WPP Scan Group Ltd				
26 Standard Group Ltd				
27 Total (K) Ltd				
28 TPS Eastern Africa Ltd				
29 Uchumi Supermarket Ltd				
30 Unga Group Ltd				
31 Williamson Tea Kenya Ltd				

Appendix VI (d) Independent Variable – Corporate Transparency

Corporate Governance Transparency Index Checklist 2018

	1	2	3	4	5	6	7	8	9	10	11	12	13
	Bamb	Bat	Boc	C&G	Carb	Crob	Eaag	Eabl	Eacl	Eapc	Eve	Expr	Kak
Transparency Item													
Financial Transparency (10)													
Summary of financial data 5yrs+													
Review of financial results													
Investment plans for coming years													
Wealth created statements													
Related party transaction policy													
Segment reporting													
Corporate reporting framework													
Audited by one of the big four													
Risk n estimates in preparing fin statements													
Directors remuneration report													
Governance Transparency (12)													
Information on the company's objectives													
Organizational /hierarchy/structure													
Names and age of directors													
Directors qualifications													
Director stock ownership													
No. of the board meeting													
Attendance in the board meeting													
Roles separation between CEO and													

Chairman													
Board's role /function / responsibility													
Board Structure Changes													
Organizational code of ethics													
Organizational code of ethics													
Social Transparency (8)													
Company's mission statement													
Safety and welfare of employees													
Data on workplace accidents													
Statement of CSR policy													
Whistleblowing policy													
Brand building briefs													
Ethics and code of conduct													
Operational Transparency (8)													
Corporate current business strategy													
Details of goods/services produced													
Marketing networks 4 goods/services													
Market share analysis													
Business risk and management													
Internal control systems													
Employee share option													
New product/service development													

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Kapc	Kge	KQ	Korc	Kplc	Lim	Mumi	Nmg	Safc	Same	Sasi	Tps	Scan	StdG	Tota	Uchu	Unga	Will

Appendix VII University Research Authorization Letter

MOI UNIVERSITY
POSTGRADUATE OFFICE
SCHOOL OF BUSINESS AND ECONOMICS

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0771336914
0736138770
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Telex No. MOIVARSITY 35047

P.O. Box 3900
Eldoret.
Kenya.
Eldoret

RE: SBE/PGM/021/14 **DATE:** 10 January, 2020

TO WHOM IT MAY CONCERN

RE: PAUL M. KABETE – SBE/DPHIL/BM/16/15

The above named is a bonafide student of Moi University School of Business and Economics, undertaking Doctorate of Philosophy in Accounting.

He has completed coursework, defended his proposal, and is proceeding to the field to collect data for his research titled: "*Corporate Transparency, Cash holding and Tax Avoidance among Firms Listed at the Nairobi Securities Exchange*".

Any assistance accorded to him will be highly appreciated.

Yours faithfully,

DEAN
School Of Business
MOI University

DR. RONALD BONUKE
ASSOCIATE DEAN, SB&E

Appendix VIII Nacosti Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **801715**

Date of Issue: **29/September/2020**

RESEARCH LICENSE

This is to Certify that Mr.. Paul Muturi Kabete of Moi University, has been licensed to conduct research in Nairobi on the topic: Corporate Transparency, Cash Holding and Tax Avoidance among Firms Listed at the Nairobi Securities Exchange for the period ending : 29/September/2021.

License No: **NACOSTI/P/20/6904**

801715

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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