

**Tax Compliance, Enforcement and Taxpayer Service in Kenya:
The Case of Self-Employed Individual Income Taxpayers**

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at Strathmore University**



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ABSTRACT

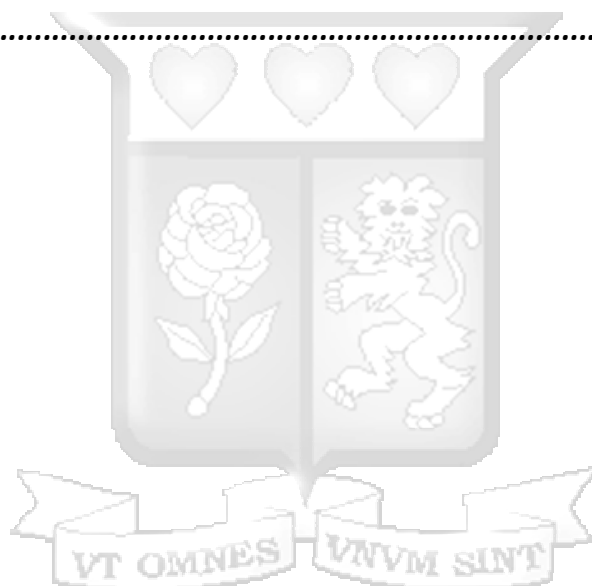
The purpose of this study is to explore the relationship between enforcement policies and taxpayer service on tax compliance. The argument is that while enforcement policies are tried and tested means of ensuring compliance, taxpayer service is not. Thus, including taxpayer service as a variable in determining the level of tax compliance would offer insight into the compliance behavior of taxpayers. Therefore, the study also aims to explore the relationship between tax enforcement and taxpayer service. Previous studies have found tax compliance and its analogous subject of “why people pay taxes” a puzzle. Inconclusive empirical results on enforcement policies of audit, penalty and criminal sanctions are common, leaving researchers and practitioners wondering what influences tax compliance. All the while, studies on taxpayer service are rare. This study makes use of simple regression analysis of aggregate variables representing tax compliance against audit, penalties, criminal sanctions and taxpayer service. The period between years 2003 and 2012 is choice due to the availability of data. At the individual level, the effect of prior audit and penalty charge is regressed against tax compliance. Prior audit and penalty charges exist as categorical variables. Audit and penalties have a positive relationship with tax compliance; taxpayer service and criminal sanctions have a negative relationship with tax compliance. *All* estimators apart from the audit rate are non-significant; this would indicate that even in Kenya, tax compliance is a puzzle. With variability in audit rate accounting for only 31% of the variability in tax compliance and all other estimators showing non-significant predictions, why taxpayers comply in Kenya remains an interesting question. At the individual level of analysis, both variables representing prior audit and penalty charge have a negative relationship with tax compliance however; they are non-significant for all but three years.

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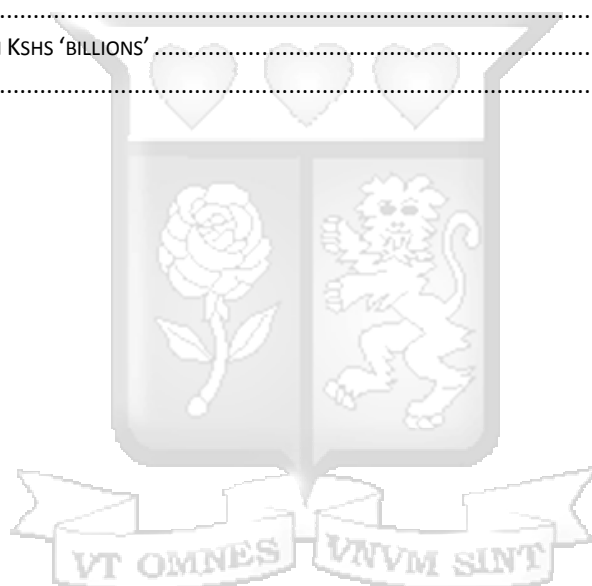
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LIST OF ABBREVIATIONS USED

KRA	- Kenya Revenue Authority
IMF	- International Monetary Fund
PAYE	- Pay As You Earn
GDP	- Gross Domestic Product
GNP	- Gross National Product
CBK	- Central Bank of Kenya
ToT	- Turnover Tax
OECD	- Organization for Economic Cooperation and Development
VAT	- Value Added Tax
IRS	- Internal Revenue Service
TCMP	- Taxpayer Compliance Measurement Program
KNBS	- Kenya National Bureau of Statistics
ACFE	- Association of Certified Fraud Examiners
US	- United States of America
ATO	- Australian Tax Office
TC	- Taxpayer Compliance
TPS	- Taxpayer Service
DTD	- Domestic Taxes Department

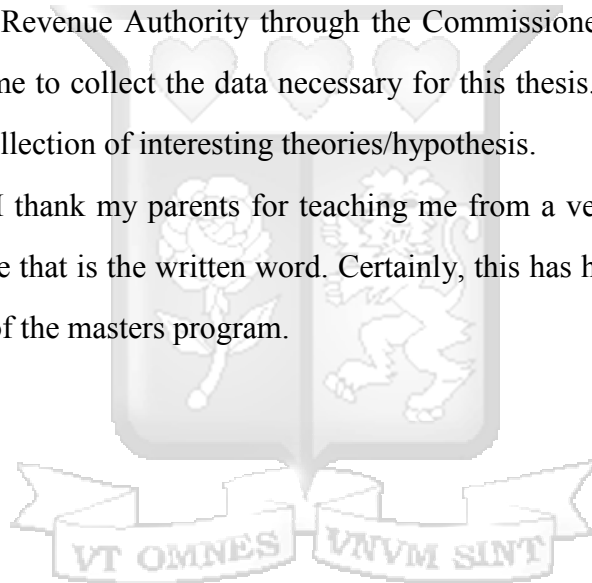
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CHAPTER 1

INTRODUCTION

1.1 Background

Tax compliance is an important aspect for governments around the world for a number of reasons. The most apparent of these reasons is that tax revenue is vital in meeting the government's fiscal responsibilities. In Kenya tax revenue has accounted for a larger proportion of government revenues in the recent years – more than 80% from the financial year 2006/2007 (see appendix for an annual analysis).

Tax compliance is also important because it ensures, for a developing country like Kenya, the capture of the informal economy, also known as the shadow economy, into the tax base. The shadow economy in Kenya stood at 34% of the Gross National Product (GNP) in the financial year 1999/2000 (Shneider & Klingmair, 2004).

To ensure taxpayer tax compliance governments through their tax agencies put to use a number of measures. These measures fall into two distinct categories, enforcement measures and taxpayer service measures. The most recognized of these are the enforcement measures, which include audits, penalties and criminal prosecutions. The other measures, that are less recognized, are the taxpayer service activities that will entail tax education, service demonstration, information services and publicity.

Enforcement measures find their basis on the economic theory of tax compliance originally proposed by Allingham and Sandmo, (1972). In their paper, Allingham and Sandmo model tax compliance behavior as a utility maximization decision where a taxpayer will consider the benefit of tax evasion (unreported income hence unpaid taxes) against the probability of getting caught evading and the cost of getting caught evading (paying the rightful taxes plus interest and penalties).

This tax compliance model finds its basis on the economics of crime perspective and adopts heavily from Criminologist Gary S. Becker, (1968) economics of crime model. The problem of

Tax evasion, which is synonymous with tax compliance, is a top white-collar crime (ACFE, 2010) and thus this model is appropriate. Becker, (1968) explained criminal actions as coming from a rational utility maximizing decision-making process where the criminal weighs the costs and benefits before deciding to commit a crime.

Over the years, this economic model of tax compliance that informs the enforcement paradigm has become inconclusive in as far as explaining the observed level of compliance. The empirical deficiencies in the economic theory of compliance have driven research into other factors that affect tax compliance. These other factors are non-economic and range from social, psychological and moral factors.

Social factors include the feelings of trust between the taxpayer and the tax authority, interactional justice and the use of informative/persuasive techniques to influence tax compliance (Slemrod et al., 2001). Included in psychological factors are the perception of fairness and subjective audit risk perception – this is where the taxpayer’s belief of the risk of possible audit is different from the actual audit risk.

These non-economic factors are imbued in taxpayer service activities, which involve service demonstrations, tax education, and general information publicity, carried out by the revenue bodies or tax agencies. The intention of Taxpayer service by the tax agency is to respond to the community’s demand for service (OECD, 2013). However, research on the effect of these taxpayer service activities on tax compliance is a development that came-up more recently, with the first known study carried out by Alm et al, 2011 in the US.

Researchers and tax administrators are also increasingly recognizing the significance of a diverse compliance strategy instead of the traditionally relied upon enforcement measures of audit and penalties. First, Alm, (2007) in his review of prior tax compliance literature suggested a ‘full house’ of theories that would help explain the ‘full house’ of behaviors that explain why people pay taxes. Kirchler et al., (2008) in their ‘slippery slope’ framework evaluate taxpayer behavior and the tax agencies actions along the two dimensions of power and trust. They posit that the highest level of compliance is attainable when there is either maximum power or maximum trust

– both of which are impossible to reach. They recommend that tax authorities strike a balance between the two – power and trust – in order to achieve realistically high compliance levels.

Tax administrators have also found that enforcement alone may not achieve intended compliance levels. Foremost is the Australian Tax Office (ATO) compliance model founded on the concept of responsive regulation – where the regulator, that is, the tax agency is ‘responsive to those whom they seek to regulate’ Braithwaite, (2007). In the US the IRS reduction of the number of tax audits conducted and suspension of the random TCMP audits in 1988 was attributed to among other reasons the ‘intrusive’ nature of the procedures (OECD, 2004). In Kenya, two of KRA’s six strategies for improving tax compliance and reducing the tax gap are outlined in KRA’s 5th Corporate plan as; ‘improvement of taxpayer service including revamping of the taxpayer education programme and revamping of enforcement strategies.’

1.2 Statement of the Problem

‘The puzzle of the economic theory of tax compliance is why people pay taxes’ (Feld & Frey, 2007). Studies on the economic factors that affect tax compliance have been consistently inconclusive leaving researchers to state that the more important question is why people pay taxes and not why they evade them (Slemrod, 1992; Alm et al., 1992).

Indeed research has found that much of the empirical studies have loose connection to theory. That is, whereas theory has the enforcement measures – audit rates, penalties and prosecution - affecting tax compliance research has found other factors explain the level of tax compliance.

Furthermore, the economic factors like audit rates and penalties when tested produce differing results.

Efforts to explain the incongruence between observed and predicted compliance levels has led research into other non-economic factors that affect tax compliance.

Noneconomic factors affecting tax compliance are imbued in the service paradigm that is, the Taxpayer service activities of the tax agencies. Prior studies on these taxpayer service activities are very limited, in fact, it is only recently (Alm et al., 2007; 2011) that research has taken cognizant of the service paradigm.

Prior research on tax compliance has tended to focus on either economic factors *or* non-economic factors that affect tax compliance. The few studies that have included both economic *and* non-economic factors have done so with the perspective that economic factors are tempered by the non-economic factors. For instance, Feld and Frey (2002a; 2002b) studied the incorporation of procedural and interactional justice while conducting audits and Erard and Feinstein, (1994a) studied the inclusion of honest taxpayers in formulating enforcement (audit) policies.

Alm, (1999) points out that there is need to take cognizance of the fact that there are varied motivating factors that influence tax compliance and therefore the theory of tax compliance should consist of not just one theory but a ‘full house’ of theories. These ‘full house’ theories should incorporate a ‘full house’ of behaviors that explain why people pay taxes.

The need for varied strategies to motivate the taxpayer to comply is certainly the trend among tax administrators and tax authorities worldwide. As was mentioned earlier, tax administrators have experienced situations that indicate either of two things. One, a singular method of encouraging taxpayers to comply does not achieve the best results or two, tax administrators encounter diverse taxpayers that have varied motivations for complying.

Meanwhile, few studies take cognizance of the fact that tax agencies around the world are not composed of only enforcement measures but also have service measures they use to enhance taxpayer compliance.

This study therefore aims to find out how *both* enforcement policies and taxpayer services representing respectively economic factors *and* non-economic factors will affect the level of tax compliance. In this instance, taxpayer service is as a separate factor with a direct effect on tax compliance.

1.3 Research Objectives

1.3.1 Main Objective

The main objective of this research is to determine the relationship between enforcement measures, taxpayer services activities and tax compliance.

1.3.2 Specific Objectives

The specific objectives of the research are;

1. To determine the relationship between, the tax enforcement measures of audit, penalties and criminal sanctions on one hand and tax compliance.
2. To determine the relationship between Taxpayer service activities and tax compliance.
3. To determine the relationship between enforcement measures of audit, penalty and criminal sanctions on one hand together with taxpayer service activities, on tax compliance.

1.3.3 Research Questions

1. What is the relationship between, the tax enforcement measures of audit, penalties and criminal sanctions on one hand and tax compliance?
2. What is the relationship between Taxpayer service activities and tax compliance?
3. What is the relationship between enforcement measures of audit, penalty and criminal sanctions on one hand together with taxpayer service activities, on tax compliance?

1.4 The Scope of the Study

This study is in the Kenyan context. The self-employed individual income taxpayer is the subject of the research. This follows from the main objective of the study, which is to determine taxpayers' behavior affected by the actions of the tax authority. It is evident, in the literature review in Chapter two, that many researchers have viewed the reactions of the taxpayer as a

behavioral problem involving the psychological, social and cognitive processes. Therefore, the individual income taxpayer who is self-employed and decides the taxes he pays, as opposed to an employed taxpayer who is subject to the employer-controlled PAYE, is the focus of the study. In addition, the individual taxpayer's response to the actions of the tax authority is easily measured because the effect on the individual taxpayer is direct as opposed to the corporate taxpayer where the corporate veil intervenes between the tax authority's actions and the taxpayer.

1.5 Justification of the Study

1.5.1 Academic

Research in tax compliance has not received the attention it deserves universally (Tanzi & Shlome, 1993) and in the developing world it remains unavailable (Andreoni et al., 1998). Most research available is in the US context, with other countries like the Netherlands, Jamaica, and Australia, featuring few times. This study will *contribute* to research content for scholarly exploits because it is in the Kenyan context and Kenya is a developing country.

1.5.2 Policy and Administration

As mentioned earlier, tax administrators are increasingly realizing the need for diverse strategies to increase the level of tax compliance. Whereas the effect of enforcement strategies have been tried and tested, the combination of both enforcement and service measures have not.

This study provides a good avenue through which the tax administrators (KRA) can determine the impact of enforcement measures and service activities on tax compliance. Other studies on the Kenyan context have looked into taxpayers' attitudes and opinions independent of the activities of KRA and the resultant taxpaying behavior of taxpayers. This study will provide insight into how taxpayers react to enforcement and service measures carried out by the tax administrators.

Policy makers who are the national treasury and the legislature will also benefit from the findings of this study. It will help them gauge on what is more effective, legislation or empowerment of tax administration, in establishing revenue goals, objectives and sources.

1.6 Definition of Terms

1.6.1 Tax Compliance

According to Organization for Economic Cooperation and Development, OECD (2004) taxpayers have many tax obligations clustered into; registration in the system, timely filing and lodgment of requisite taxation information, accurate and complete reporting of information and timely payment of taxes. Taxpayers are thus non-compliant if they fail to meet any of these obligations.

However, majority of the researchers who have studied the phenomenon of tax compliance do so with the view that it is the variation between a taxpayer's reported income and his true income. This is the view adopted by Allingham and Sandmo, (1972) in formulating the tax compliance model and thereafter, by numerous researchers who based their studies on this model. Other researchers have equated tax noncompliance with tax evasion (Reinganum & Wilde, 1986) and others still with the tax gap (Andreoni et al., 1998).

In this study, tax compliance is the difference between a taxpayer's true income and reported income in line with the widely adopted Allingham and Sandmo (1972) model.

1.6.2 Taxpayer Service

There is no extant scholarly reference of *taxpayer service* measures. To define what taxpayer service measures are it may be necessary to outline what they entail and what they aim to achieve from a practical perspective.

Taxpayer service according to OECD (2013), involves activities carried out by the revenue bodies or tax agencies as a response to the community's demand for service. Issues that necessitate taxpayers' assistance drive demand for service and these issues could range from the

complexity of tax laws, to compliance requirements. Taxpayer service therefore, involves programs that deal with service demonstrations, tax education, general information, and implementation of major tax policy changes.

Taxpayer service by the tax authority aims to achieve awareness, better service, reduced complexity, accessibility of services, increased confidence in the authority and consistency (OECD, 2013).

Taxpayer service is therefore a multidimensional term that covers actions and services made available to the taxpayer by the tax agency, other than enforcement services, to improve tax compliance. Alm et al., (2007; 2011) study the effect of taxpayer service from the dimension of information provision. This study intends to look at taxpayer service from the broader perspective incorporating the informational dimension, service demonstration and the tax agency's community responsive actions.

1.6.3 Tax Agency

The tax agency is the organization that has a mandate by law to collect and administer taxes. In Kenya, KRA is such an organization according to the KRA Act, 1993.

In this study the terms 'Tax agency', 'Tax authority', and 'Tax administrator' are interchangeably used.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The purpose of this chapter is to present a literature review of the phenomenon of tax compliance, and the theories found in tax compliance. The chapter goes on to expound on the economic variables in the economic theory of tax compliance, these are the audit rates, penalties and legal sanctions. The review of these variables results in a working hypothesis on their possible effects on tax compliance. Also included in this chapter is a review of taxpayer service. In this chapter, a discussion of taxpayer service from the perspective of a noneconomic approach affecting tax compliance ensues. Consequently, and because of limited prior research on taxpayer service, it is necessary to review the various noneconomic variables to come up with a working hypothesis on the effect of taxpayer service on tax compliance.

2.2 Theories in Tax Compliance

The problem of tax compliance is usually viewed from, the traditional economic perspective that incorporates enforcement/deterrence theories *and/or* the emerging non-economic perspective that incorporates psychological, moral and social theories.

2.2.1 Economic theory/Deterrence theory/Expected Utility theory

The decision to comply or not comply is an economic decision dependent on the risk of being caught cheating, the cost of being caught cheating and the benefit of evasion.

In the theoretical model of Allingham and Sandmo, (1972) tax compliance is a utility maximizing decision (EU) where the taxpayer takes into account the tax rates t , probability of audit p , and the penalty Θ in determining declared income z , in lieu of his true income y .

$$EU = (1-p)u[y(1-t)+tz] + pu[y(1-t) - \Theta z] \quad (2.1)$$

From the equation, the tax compliance decision is a portfolio problem (Witte and Woodbury, 1985) where the taxpayer's objective is to maximize his income depending on the risks and

returns posed. The taxpayer will consider the benefit of tax evasion (unreported income hence unpaid taxes) against the probability of being caught evading (audit rates) and the cost of being caught evading (paying the rightful taxes plus penalties).

In accordance with this perspective to deter non-compliance, the tax authorities will vary the probability of audit and legal sanctions like penalties.

Empirical studies have however found this view of the individual as a completely rational utility maximizing decision-maker inconsistent with actual findings. As a result, other theories now exist to explain the problem of compliance (Alm, 1999).

2.2.2 Other theories in tax compliance

The recurrent conclusion among economic theorists is that even though the standard economic model to a greater degree explains taxpayers reporting behavior ‘it does not explain it *entirely*’ (Graetz & Wilde, 1985). Consequently, numerous researchers have developed comprehensive models that attempt to include noneconomic factors that affect the compliance decision. These models make use of psychological, sociological and behavioral theories to explain ‘why people willingly pay taxes and not why they evade’ Mckerchar et al., (2013).

These theories serve as alternative explanations to the puzzle of tax compliance. The theories serve as stand-alone rationalizations of ‘why people pay taxes’ or serve to extend the fundamental economic theory of tax compliance. Numerous prior studies have adopted the latter view (Feld & Frey, 2002a; 2002b; 2007; Sholz & Pinney, 2005; Slemrod et al., 2001) while fewer adopt the former.

The tax morale theory is often referred by researchers as, ‘the key to the puzzle of tax compliance’ Kornhauser, (2007). Prior studies have defined tax morale as the taxpayers ‘internal motivations’ to pay taxes, Torgler (2003) and often includes personal values, social norms and other cognitive processes. While tax morale is still not a definitive term, prior studies often cite it as a key noneconomic factor influencing tax compliance (Kornhauser, 2007; Torgler, 2003; Feld & Frey, 2007)

Prospect theory is another major alternative theory that explains why people pay taxes, Alm (1999). Researchers first suggested prospect theory as a criticism of the Expected Utility theory - the basis of the economic theory of tax compliance, but now consider it an alternative theory in decision making under risk, Alm (1999). Prospect theory explains why people overweigh the probability of audits, Alm (1999) and is a useful tool in formulating communications with the taxpayer, Kornhauser (2007).

Other theories that have been utilized in modeling tax compliance behavior are; the theory of forced compliance (Chung & Trivedi, 2003), the theory of planned behavior, interactive theory of law enforcement (Graetz et al., 1986; Feld and Frey, 2002a; 2002b), procedural justice theory (Worsham Jr, 1996; Feld and Frey, 2002a; 2002b), and reciprocity theory.

2.3 Audit

The main idea behind the economic theory of compliance is that taxpayers will not pay taxes but for the fear of detection and punishment, Alm, (1999). In his review Slemrod, (2007) asserts that 'no government can announce a new tax policy sit back and wait for the taxpayers' sense of duty to pay taxes'. He continues to state that 'even the dutiful taxpayers will eventually decline in their payments when they see the noncompliant not paying', Slemrod, (2007).

From the seminal paper of Allingham and Sandmo, (1972) an increase in the probability of detection will lead to an increase in the level of compliance. Numerous other researchers have come to the same conclusion (Pommerehne and Weck-Hannemann, 1996; Weck-Hannemann & Pommerehne, 1989; Ali, et al., 2001; Alm et al., 1995).

An increase in the probability of audits decreases the expected net gains from tax evasion reducing its attractiveness to individuals contemplating cheating.

However, despite many studies showing a positive relationship between the probability of detection (audit rates) and tax compliance there is a weak relationship between the two variables that is sometimes inconsistent when segregated between income classes (Slemrod et al., 2001).

In low-income classes Slemrod et al., (2001) found that, the probability of audits resulted in increased tax payments whereas in high-income classes the same increase led to decreased tax

payments. Ali et al, (2001) found the reverse, where audits affected only the high-income earners who increased their tax payments. Slemrod et al., (2001) deduce that high-income earners in view of higher audit probabilities seek the help of financial experts.

The audit risk variable has overtime generated unique observations. One of these is the fact that taxpayers' subjective risk of detection has nothing to do with objective factors (Scholz and Pinney, 1995). Scholz and Pinney go further to imply that the relevant factor in tax compliance research is not the actual risk but the subjective risk of audit. Fischer et al, (1992), further support this. A study conducted in Tanzania by Fjeldstad and Semboja, (2001) on 'why citizens pay taxes' found that Tanzanians pay taxes based on their subjective (perceived) probability of prosecution.

Another distinctive factor in audits that affects its research is the *tax authority's interaction with the taxpayer*. This may be either of two patterns one, where the tax authority commits to an audit model before the filing of returns – the cut-off model and two, where the tax agency cannot commit to an audit strategy – the sequential move game (Andreoni et al, 1998). Dubin and Wilde, (1988) further this analysis and propose a model where when the probability of audit is viewed as endogenous it dramatically changes the results, giving more accurate findings. Cronshaw and Alm, (1995), found the same.

The endogenous nature of the audit rate is another unique distinction. Dubin and Wilde, (1988) were the first to find the audit rate to be endogenous to tax compliance. Due to this, many researchers have preferred to use *instrumental variables* in place of the audit rate; Dubin and Wilde, (1988) and Dubin et al., (1990) used the audit-operating budget per return as an instrument; Beron et al., (1992) use the number of full-time tax agency employees as ratio of the total no. of tax returns filed. However, 'All this instrumental variables have their weaknesses,' Andreoni et al., (1998).

Research into the enforcement strategies has also found that the *elasticity* of audits to compliance is significantly high (Witte and Woodbury, 1985; Alm et al., 1992; 1993). Andreoni et al (1998) even posited that the advantage with audits is that a little enforcement improves compliance

greatly. This may be reflective of taxpayers' propensity to exaggerate the audit risk after hearing about it from third parties (Worsham jr, 1988).

A related feature to the elasticity of audits is the *non-linearity function* of the audit rates. Alm, et al., (1992) find that the relationship between tax compliance and audit is non-linear such that the deterrence effects of audits decrease over time. This finding would concur with Kirchler et al., (2008) "slippery slope" framework that applies the law of diminishing returns to the two dimensions of the tax authority's relationship with the taxpayer – power and trust – that affect tax compliance. This implies that to achieve the same increased compliance rate then tax authorities need to keep investing more in power and trust. There is also a hypothesis that the non-linear relationship between audits and tax compliance is a consequence of the subjective audit risk (Alm, et al., 1992; Kinsey, 1992; Sheffrin and Triest, 1992).

Research has also found *prior audit experiences* to have a negative effect on subsequent tax compliance. Erard, (1992) as quoted in Andreoni et al., 1998 found, using empirical data, that the impact of prior audits was statistically insignificant. More recent research, Guala & Mittone, (2005); Mittone, (2006) have put forward that the experience of audit induces a learning in evaluation of audit probabilities, that is, taxpayers probability of audit will be more realistic than before the audit. This disputes Andreoni et al., (1998) and Alm, (1999) who speculated that taxpayers were trying to get back at the tax authority and hence the reduced compliance after the audits - a phenomenon Alm referred to as the 'bomb crater' effect.

Noneconomic researchers have also hypothesized on the consequences of *audits on taxpayers' tax morale*. Chung and Trivedi, (2003) posit that taxpayers were increasingly averse to intrusive methods of enforcement hence the reason behind tax agencies decreasing use of audits to ensure compliance. Feld and Frey, (2007) concur with Chung and Trivedi, (2003) pointing out that 'deterrence measures provide mixed evidence which may be due to crowding theory – the undermining of an individual's intrinsic willingness to conform to tax laws'. Similar results are found with Feld and Frey, (2002a; 2002b) and Torgler, (2003).

Fjeldstad and Semboja, (2001) also found that in the Tanzanian context *oppressive* enforcement strategies foster *tax resistance* among the citizens the same is found in South Africa by Fjeldstad,

(2004). However, both of these studies are from the context of the local government revenue office.

This leads us to our *first hypothesis* that (the probability of) audit has a significantly positive effect on the level of tax compliance.

2.4 Penalties

Tax authorities find it easier and cost effective to utilize penalties in deterring tax evasion than using audits (Kirchler et al., 2008). This could be due to the costliness, in terms of resources, of increasing the rate of audits as opposed to increasing penalties that only need the passing of a legislature (Kirchler et al., 2008). There have been arguments that since the tax agency cannot adjust the penalties and only a legislative process can do so, we cannot as such examine them as enforcement measures (Witte & Woodbury, 1985; Graetz et al., 1986). However, in as much as tax penalties are legislated, tax authorities have discretion on whom and how to levy. This discretion gives penalties an *enforcement characteristic*.

In some studies on the enforcement measures, the effectiveness of penalties relates to those of audit rates (Alm et al., 1995). However, the effect of audit rates dominates that of penalties (Friedland, 1982) and in some cases, penalties seem to have a *negative impact* (Fjeldstad and Semboja, 2001; Schwartz and Orleans, 1967). Fines levied inappropriately have resulted into greater tax evasion as was found by Fjeldstad and Semboja, (2001) in Tanzania. Kirchler et al., (2008) attribute this effect on the negative perception, by taxpayers, of penalties in an ‘antagonistic’ climate; the same penalties in a ‘synergistic’ climate would produce different results.

Park and Hyun, (2003) experiment in Korea found penalties to have a *greater effect* on compliance than the rate of audits. However, in experimental designs the result is not surprising because the environment creates a gambling atmosphere (Webley et al, 1991). But majority of research leans toward the fact that penalties have *no effect* on tax compliance (Pommerehne and Weck-Hannemann, 1996; Webley et al, 1991; Ali et al., 2001).

A proportionate penalty schedule, where minor evasions that could reasonably be due to error are penalized at lower rates and major tax evasion are imposed a high penalty, has been found more acceptable leading to increased tax compliance (Feld & Frey, 2002a). Feld and Frey find that this effect owes to taxpayers seeing a sense of justice (retributive) done.

This leads us to our *second hypothesis*; that penalties have a positively relationship with the level of tax compliance.

And the *Third hypothesis*; that the effect of penalties on tax compliance is more when combined with audits.

2.5 Criminal Sanctions

Tax agencies normally group taxpayers into income classes with the view that taxpayers in the one income class will exhibit similar compliance behavior (Witte and Woodbury, 1985; Dubin and Wilde, 1988) furthermore; subsequent studies have found differing levels of tax compliance in different income classes (Christian, 1994; Fishlow and Friedman, 1994).

There exists another way of grouping taxpayers, which tax authorities may consider when rendering legal sanctions. Numerous researchers have found that it is possible to group taxpayers according to their *willingness to comply* with tax laws. Posner (2000) grouped taxpayers into Marginal, Mainstream or Deviant communities. In earlier works, Witte and Woodbury, (1985) in their findings that taxpayer attitudes towards government affects tax compliance had a group of *recalcitrant* taxpayers – taxpayers with extreme (negative) attitudes that required extended IRS collection action. Graetz et al., (1986) classifies taxpayers as habitual compliers, strategic compliers, coordinating compliers and ‘criminal non-compliers’.

Criminal penalties and prosecutions have *little or no effect* on tax compliance, Witte and Woodbury, (1985). Witte and Woodbury attribute this to the theory of compliance behavior, which partially says that punishment is not an effective method of preventing undesirable behavior (Fraud Examiners Manual, 2010). The tax agencies should therefore levy criminal sanctions like fraud penalties on the deviant, recalcitrant or criminal non-compliers. However, even in such cases it is not expected that this will affect the net gain or loss of this type of

taxpayer (Braithwaite, 2007) but it might affect the behavior of other types of taxpayers – due to fairness concerns (see 2.6).

This treatment of taxpayers, according to their taxpaying attitude, has led to the *responsive regulation* approach (Braithwaite, 2007). ‘Responsive regulation proposes cooperative strategies for compliant behavior and severe sanctions and incapacitating of wrongdoing for deviant, recalcitrant, or criminal non-compliers in order to persuade such taxpayers to use more cooperative strategies in future’ Kirchler et al., (2008). See also figure 2.1 below.

Figure 2.1 Simple Responsive regulation pyramid



Source: Adopted from Braithwaite, (2003)

Legal sanctions levied on the wrong class of taxpayers would violate retributive fairness concerns (Kirchler et al., 2008); undermine tax-signaling value (Posner, 2000) or reduce tax morale (Torgler, 2003). The recognition of the different motivating factors affecting diverse taxpayers is what brought forth responsive regulation (Braithwaite, 2003 as quoted in Kirchler et al., 2008).

Feld and Frey, (2002b) however found that whereas the punishment of minor offenses has no significant effect on tax evasion the penalty for tax fraud does.

This leads to the *fourth hypothesis* that the level of legal sanctions has no significant effect on the level of tax compliance.

2.6 Taxpayer Service measures

As mentioned in chapter one, taxpayer service as a research area is very recent with the most available and current empirical study carried out in the year 2011.

Alm et al., (2007; 2011) are the only studies that have examined the effects of taxpayer service measures on the level of tax compliance. Even so, the two studies focus on only one dimension of taxpayer service, that is, the informational service aspect. As we have already seen, taxpayer service is multidimensional in nature and includes programs that conduct service demonstrations, tax education, provide compliance requirements information and general information.

To come up with a *working hypothesis* on the effect of taxpayer service activities on tax compliance it will be necessary to examine extant research based on the aforementioned theories and alternative factors, other than economic factors, affecting tax compliance whilst keeping in mind the OECD *objectives of taxpayer service* as mentioned in chapter one.

Feld and Frey, (2007) put forward that ‘the deterrence model of tax evasion cannot explain the high tax compliance rates without referring to an exogenously given tax morale’.

Tax morale has been defined by various researchers as, the taxpayers’ ‘internal motivations to comply’, Kornhauser, (2007), taxpayers’ willingness to comply, Torgler, (2003) and ‘the key to understanding taxpayer compliance behavior’, Kornhauser, (2007). Non-economic researchers have hypothesized tax morale as the variable(s) explaining the difference between predicted and actual tax compliance behavior.

Feld and Frey, (2007) found tax morale to be a function of a number of noneconomic factors, that augment the prediction of the reporting behavior of taxpayers. Such factors include a range of social, psychological, and moral factors (Wu and Teng, 2005). A review of extant research on these factors follows.

Psychological factors: a sense of tax duty increases the taxpayer’s assessment of his probability of detection, that is, the subjective audit risk increases (Scholz and Pinney, 1995) hence his level

of compliance. Many researchers (Braithwaite, 2003; Feld and Frey, 2002a; Scholz and Pinney, 1995; and Feld and Frey, 2002b; 2007) have studied the perception of fairness and they intimate that taxpayers' perception of a system as unfair motivates them to cheat.

Moral factors: Erard and Feinstein, (1994b) found that taxpayers' morals of guilt and shame are important determinants in the taxpayers' reporting decision. However, these sentiments are not important determinants of the level of compliance unless the audit risk perception is constrained to realistic levels. Erard and Feinstein, (1994a) find incorporating the presence of honest taxpayers who voluntarily and honestly pay their taxes alters the conventional economic model and improves its fit to empirical findings. They also find a 'modest' increase in revenue from the audit function when the presence of honest taxpayers is incorporated.

Social factors; sociologists have found that the study of general compliance with the law would be incomplete without a consideration of the behavior of the law enforcement agency. 'In fact in the tax compliance context the behavior of the law enforcement agency is more crucial to understanding taxpayer compliance, Graetz et al, (1986).

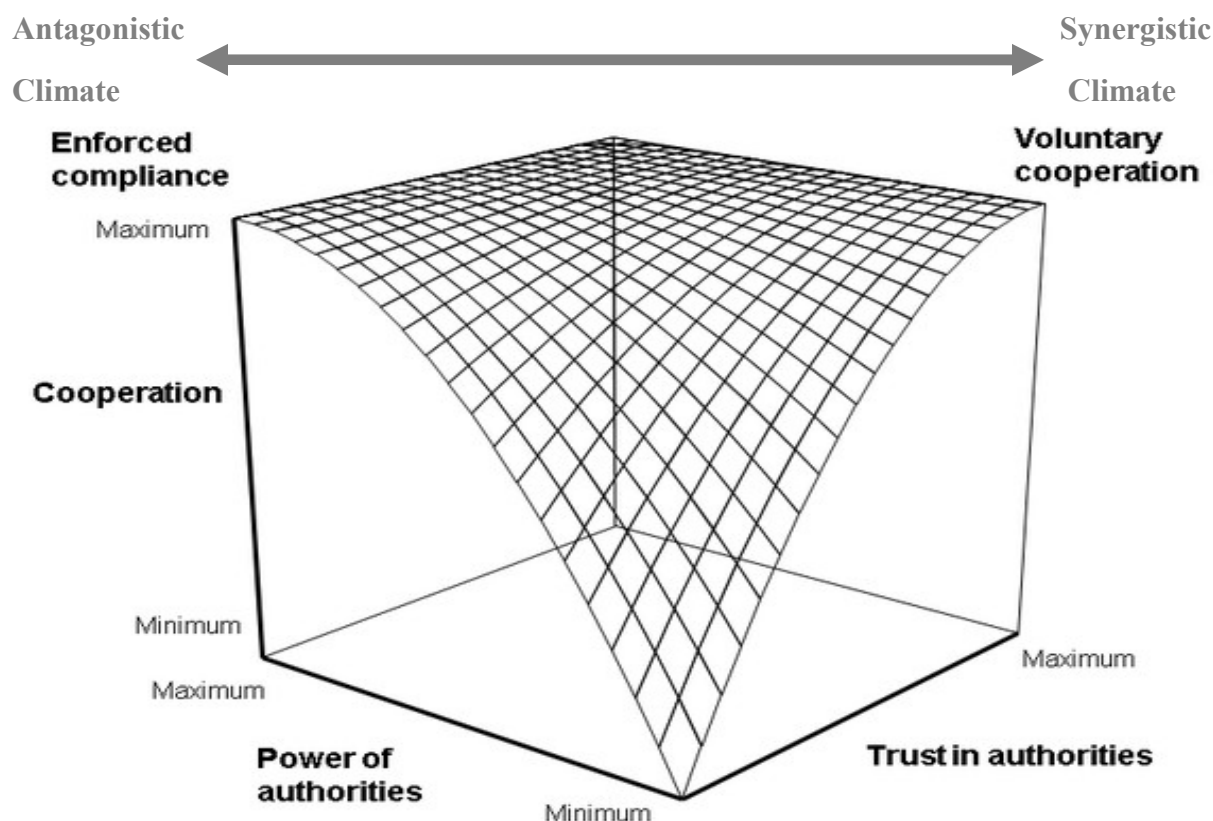
Prior studies have tested the premise that the manner in which the tax agency engages the taxpayer will determine their future compliance behavior, on various dimensions. Feld and Frey (2002a) studied the *trust* factor in the agency and found that trust is important. However, their findings apply only where there are democracy citizen-participation rights. Meaning, in a representative democracy (like Kenya) trust is not significantly important in its effect on tax compliance.

Worsham Jr, (1996) had similar findings on the effect of *procedural justice*. In studying the two aspects of accuracy and consistency, he found that inaccuracy does not affect the level of noncompliance, inconsistency produced a deterrence effect on noncompliance and only indirect inequity (unfairness) caused undesirable taxpaying behavior.

Feld and Frey (2002b) exploration of *interactive justice* found that in representative democracies, respectful procedure increases tax evasion and mistrust of taxpayers reduces tax evasion.

Kirchler et al., (2008) developed the 'slippery slope' framework (see figure 2.2 below) that suggest how tax authorities should operate on the two dimensions of trust and power.

Figure 2.2 the ‘Slippery slope’ framework



Source; Kirchler et al., (2008), pg. 212

For further discussion on this model see Kirchler et al., (2008), a brief explanation however, follows.

Tax authorities will operate in the dimension of trust in a synergistic climate where the interaction with taxpayers is one of ‘service and clients’ and will adopt the element of power in an antagonistic climate where the interaction with taxpayers is one of ‘cops and robbers’. Kirchler et al., (2008) recommend the trust dimension and advise that tax authorities are better of creating a synergistic climate. They also proposed that as the authority increases the use of trust and power, the level of compliance will increase to a certain level and then start experiencing diminishing returns. They also proposed that power and trust moderate each other and that authorities should aim for a balance between the two dimensions.

Chung and Trivedi, (2003) studied the intuitive topic of how *persuasion* as opposed to deterrence will affect tax compliance. They found that persuasive techniques have no effect on compliance

behavior in general and actually decreases tax compliance in men. Slemrod et al., (2001) had similar results.

The study of the noneconomic factors affecting tax compliance varies widely when applied to the *context of other African countries*. Hlope and Friedman, (2002) in *South Africa* argue that the implied social contract between the state and the taxpayer does not exist in many African contexts. What gives the government legitimacy in the eyes of taxpayers and hence causes them to meet their fiscal obligations is not fiscal exchange, but what they call ‘political liberation capital’. Therefore, according to Hlope and Friedman (2002) trust in the government to meet its fiscal responsibilities, is not a relevant factor for taxpayers to meet their tax obligations. Fjeldstad, (2004) study of South African ratepayers found the same lack of a relationship between fiscal exchange and compliance.

However, in the *Tanzanian context*, Fjeldstad and Semboja, (2001) refute earlier claims that ratepayers do not understand the connection between paying of taxes and receiving of services from the government. They find that Tanzanians are not only knowledgeable about fiscal exchange but can articulate it well to the researchers and some ratepayers even believe that lack of public services justifies cheating.

Another important factor in determining tax compliance was found by Fjeldstad and Semboja (2001) in Tanzania and Fjeldstad, (2004) in South Africa - that social interactions are a major factor in deciding whether to comply or not. That is, the people that an individual socializes with (his peers) greatly influence the individual’s compliance. This was the case in South Africa such that one of the recommendations for improving tax compliance was to eliminate risky reliance on others.

All these lead us to the *fifth hypothesis*, that the activities of taxpayer service have a positive but insignificant effect on the level of tax compliance.

2.7 Interaction of Taxpayer service and enforcement measures

Chung and Trivedi, (2003), brought out an examinable finding on the effect of noneconomic factors on tax compliance. Their research concluded that for persuasive techniques to yield

positive results there must exist already a strong deterrent effect like audit or penalty. This appears to suggest that enforcement and service measures complement each other in increasing overall compliance. Alm et al., (2011), put forth the same argument in their study of the effect of taxpayer service on tax compliance - they propose a multi-faceted approach to improving tax compliance where enforcement and service have emphasis.

Kirchler et al., (2008) 'slippery slope' framework, explained earlier also demonstrates this. In the interaction of the two dimensions that the tax authority can operate from – trust and power. The tax authority applies varying degrees of trust and power subject to the climate existing with the taxpayer.

Responsive regulation also suggests a balance between different methods of ensuring compliance, Braithwaite, (2007). The responsive regulation model (see figure 2.3) takes the form of a pyramid in which the motivational postures, regulatory strategies and enforcement are stacked up with increasing severity. The lowest level of regulation suggests education and advice while the top level suggests prosecution and imprisonment in case of noncompliance. See figure 2.3 below adopted from Braithwaite, (2007);

Figure 2.3; Responsive regulation framework

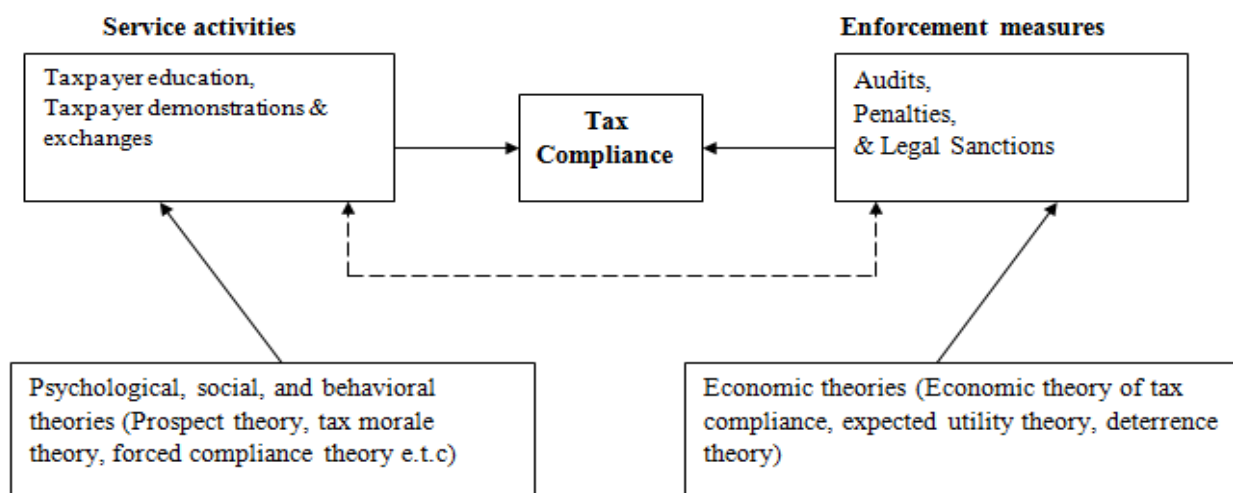


Source; Braithwaite, (2007)

The *sixth hypothesis* therefore is that a combination of taxpayer services activities with any of the enforcement measures yields significant positive results on tax compliance.

2.8 The conceptual Framework

Figure 2.4: Conceptual Framework



2.9 Conclusion

It is evident from the above review of the literature that research on why people pay taxes is not conclusive. The effects of audits, penalties and criminal prosecutions vary sometimes even within the same context (Witte & Woodbury, 1985; Dubin & Wilde, 1988). Inasmuch as studies on tax compliance have involved a mix of experimental designs and empirical data, this does not explain the inconsistency in findings.

The assumption that because economic factors do not fully explain tax compliance therefore, incorporating noneconomic variables would fill the deficiency has not yielded the expected results – that of fully explaining observed tax compliance. Soft variables such as trust, justice, fiscal exchange and fairness have not filled the gap left by economic variables. In view of these outcomes, one would rightly conclude the phenomenon that is tax compliance remains a puzzle.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines how the study is conducted starting from the philosophical approach, which is primary to any research method used (Saunders et al., 2004), to operationalization of concepts used. The chapter proceeds to look at the target population and the choice of sample and sampling technique used and why the sampling technique is used. Then follows a discussion on the data collected for the study and finally an outline of the data analysis conducted for each of the objectives and the testing of the hypothesis.

3.2 Research Design

The research method adopted for any particular study is a result of the paradigm of the research. Saunders et al., (2007), defined a paradigm as ‘the basic world view that guides the investigation’. The paradigm also guides the research philosophy that relates to the development of knowledge and the nature of that knowledge. The research philosophies of epistemology and ontology influence the research methods adopted in the topic of tax compliance, as demonstrated hereinafter.

The major question posed by researchers of tax compliance is ‘how do you measure tax evasion which is by its nature concealed?’ Andreoni et al., (1998). Slemrod, (2007) poses the question, ‘who would answer survey questions about tax evasion honestly?’ and continues to outline that because people find questions about tax evasion ‘personally sensitive and potentially incriminating, self-reports are vulnerable to substantial underreporting’. The self-reporting bias is also because ‘the dividing line between illegal tax evasion and legal tax avoidance is blurry’ - Slemrod, (2007). Elffers et al., (1987) actually found a zero correlation between survey responses by Dutch taxpayers and tax audit results.

3.2.1 Research Philosophy

The perplexities outlined above have forced most researchers on tax compliance to rely either on factual data from the tax agencies or experimental research designs (Slemrod, 2007; Andreoni et al., 1998). This research therefore relies on the principles of positivism whereby we use existing theory (economic theory of tax compliance) to come up with hypothesis that are testable using factual data rather than impressions. Thus the research is, as much as possible, value-free. Related to the epistemology of positivism is the principle of realism. The essence of realism is that objects have an existence independent of the mind. Realism also adopts a scientific approach that underpins data collection and understanding of the data (Saunders et al., 2007). We adopt the stance of the direct realist that says, 'what you see is what you get' Saunders et al., (2007).

The ontology adapted is that of objectivism, which states that social entities exist in a reality external to social actors (Saunders et al., 2007). Thus, tax compliance is a variable apart from social actors.

3.2.2 Research approaches

Earlier, we saw that the choice of method is secondary to the research philosophy. This research adopts the positivist-realist philosophy, which is a scientific approach to research, and consequently adopts the deductive (testing theory) approach. The deductive approach features; the search for causal relationships between variables, collection of data, controls to ensure testing of hypothesis, a highly structured methodology and operationalisation of concepts and generalization. All of these are present in this study.

3.2.3 Research strategy

Explanatory research establishes the causal relationship between variables (Saunders et al., 2004) and in view of our research objective this is the best approach. To answer all of the objectives we adopt an explanatory research strategy. To find out if there are any interaction effects between the enforcement measures and taxpayer service activities we still use the explanatory strategy.

3.3 Target Population and Sample

3.3.1 Target Population

The target population for this study is the self-employed individual income taxpayer. The reasons for settling upon this particular taxpayer are; first, this is dictated by the nature of the research problem. Unlike the corporate taxpayer, the individual taxpayer's response to the actions of the tax authority is easily measured because the individual effect is direct unlike the corporate effect (see 1.4). Second, in 2.2 the phenomenon of tax compliance is viewed as either an economic or non-economic problem. OECD (2004) views tax compliance as an economic or behavioral problem as do other researchers (James & Alley, 1999). Since this study is an attempt to take the behavioral problem into consideration the individual taxpayer is an appropriate subject. Third, indirect taxpayers (VAT and PAYE) are not chosen for the simple reason that they are not involved in the decision of whether to pay or not to pay the taxes. Finally, prior research informs the decision to use individual taxpayers as the target population of this study. From the seminal paper of Allingham and Sandmo (1972) to more recent research (Alm et. al, 2011; McKerchar et al., 2013) the self-employed individual income taxpayer is used as the target population. The reason for using the individual taxpayer by these prior researchers is that the decision to pay taxes is a cognitive process. Other taxes paid by the individual taxpayer do not require consistent filing of returns for example excise tax.

3.3.2 Sample

The sample frame list of self-employed individual income taxpayer is the source of the samples used in this study. A combined/pooled database is the source of non-segregated data, that is, data not grouped according to any criteria. This means, this one database contains data on all types of taxpayers - individuals, partnerships and companies - it also contains taxpayers' data regardless of their sources of income - business, employment, interest, and rent - or levels of income. The following sections contain further explanations on this database.

Before the retrieval of requisite information, we must first ensure that we have the right target population from the combined database, that is, the sample frame list is that of self-employed individual income taxpayers. Then we extract lists of unique individual taxpayers, distinguished by their PINs, eliminating companies and partnerships. From this lists of taxpayers, to ensure we obtain *self-employed* individual income taxpayers' we set a threshold of greater than Zero (>0) on declared business income, rent income, interest income or commission income.

The resultant sample frame list of self-employed individual income taxpayers is in the hundreds of thousands, approximately 800, 000 per financial year. These are the number of self-employed taxpayers who file returns each year declaring business income, rent income, interest income or commission income of more than zero (note; these includes taxpayers that are employed and are also declaring self-employment income).

A major risk that was noted is that this sample frame may include employed taxpayers whose return-of-income might have been captured incorrectly, that is, data was captured showing they have self-employed income while in the actual return they do not. In order to reduce this risk without having to seek the original return-of-income for each of the 800, 000 plus individual taxpayers the earlier mentioned threshold of greater than Zero (>0) declared business income, rent income, interest income or commission income needed to be increased. This was set at a threshold of greater than a hundred thousand ($>100,000$) – assuming that a data capturing error of such a huge amount is unlikely to go unnoticed.

The sample frame list then reduced to a number of approximately fifty thousand (50, 000) taxpayers, that is, these are the taxpayers who declare business income, rent income, interest income or commission income of more than kshs. 100,000 per year.

From this sample list *only* the taxpayers that had been audited were selected, this is because it is only through an audit that true income of the taxpayer, an essential element in determination of tax compliance, can be established (Andreoni et al., 1998), see also the definition of tax compliance in chapter one. This reduced the sample frame significantly, given the limited percentage of taxpayers that are actually audited, to a number of approximately 400 taxpayers per year.

This sampling frame list of the audited self-employed individual income taxpayers with income greater than KShs. 100,000 enabled the selection of a representative sample through the use of the random sampling technique. The sample is of approximately 30 taxpayers per year out of a total of 400 taxpayers per year. This number was informed by statistical threshold for large size sample, $n \geq 30$ Saunders et al., (2007) and by resource constraints.

3.4 Data and Data Collection

3.4.1 Data

It may have well been noticed that majority of the extant research discussed in Chapter 2 was conducted on the US taxpayers and researchers have made use of audit data made available there by the US tax agency, the IRS (TCMP data). Unfortunately data of such quality as the TCMP is not available in Kenya.

The KRA database from which the data is drawn is a combined/pooled database where data is not segregated according to any criteria. That is, this one database contains data on all types of taxpayers - individuals, partnerships and companies - it also contains taxpayers' data regardless of their sources of income - business, employment, interest, and rent - or levels of income.

The database contains information from a taxpayer's filled manual return-of-income (return) in a tabular format, *see appendix* for a sample manual individual return-of-income, I.T.1. Each field on the manual return corresponds to a similar labeled column on the database. Therefore, inasmuch as the database is not categorized, with guidance from the manual return one is able to 'query the database' to retrieve the requisite information.

This study makes use of both aggregate and individual level data. The aggregate level data is a time series for the period 2003 to 2012, which is put together from the individual data – the sample of 30 referred to in 3.3.2. The reason for limiting to this period is due to the ease of access of the data and time and financial limitations of the study.

The aggregate data includes; the number of tax returns filed, the number of tax returns audited, total declared income, total adjusted income, the penalties charged - both civil and criminal,

number of taxpayer service activities and the total number of DTD staff. The last two are obtained from management reports and KRA annual reports made available to the researcher.

The individual level data includes; the individual self-employed taxpayers sampled (see 3.3.2), prior audit done or not done on each of this individuals and penalty charged if any.

3.4.2 Data Collection

This study relies on secondary data in the custody of KRA. The necessary permission and approval was sought in writing to the appropriate authorities to access the data (see appendix). Further, to meet both legal and ethical confidentiality requirements for the tax return data, transformation of data is done to protect the identities of taxpayers.

The data is extracted from the KRA database. The database is accessed using Oracle database management system. Oracle data querying requires use of specially written commands, I sought help from an ICT expert employed at KRA to write this commands which when executed we get the data needed (see appendix for commands used). The data once extracted was exported to excel which is compatible with the SPSS software used for analysis.

3.5 Data Analysis

3.5.1 Operationalization of concepts

Tax Compliance; To establish the level of compliance an audit must have been carried out (Andreoni et al., 1998). In this study, to establish the level of compliance we use data aggregates based on individual tax returns and audit records. Where the total income declared z , is given as a ratio of the taxpayers adjusted (true) income y .

As in other previous research (Andreoni et al., 1998), this study only considered audits that found under declared income. It did not consider those found to have over declared income or with correct income that did not need adjustment.

$$\text{Tax Compliance (TC)} = \frac{\text{Total declared Income } z}{\text{Adjusted (true) Income } y}$$

Audit Rate; the measure of this variable is the number of tax returns filed and audited as the ratio of the total number of tax returns filed;

$$\text{Audit rate (p)} = \frac{\text{number of tax returns filed and audited per year}}{\text{total number of tax returns filed per year}}$$

However, as mentioned in the literature review this measure of audit rate is endogenous to the tax compliance model especially when used in aggregate data sets.

In this study, we use the number of employees in the Domestic taxes department per return as an instrument. This is a widely used instrument in previous studies (Andreoni et al., 1998).

$$\text{Audit rate (p)} = \frac{\text{Number of staff in the Domestic Taxes Department (DTD)}}{\text{Number of returns filed}}$$

Penalties and Criminal sanctions; The measure for this factor is adopted from the Witte and Woodbury, (1988) study

$$\text{Penalties } (\Theta) = \frac{\text{Number of taxpayers with civil penalties}}{100 \text{ returns filed for the year}}$$

$$\text{Criminal Sanctions (cs)} = \frac{\text{Number of taxpayers investigated for fraud}}{100,000 \text{ returns filed for the year}}$$

Taxpayer services: Taxpayer service activities include tax education seminars – both organized by the tax agency and invited, workshops, and tax demonstrations on online filing and online registration. As was mentioned in chapter two prior research on tax compliance has not taken cognizance of taxpayer services. To ensure that our measure of taxpayer service is in agreement with the enforcement variable we use the number of taxpaying activities as a ratio of the number of returns filed per period.

$$\text{Taxpayer service (tps)} = \frac{\text{number of taxpayer service activities}}{\text{Number of returns filed per period}}$$

Interaction terms; the two relevant predictor variables are multiplied to derive the interactional term, before multiplication the variables are mean-centered to reduce correlation with the original variables (Cohen, et al., 2003).

Prior Audits; the variable for prior audit is a Dummy variable where 1 represents the presence of a prior audit in the last 3 years and 0 shows the absence of such an audit.

Penalty charge; the variable penalty charge is also a Dummy variable where 1 represents the presence of a pre-audit penalty and 0 shows the absence of one.

3.5.2 Control Variables

The compliance model in chapter two theorizes that observed level of compliance is a factor of audit rates, penalties, income and tax rates. Another factor also affecting the compliance level is the rate of inflation. While some of these factors are not the concern of this study, their effect on tax compliance is too great to ignore, according to theory and prior research. Therefore, in order to present accurate results we control for each of the affected factors as below.

The level of income will be included as a variable (Y) in computing the expected level of compliance.

Kenya experienced high levels of inflation for the period under study - see Table4/Figure4 on the *Appendix* for annual inflation rates. Therefore, by multiplying the annual inflation rates with the nominal figures of income, income in this study converts to real income.

Tax rates in Kenya have changed only once, in the financial year 2004/2005. This we controlled by making use of the marginal tax rate (MTR) which is the ratio of additional taxes to additional income.

3.5.3 The Estimation Equation

To answer the research questions in chapter one the estimated equation will take the following form;

$$TC_i = X0 + X1p_i + X2\Theta_i + X3ls_i + X4tps_i + \epsilon_i \quad (3.1)$$

The variables are as in 3.5.1 **where**;

p_i denotes the audit rate in period i

Θ_i denotes the penalties period i

ls_i denotes the legal sanctions period i

tps_i denotes the taxpayer service activities period i

ϵ_i denotes an error term in period i

The estimation equation borrows from the economic tax compliance model outlined in chapter two, taking into account taxpayer service (tps). The estimation equation will be estimated using the multiple regression analysis run on the statistical software SSPS. Regression analysis allows the examination of the effects of the predictor variables p_i , Θ_i , ls_i , and tps_i on the explanatory variable TC. We analyze each of the predictor variables' relationship with the response variable with or without taking into account the other variables.

The predictor variables are subject to a test of significance (F test) to find out if the correlations (R-squared) observed are weak (they happened by chance) or strong (indicating a causal correlation is possible). The test of significance is set at 5% ($\alpha=0.05$) which is the most common level of significance among social scientists, Saunders et al., (2007).

Further, regression analysis allows the examination of interactional effects of any of two predictor variables. Tests of correlation and a derivation of interaction terms followed by a computation of the R-squared for the interaction terms check for interaction effects.

At the individual-level analysis, the predictor dummy variables of *prior audit* and *penalty charge* are regressed against the response variable tax compliance (TC). Tests of significance of this relationship will show their effect.

3.5.4 Research objectives

By examining predictor variables p_i , Θ_i , and cs_i relationship with the response variable TC we satisfy research question one and we answer research question two by an examination of the predictor variable tps_i with the response variable TC. Satisfaction of research question three is by an examination of the relationship between the derived interaction terms with the response variable and a test of significance for the R-squared of the interaction term.

3.5.5 Hypothesis testing

To test the hypothesis in chapter 2; first hypothesis (H1), the second hypothesis (H2), the fourth hypothesis (H4) and the fifth hypothesis (H5) the R-squared of the variables p_i , Θ_i , cs_i and tps_i are tested for significance at the 5% level respectively.

The third hypothesis (H3) will be tested by computation of the R-squared of variable Θ_i and p_i , that is, $(r_{p\Theta_{tc}})^2 - (r_{\Theta_{tc}})^2$ and testing this for significance. The sixth hypothesis (H6) will need derivation of the interactional terms between the predictor variables p_i , Θ_i , cs_i on the one hand and variable tps_i . The resultant interactional terms (for instance; I_{pi} , $I_{\Theta i}$, I_{csi}) can then be tested for significance.

First hypothesis; the probability of audit has a significantly positive effect on the level of tax compliance

$$H1_0: p_{ptc} \text{ value} = 0.05$$

$$H1_1: p_{ptc} \text{ value} < 0.05$$

The effect of audit is tested further at the individual level by the (non) significance of presence or absence of **prior audits** on tax compliance

Second hypothesis; the level of penalties is positively related to the level of tax compliance.

H2₀; $p_{\Theta tc}$ value = 0.05

H2₁: $p_{\Theta tc}$ value < 0.05

The effect of the penalty is also further tested by the (non) significance of the presence or absence of the pre-audit **penalty charge** on tax compliance

Third hypothesis; the effect of fines and penalties on tax compliance is more when combined with audits. This is an interactional effect and therefore we test R-squared $((r_{p\Theta tc})^2 - (r_{\Theta tc})^2)$ for significance

H3₀; $(r_{p\Theta tc})^2 - (r_{\Theta tc})^2$ p value = 0.05

H3₁: $(r_{p\Theta tc})^2 - (r_{\Theta tc})^2$ p value < 0.05

Fourth hypothesis; the level of criminal sanctions has no significant effect on the level of tax compliance.

H4₀; p_{cs} value = 0.05

H4₁: p_{cs} value < 0.05

Fifth hypothesis; the activities of taxpayer service have a positive but insignificant effect on the level of tax compliance.

H5₀; p_{tps} value = 0.05

H5₁: p_{tps} value < 0.05

Sixth hypothesis; that a combination of taxpayer services activities with any of the enforcement actions yield significant positive results on tax compliance. Similar to the third hypothesis (H3) this hypothesis tests for an interactional effect. To test the interactional effect we derive the interactional terms I_p , I_{Θ} , and I_{cs} where;

I_p is the interactional term for the effect of combining audit and taxpayer service,

I_{Θ} is the interactional term for the effect of combining penalty and taxpayer service, and

I_{cs} is the interactional term for the effect of combining criminal sanctions and taxpayer service

Therefore, we will test each of the terms for significance to find the interactional effect of enforcement with taxpayer service.

H6₀; p_{I_p} value = 0.05; $p_{I_{\Theta}}$ value = 0.05; $p_{I_{cs}}$ value = 0.05

H6₁: p_{I_p} value < 0.05; $p_{I_{\Theta}}$ value < 0.05; $p_{I_{cs}}$ value < 0.05

CHAPTER 4

RESEARCH FINDINGS

4.1 Introduction

This chapter presents the findings of the data analysis carried out to fulfill the research objectives and test hypothesis outlined in the previous chapters. It is a multilevel analysis that presents separately the aggregate and individual level effects.

4.2 Aggregate level analysis

4.2.1 Pre-analysis assumptions

The dependent variable TC and the independent variables p , Θ , ls , tps variable including control variables Y and MTR were regressed to come up with the initial bivariate correlation coefficients.

To carry out the correlation analysis however, we must first ensure the data set in table 4.1 meets the assumptions of Pearson's correlation coefficient. The assumptions are that the data are interval and normally distributed as is shown in table 4.2 below.

Table 4.1; Aggregate relevant variables

Year	TC	p	Θ	tps	ls	Yn	MTR	Yr
2003	56.80	0.001951	5.5709	0	5.16755	2374774	27.38	2162818
2004	46.10	0.001759	3.4201	0	4.297296	2577421	27.22	2305490
2005	33.62	0.001645	2.1620	0	5.351163	2514296	26.47	2288377
2006	34.94	0.001632	2.2004	0.01613	5.242154	2643235	27.65	2492678
2007	35.13	0.001831	3.7258	0.043509	7.119671	6915925	28.09	6633344
2008	42.56	0.001853	1.4619	0.148284	5.956689	2128076	27.97	1848893
2009	48.92	0.001559	4.1931	0.303772	4.039683	3882112	27.85	3511952
2010	20.58	0.001524	1.1898	0.467944	6.35484	6768507	28.14	6503177
2011	30.75	0.001506	9.3302	0.683581	33.46259	8072351	28.71	7081010
2012	41.81	0.001496	10.0472	1.023947	0.519181	3721144	29.82	3401411

The Kolmogorov-Smirnov test and its counterpart Shapiro-Wilk test demonstrate the variables in the data set are interval and normally distributed as shown in table 4.2 below;

Table 4.2; Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Tax Compliance rate	.151	10	.200 [*]	.984	10	.983
Audit rate	.175	10	.200 [*]	.909	10	.273
Penalty rate	.218	10	.198	.854	10	.065
Taxpayer service	.238	10	.116	.803	10	.016
Legal sanctions	.427	10	.000	.548	10	.000

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

All variables, with the exception of legal sanctions (ls), had a greater than significance value (sig. >0.5) which means they are significantly normal. Histograms with normal curves confirmed this output.

The non-normality of ls is due to the outlier in year 2011; removing or replacing this outlier with a mean score adjusted by the standard deviation restored this variable to normality.

4.2.2 Correlation Analysis

The original estimation equation in chapter three - $TC_{ij} = X_0 + X_1p_i + X_2\theta_i + X_3ls_i + X_4tps_i + \epsilon_i$ - is estimated using linear regression of each variable at a time due to the limited sample size, N.

After confirming that all relevant assumptions in 4.2.1 hold, the results of the bivariate correlation analysis on all the variables is as shown in table 4.3 below.

Table 4.3; Correlation Analysis

		Correlations				
		Tax Compliance rate	Audit rate	Penalty rate	Taxpayer service	Legal sanctions
Tax Compliance rate	Pearson Correlation	1	.556 [*]	.205	-.256	-.437
	Sig. (1-tailed)		.047	.285	.238	.104
	N	10	10	10	10	10
Audit rate	Pearson Correlation	.556 [*]	1	-.340	-.719 ^{**}	.190
	Sig. (1-tailed)	.047		.168	.010	.300
	N	10	10	10	10	10
Penalty rate	Pearson Correlation	.205	-.340	1	.731 ^{**}	-.284
	Sig. (1-tailed)	.285	.168		.008	.213
	N	10	10	10	10	10
Taxpayer service	Pearson Correlation	-.256	-.719 ^{**}	.731 ^{**}	1	-.343
	Sig. (1-tailed)	.238	.010	.008		.166
	N	10	10	10	10	10
Legal sanctions	Pearson Correlation	-.437	.190	-.284	-.343	1
	Sig. (1-tailed)	.104	.300	.213	.166	
	N	10	10	10	10	10

*. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

The usual caution in interpreting the Pearson's correlation coefficient, r , applies – correlation does not equal causation. To infer causation from the correlation coefficient we must refer to the background theories and literature.

The relationship between tax compliance and audit rate is as expected, a positive relationship $r = .556$, significant at $p < 0.05$. This means as audit rate increases tax compliance rate increases.

The relationship between tax compliance and penalty rate is positive $r = .205$, however this is not significant with a p value > 0.05 . The effect size – medium – and its non-significance is not surprising in view of prior studies on the variable.

Tax compliance and taxpayer service are negatively correlated, $r = -.256$, even so, this relationship is non-significant at $p > 0.05$. This relationship should also be viewed with extra

caution due the general small sample size of the aggregate data, and since taxpayer service activities started in earnest in year 2006. Nonetheless, the direction of the relationship is as expected from prior studies of the variable.

Criminal sanctions and tax compliance are negatively related with a medium effect size, $r = -.437$, which is not significant ($p > 0.05$). This is also as expected from prior studies of the variable.

4.2.3 Regression Analysis

The simple regression analysis of TC against each independent variables p , Θ , cs , and tps resulted in following SPSS output;

Audit rate (p)

SPSS output for regressing audit rate against tax compliance

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.556 ^a	.309	.223	9.0744772	2.189

a. Predictors: (Constant), Audit rate

b. Dependent Variable: Tax Compliance rate

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	295.191	1	295.191	3.585	.095 ^b
	Residual	658.769	8	82.346		
	Total	953.960	9			

a. Dependent Variable: Tax Compliance rate

b. Predictors: (Constant), Audit rate

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-19.825	31.265		-.634	.544
	Audit rate	35178.461	18580.057	.556	1.893	.095

a. Dependent Variable: Tax Compliance rate

A unit change in the audit rate explains a 31% (with an R-squared of 0.309) variability in tax compliance.

The F-statistic shows that the estimation model with audit rate as a predictor variable is a good fit, it is significant at $p < 0.1$.

The standard error of estimate shows that the average error from the regression line is 9.07. The regression coefficient for audit rate is positive and significant, $p < 0.1$, this means it is a good estimator of tax compliance. The standardized b tells us that for each standard-deviation unit of increase in audit rate, we predict slightly more than a half of a standard deviation increase in tax compliance.

Penalty Rate (Θ)

SPSS output for regressing penalty rate against tax compliance

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.205 ^a	.042	-.078	10.6877973	1.258

a. Predictors: (Constant), Penalty rate

b. Dependent Variable: Tax Compliance rate

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.128	1	40.128	.351	.570 ^b
	Residual	913.832	8	114.229		
	Total	953.960	9			

a. Dependent Variable: Tax Compliance rate

b. Predictors: (Constant), Penalty rate

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	36.193	5.986		6.047	.000
	Penalty rate	.676	1.141	.205	.593	.570

a. Dependent Variable: Tax Compliance rate

A unit change in penalties explains a 4.2% (with an R-squared of 0.042) variability in tax compliance.

The F-statistic shows that the estimation model with penalties as a predictor variable is not a good fit, it is non-significant at $p > 0.1$.

The standard error of estimate shows that the average error from the regression line is 10.7. The regression coefficient for penalties is positive and non-significant, $p > 0.1$ that means it is not a good estimator of tax compliance. The standardized b tells us that for each standard-deviation unit of increase in penalties, we predict .205 of a standard deviation increase in tax compliance.

Criminal Sanctions (cs)

SPSS output for regressing criminal sanctions against tax compliance

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.437 ^a	.191	.089	9.8244398	1.435

a. Predictors: (Constant), Criminal sanctions

b. Dependent Variable: Tax Compliance rate

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	181.803	1	181.803	1.884	.207 ^b
	Residual	772.157	8	96.520		
	Total	953.960	9			

a. Dependent Variable: Tax Compliance rate

b. Predictors: (Constant), Criminal sanctions

Coefficients^a

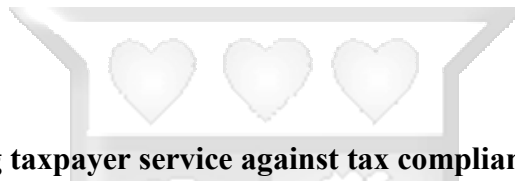
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	50.273	8.699		5.779	.000
	Criminal sanctions	-2.124	1.547	-.437	-1.372	.207

a. Dependent Variable: Tax Compliance rate

A unit change in criminal sanctions explains 19.1% (R-squared of 0.191) variability in tax compliance.

The F-statistic shows that the estimation model with criminal sanctions as a predictor variable is not a good fit, it is non-significant at $p > 0.1$.

The standard error of estimate shows that the average error from the regression line is 9.8. The regression coefficient for criminal sanctions is negative and non-significant, $p > 0.1$ that means it is not a good estimator of tax compliance. The standardized b tells us that for each standard-deviation unit of increase in criminal sanctions, we predict .437 of a standard deviation decrease in tax compliance.



Taxpayer service (tps)

SPSS output for regressing taxpayer service against tax compliance

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.256 ^a	.066	-.051	10.5558130	1.632

a. Predictors: (Constant), Taxpayer service

b. Dependent Variable: Tax Compliance rate

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	62.558	1	62.558	.561	.475 ^b
	Residual	891.401	8	111.425		
	Total	953.960	9			

a. Dependent Variable: Tax Compliance rate

b. Predictors: (Constant), Taxpayer service

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	41.121	4.274		9.621	.000
	Taxpayer service	-7.444	9.934	-.256	-.749	.475

a. Dependent Variable: Tax Compliance rate

A unit change in taxpayer service explains 6.6% (R-squared of 0.066) variability in tax compliance.

The F-statistic shows that the estimation model with taxpayer service as a predictor variable is not a good fit, it is non-significant at $p > 0.1$.

The standard error of estimate shows that the average error from the regression line is 10.5. The regression coefficient for taxpayer service is negative and non-significant, $p > 0.1$ that means it is not a good estimator of tax compliance. The standardized b tells us that for each standard-deviation unit of increase in taxpayer service, we predict .256 of a standard deviation decrease in tax compliance.

4.2.4 Interaction analysis

To test the hypothesis of the effect of interaction of enforcement measures, p , Θ , and Is and taxpayer service, tps we regressed Interaction terms I_p , I_Θ , and I_{cs} against TC . The correlation analyses of interaction terms also test the effect of a combination of audits and penalties. The results are as shown in table 4.4 below.

Table 4.4; Correlation Analysis of interaction variables

		Correlations				
		Tax Compliance rate	Interaction of Audit rate and taxpayer service	Interaction term of legal sanctions and taxpayer service	Interaction term of Penalty rate and taxpayer service	Interaction of Audit rate and Penalty
Tax Compliance rate	Pearson Correlation	1	-.179	-.184	-.024	-.204
	Sig. (1-tailed)		.310	.305	.474	.286
	N	10	10	10	10	10
Interaction of Audit rate and taxpayer service	Pearson Correlation	-.179	1	.602 ⁺	-.720 ^{**}	.841 ^{**}
	Sig. (1-tailed)	.310		.033	.009	.001
	N	10	10	10	10	10

		Tax Compliance rate	Interaction of Audit rate and taxpayer service	Interaction term of legal sanctions and taxpayer service	Interaction term of Penalty rate and taxpayer service	Interaction of Audit rate and Penalty
Interaction term of legal sanctions and taxpayer service	Pearson Correlation	-.184	.602*	1	-.677*	.399
	Sig. (1-tailed)	.305	.033		.016	.126
	N	10	10	10	10	10
Interaction term of Penalty rate and taxpayer service	Pearson Correlation	-.024	-.720**	-.677*	1	-.809**
	Sig. (1-tailed)	.474	.009	.016		.002
	N	10	10	10	10	10
Interaction of Audit rate and Penalty	Pearson Correlation	-.204	.841**	.399	-.809**	1
	Sig. (1-tailed)	.286	.001	.126	.002	
	N	10	10	10	10	10

*. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

The interaction of enforcement measures and taxpayer service does not produce any positive effect. However, viewed in comparison to the effect of taxpayer service individually, $r = -.256$, all the combinations of taxpayer service and enforcement, except for legal sanctions, $r = -.539$, are an improvement. The combination of audit and penalties has a negative effect, $r = -.204$. Notably, the relationships of all of the interaction terms are non-significant.

4.2.5 Partial analysis

In view of the above results, the individual effect of each of the measures – audit, penalties and taxpayer service - on tax compliance holding the other constant was tested. Partial correlation analysis results are as shown in tables 4.5 and 4.6 below.

Table 4.5 Partial analysis of enforcement variables

Correlations			Tax Compliance rate	Penalty rate	Audit rate
Control Variables; Taxpayer service					
	Tax Compliance rate	Correlation	1.000	.594	.554
		Significance (1-tailed)	.	.046	.061
		df	0	7	7
	Penalty rate	Correlation	.594	1.000	.391
		Significance (1-tailed)	.046	.	.149
		df	7	0	7
	Audit rate	Correlation	.554	.391	1.000
		Significance (1-tailed)	.061	.149	.
		df	7	7	0

When the effect of taxpayer service is controlled the relationship between audit and tax compliance improves, $r = .594$, significant at $p < 0.05$ and so does the effect of penalty rates, $r = .554$, significant at $p < 0.1$.

Table 4.6 Analysis of controlling for Audit rate

Correlations			Tax Compliance rate	Penalty rate	Taxpayer service
Control Variables; Audit rate					
	Tax Compliance rate	Correlation	1.000	.504	.249
		Significance (1-tailed)	.	.083	.259
		df	0	7	7
	Penalty rate	Correlation	.504	1.000	.744
		Significance (1-tailed)	.083	.	.011
		df	7	0	7
	Taxpayer service	Correlation	.249	.744	1.000
		Significance (1-tailed)	.259	.011	.
		df	7	7	0

When the effect of audit is controlled the relationship between penalty and tax compliance improves, $r = .504$, significant at $p < 0.1$ and so does the effect of taxpayer service, $r = .249$, however this is still not significant, $p > 0.1$.

4.3 Individual level Analysis

Multiple regression analysis of individual data enables us to supplement findings from the aggregate-level data analysis - specifically the effects of audits and penalties.

Prior audits and penalty charge are regressed against the tax compliance (TC) of individual taxpayers for the years 2003 to 2012, controlling for income (Y) and tax rates (R).

The F-statistic for each of the years with the exception of years 2003, 2006 and 2011 was non-significant, $p > 0.1$. The t-statistic for the prior audit and penalty charge are non-significant for 2003 and 2006.

Detailed findings are as shown in table 4.7, 4.8, 4.9 and 4.10 below.

Table 4.7; 2011 effect of prior audit and penalty charge on TC

Model Summary ^{a,c}										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.659 ^b	.435	.309	27.8543144	.435	3.459	4	18	.029	2.077

a. Financial Year = 2011

b. Predictors: (Constant), Marginal Tax Rate, Penalty charge, Prior Audit, Income

c. Dependent Variable: Tax Compliance Rate

Table 4.8; 2006 effect of prior audit and penalty charge on TC

Model Summary^{a,c}										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.589 ^b	.347	.228	26.8239836	.347	2.918	4	22	.045	2.069

a. Financial Year = 2006

b. Predictors: (Constant), Marginal Tax Rate, Prior Audit, Penalty charge, Income

c. Dependent Variable: Tax Compliance Rate

Table 4.9; 2003 effect of prior audit and penalty charge on TC

Model Summary^{a,c}										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.481 ^b	.231	.141	29.2363222	.231	2.557	4	34	.056	1.718

a. Financial Year = 2003

b. Predictors: (Constant), Marginal Tax Rate, Prior Audit, Penalty charge, Income

c. Dependent Variable: Tax Compliance Rate

Table 4.10 other statistics - prior audit and penalty charge on TC

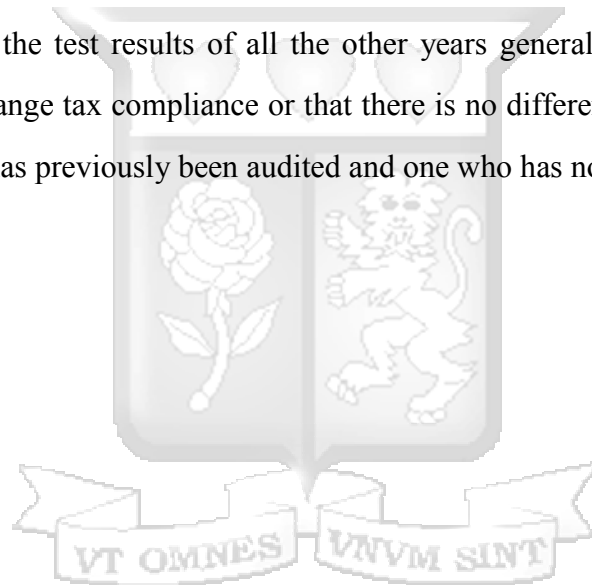
Other statistics are as follows;

	statistic	2003	2006	2011
Prior Audit	r	-.045	.5	-.354**
	B	-3.8	16.9	-23.31*
	beta coeff	-.059	.258	-.355*
Penalty charge	r	-.446***	-.218	-.315*
	B	-30.7**	-10.6	-12.04
	beta coeff	-.464**	-.147	-.139
*p<0.1, **p<0.05, ***p<0.001.				

Using the significant results of the financial year 2011 to interpret the effect of prior audits, it indicates that prior audits have a negative effect on tax compliance. Prior audit has a negative medium effect, $r = -.354$, significant at $p < 0.05$ in the year 2011. The same can be said of the effect of penalty charges, with a negative medium effect, $r = -.315$ significant at $p < 0.1$.

The same tests, without the control variables of income and marginal tax rates produce almost similar results. In 2003, prior audit had an $R^2 = .002$ (0.2%) meaning prior audit could only explain 0.2% of the variance in tax compliance even so, it was non-significant with $p > 0.1$. Adding the penalty charge to the equation we get an $R^2 = .161$ (16.1%), significant at $p < 0.05$. Durbin Watson of 1.643 shows there is no multicollinearity.

The non-significance of the test results of all the other years generally means that prior audit does not significantly change tax compliance or that there is no difference in the tax compliance level of a taxpayer who has previously been audited and one who has not.



CHAPTER 5

DISCUSSIONS AND CONCLUSION

5.1 Introduction

The purpose of this chapter is to discuss the empirical findings of this research in view of theory and prior studies. It is also the final chapter and therefore serves as a conclusion of the study, making recommendations where necessary. The chapter also explains the limitations encountered while conducting the study.

5.2 Research Summary

The purpose of this study was to explore the relationships and associations that exist between tax enforcement measures, taxpayer service activities and tax compliance. Aggregate data relating to the enforcement measures and taxpayer service was regressed against aggregate tax compliance data. At the individual level, the absence or presence of prior audit and penalty charge was regressed against an individual taxpayer's level of compliance.

The enforcement measure of audit rate was, as expected, found to have a significant positive relationship with tax compliance. This is in line with both the tax compliance theory and majority of prior studies on the variable. The effect of prior audit was as expected, non-significant. The relationship between penalty rate and tax compliance is positive but insignificant. Compared to prior studies the result is not unexpected. Prior studies have set forth conflicting relationships between penalties and tax compliance but the most common result in these studies is the non-significance of the relationship. The result of the relationship between criminal sanctions and tax compliance was as expected – negative and non-significant. The negative relationship is congruent with compliance theory, that punishment is not an effective way of deterring undesired behavior, and majority of prior studies.

The relationship between taxpayer service and tax compliance seems intuitively surprising until prior research is considered. It is, for instance, consistent with the finding of Krause, (2000) where tax complexity was found to be an advantage to the tax authority. The interaction between

enforcement and taxpayer service was as expected – enforcement makes taxpayer service more effective. This fits well with the responsive regulation approach and other studies that explore the integration of non-economic measures and enforcement measures.

5.3 Discussions and Conclusions

5.3.1 Audit

The hypothesis is that a significant positive relationship exists between the probability of audit and tax compliance. The study found that the relationship is a positive one, the effect medium and significant. This means that as the probability of audit increases tax compliance increases significantly. The economic theory of tax compliance states that as the possibility of being detected cheating increases, there is an increase in the level of compliance. Therefore, the findings of this study are as expected and in line with theory and majority of prior studies. The large audit rate coefficient also means that tax audits are an effective enforcement strategy for ensuring compliance for the Kenyan tax authority. It is fitting with Andreoni et al., (1998) that ‘a small increase in (the probability of) audit increases compliance by a good margin’.

The interaction of audit with the other instrument of enforcement, penalty rates, gives a surprisingly negative relationship. We should bear in mind that non-compliant taxpayers such as late-filers, non-payers, and late-payers are the ones that incur penalties. Taxpayers may therefore view as too harsh a punishment on a minor offense, levying penalties and at the same time auditing, and hence, as literature suggests, this would violate retributive justice concerns and thus reduce tax compliance.

We hypothesized that prior audits have no effect on tax compliance. The effect of prior audits was as expected. This study found that in seven out of the ten years covered, prior audits had no significant effect on tax compliance and in some of the years, the p-value was almost one. Previous studies found prior audits have a non-significant effect and sometimes even a negative effect on compliance – this was the case in this study for the years 2003, 2006 and 2011. The

cause of this negative effect might be what prior research refers to as a ‘bomb crater’ effect – taxpayers trying to ‘get-back’ at the authority after the audit.

This negative effect of prior audits could also be due to an audit experience inducing a realistic evaluation of the probability of audit because, as mentioned in chapter 2, much of the probability of audit is subjective. The disparity between the non-significant and sometimes negative effect of prior audits and the positive significant effect of the probability of audit would also seem to suggest that an audit experience induces a realistic evaluation of the probability of audit. This indicates that the taxpayer will be more compliant when he perceives a high probability of audit, but once audited thereafter, his level of compliance will go down. What these findings imply is that a taxpayers’ future compliance will not automatically improve just because he has had an audit conducted. There may be need to follow-up such taxpayers to ensure improved future compliance

5.3.2 Penalties

The hypothesis is that penalty rates have a positive relationship with tax compliance. The findings are consistent with this hypothesis – penalty rates have a positive relationship with tax compliance, albeit non-significant. The imposition of penalties improves tax compliance but only just. This could be indicative of the fact that penalties are more of a legislative process than they are an enforcement strategy – as explained chapter two.

An earlier study done in the US by Witte and Woodbury, (1985) showed that, notices of penalties charged sent out to taxpayers by the data processing unit had a significant effect on tax compliance. If the data processing unit adopted this method concerning penalties, that is, sending out notices of penalties owed, it might greatly improve the effect of penalties on tax compliance. After all, penalties are a much cheaper enforcement measure and more far reaching. This would also counter the problem of penalties charged to unknowing taxpayers.

Another hypothesis is that the interaction of penalties and audit has a positive effect, more than what penalty rates would have on their own. The findings however, point us to a different direction. Penalties together with the probability of audit have a negative relationship with tax

compliance. As discussed earlier in this chapter, the imposition of penalties and audits might seem too harsh for the offense hence causing the negative relationship.

The hypothesis was also that prior penalty charge has a positive relationship with tax compliance. However, as with prior audits this was not the case, - the relationship between penalty charge and tax compliance is mostly non-significant and for the three years 2003, 2006 and 2011 it was a significant, negative relationship. The explanation for the interaction effect of penalties and audit would also apply to the negative relationship between penalty charge and tax compliance.

5.3.3 Criminal sanctions

The study hypothesized that criminal sanctions have a non-significant effect on tax compliance, and indeed this is what the findings indicate. What is of interest is the direction of the relationship – criminal sanctions have a negative relationship with tax compliance. This negative correlation though has backing in theory and in research as was seen in chapter two. The theory of compliance behavior and criminal psychology both state that punishment does not help prevent undesirable behavior. Previous studies have also found that punishment of non-compliant taxpayers tends to erode tax morale – internal motivation to pay taxes.

An important point to consider while analyzing this effect is the classification of taxpayers according to their compliance behavior. In chapter two it was discussed that there are among others ‘habitual compliers’, ‘strategic compliers’, and ‘criminal non-compliers’. Criminal sanctions should be imposed on ‘criminal non-compliers’. Literature further tells us that this type of taxpayer is highly unlikely to change their behavior because of the sanctions, and this is because they are already involved in criminal activity and to be tax compliant might further expose them. Applying sanctions on the other groups like the ‘habitual compliers’ and ‘strategic compliers’ will result in resistance, as the sanctions may seem not to be commensurate to the offense. Therefore, it is important that sanctions are applied to the right group of taxpayers otherwise when applied to the wrong group they will have a negative relationship with tax compliance.

Therefore, the question becomes, ‘what purpose do criminal sanctions serve?’ Retributive fairness concerns affects compliance of other classes of taxpayers.

Responsive regulation, discussed in the literature review, also sheds light on this finding. In essence, sanctions should be applied to the right group of taxpayers - the unwilling - otherwise when applied to the wrong group - the willing - they will have a negative relationship with tax compliance.

5.3.4 Taxpayer Service

This study hypothesized taxpayer service has a non-significant positive relationship with tax compliance. The relationship of taxpayer service to tax compliance was non-significant although negative. Viewed intuitively this appears to be a surprise finding. Naturally, we would expect people to react positively when persuaded, educated, facilitated or informed about desired behavior like tax compliance as opposed the to use of tools of enforcement - examination, scrutiny and control. However, if we consider previous findings and context as the backdrop of this study, the empirical results of the effect of taxpayer service on tax compliance will have much more meaning.

First, one of the objectives of taxpayer service is to reduce tax complexity. Previous studies show that the uncertainty about tax – procedures, deductions, etc – increases the risk perception of the taxpayer. That means the taxpayer perceives tax compliance as a risk that he endeavors to reduce by overpaying taxes. In the discussion on the effect of audit, taxpayer compliance increases the higher the probability of audit. Thus, research has hypothesized that the ‘taxpaying psychology’ centers on risk and uncertainty. Taxpayer service reduces tax complexity and ‘induces in the taxpayer a more realistic probability of audit’. It is due to these reduced risks that taxpayer compliance would decrease. Actually, in the findings, there is a negative correlation between the probability of audit and taxpayer service.

Second, in the introduction chapter, this study defines tax compliance as the fulfillment by the taxpayer of a number of tax obligations with the tax authority. These obligations include; registration in the system, timely filing of returns, accurate and complete reporting of tax

information and timely payment of taxes. In this study, the definition adopted for tax compliance is the difference between reported and true income. Tax compliance in terms of registration, filing of returns and tax information reporting is not considered. It may well be that this is where taxpayer service has a significant effect. Actually, prior studies have shown that taxpayer service reduces tax noncompliance in terms of returns filing and reporting.

This has enormous implications for economies with large informal sectors, such as Kenya and other developing economies. It is in the informal sector where taxpayers do not register with the tax authorities and eligible taxpayers do not file requisite returns and information. However, the relationship between taxpayer service and these other aspects of noncompliance can only be determined with a study in which these variables are present.

5.3.5 Interaction of the enforcement measures and Taxpayer service

The interaction between taxpayer service and enforcement was hypothesized would improve the sole effect of taxpayer service. The findings of the study confirm this. The combined effect of taxpayer service with enforcement had a better effect on tax compliance than when taxpayer service is acting singlehandedly.

This finding should reinforce the earlier discussion of the two dimensions the tax authority operates in – trust and power – and the climate that exists with the taxpayer – antagonistic and synergistic. Taxpayer service would signify trust while enforcement would characterize power.

The interactional effect between taxpayer service and enforcement demonstrates that it is possible for the tax authority to operate with an optimal combination of taxpayer service and enforcement, where tax compliance is at a maximum. This would also indicate that responsive regulation would be an effective approach.

5.4 Implications of the Research

The main contribution of this study is to explore the relationship that exists between the tax authority's intervention measures and tax compliance. The relationship explored in this study has various implications.

5.4.1 Enforcement measures

The findings of this study suggest that the most effective intervention measure is enforcement with the probability of audit having a significant, large, and positive effect. The variable to note is the probability of audit and not (prior) audit. The disparity between the effect of prior audits and that of the probability of audit needs further research to ascertain the causes.

Further research on the effect of penalties is important - penalties are a much cheaper enforcement measure and more far reaching. Unlike audits, where there is an engagement with the taxpayer, imposition of penalties involves a more or less automatic process. There is less or no engagement of the taxpayer to establish that a penalty is due. This makes them a cheaper enforcement measure.

A study on the issuance of penalty notices to taxpayers is also vital. This avoids situations where penalties are charged and the taxpayer is unaware of them or the taxpayer gets to know much later – thus defeating the deterrence effect of the penalty. This could be a major reason majority of earlier studies lean on the fact that penalties have no significant relationship with compliance.

5.4.2 Taxpayer Service

Taxpayer service needs a lot of further research in order to discuss confidently its effect on tax compliance. This comes out clearly from prior studies on taxpayer service. The studies are few and rarely empirical.

Taxpayer service has a negative relationship with tax compliance; however, this should not be an indication of its lack of overall effectiveness – as was mentioned in the discussion, it maybe that the measure of tax compliance adopted here is not applicable to taxpayer service. There is therefore need for research to find out the relationship between taxpayer service and the different possible definitions of tax compliance.

There is need to carry out *empirical* research on the aspects that may contribute to the (negative) relationship between taxpayer service and tax compliance. The following are possible considerations for future *empirical* research:

One, prior studies have shown that the effectiveness of the intervention measure used by the tax authority highly depends on the climate that exists between the taxpayer and tax authority. The climate can be ‘antagonistic’ or ‘synergistic’ *wherein* tax authorities should operate in the respective dimensions of power and trust. The same intervention measure applied in an antagonistic climate may produce a different result in a synergistic climate (see chapter two).

For instance, the use of taxpayer service to improve tax compliance implies the authority is operating on the dimension of trust. If however the climate that exists with the taxpayer were antagonistic then the tax authority would see negative results. The antagonistic and synergistic climates are not distinct rather they exist as a *continuum* and so do the dimensions of trust and power. The tax authorities should therefore aim to strike a balance between trust and power that would produce optimum effects for tax compliance in the given climate.

Two, the political, constitutional environment plays an important role when interpreting the effects of the activities of the tax authority on the taxpayer. Taxpayers view the tax authority as the government. In spite of any separation of powers that may exist between the two, that is, the government and the tax authority, the *typical taxpayer* will perceive the latter in the same way he does the former. Consequently, the country’s political constitution be it representative democracy, direct democracy, or authoritarian predetermines the interaction that its citizens have with the government.

Previous studies have found the treatment of taxpayers by the tax authority will affect tax evasion depending on the governance of the country. In a representative democracy, authoritarian procedures tend to reduce tax evasion while respectful procedures tend to increase tax evasion. The same procedures have the opposite effect in a direct democracy. Mistrust of taxpayers in representative democracies lowers tax evasion while increasing it in direct democracies. Thus if citizens are accustomed to a certain way of interacting with the government, a contrary style might achieve the opposite effects.

Another aspect that affects the outcome of taxpayer service and which has been shown by prior studies including a study conducted in neighboring Tanzania is the appealing by the tax authority to the fiscal exchange between taxes and government deliveries. In this however, the authority should be careful because the deliveries mentioned have to be visible to the taxpayer otherwise the appeals fail.

Another implication of the negative relationship between taxpayer service and tax compliance, that will need empirical research to ascertain, is that tax complexity and the uncertainty surrounding tax matters and tax authority activities enhances tax compliance. The question for the long term is, “is this is a good thing or a problem?”

The interaction effect between taxpayer service and enforcement yields better results for tax compliance than when taxpayer service works on its own. This has major implication for policy since it implies that there are some taxpayers that will respond to service while others to enforcement. This also demonstrates that the approach of responsive regulation is applicable.

Finally, it is noteworthy that all estimators apart from the audit rate are non-significant; this would indicate that even in Kenya, tax compliance is a puzzle. With variability in audit rate accounting for only 31% of the variability in tax compliance and all other estimators showing non-significant predictions, why taxpayers comply in Kenya remains an interesting question.

5.5 Limitation of the Research

In conducting this study at the aggregate level, the limited sample size will affect the generalization of the results. Thus, the study takes an approach of an exploratory study. At the individual level of analysis, the sample frame is limited to data available in the KRA database system. Any audits conducted and not available in this system are not considered.

5.6 Recommendations for further Research

The introduction of the study states that taxpayer service has not been widely researched even internationally. Consequently, more research on this particular intervention measure of tax authorities is necessary if we are to establish the full extent of its effect on tax compliance. In future research, we can examine taxpayer service from the individual level, where we analyze the compliance level of taxpayers affected by taxpayer service against the compliance level of those who are not. A research gap also exists in survey and analysis of information or service sought by taxpayers. As mentioned earlier there is also need to establish the relationship between taxpayer service and other forms of tax compliance.



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APPENDIX

Table 1 - Tax revenues as proportion of total government revenue

Financial Year	2002/ 03	2003/ 04	2004/ 05	2005/ 06	2006/ 07	2007/ 08	2008/ 09	2009/ 10	2010/ 11
Total Revenues (Kshs 'billions')	225.7	270.9	304.6	331.3	388.5	457.7	506	560.8	679.5
Tax Revenues (Kshs 'billions')	180.7	201.5	237.7	256	322	381.1	417.4	487.7	584.6
Tax Revenues (% of Total Revenues)	80%	74%	78%	77%	83%	83%	82%	87%	86%

Source; CBK Annual Reports

Figure 1 - Tax revenues as proportion of total government revenue

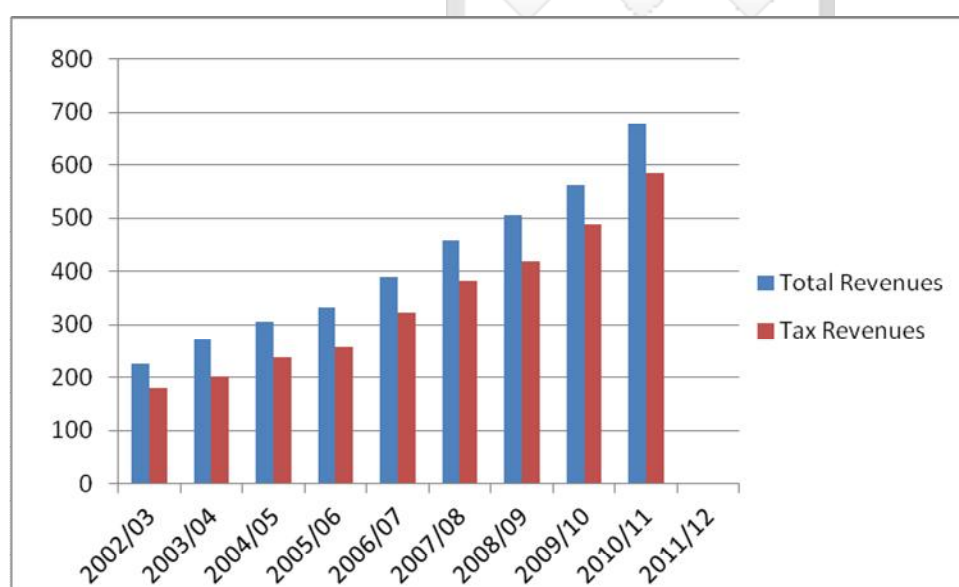


Table 2 - Budget Deficits

Financial Year	2002/ 03	2003/ 04	2004/ 05	2006/ 07	2007/ 08	2008/ 09	2009/ 10	2010/ 11	2011/ 12
Budget deficits Kshs 'billions'	-38.5	-11.3	1.2	-51.5	-31	-77.2	-89.8	-157.8	-137.6
Deficit (% of GDP)	-3.6	-0.9	0.1	-3.3	-1.8	-4.5	-3.8	-6.4	-5.6

Source; CBK Annual Reports

Figure 2 - Budget Deficits

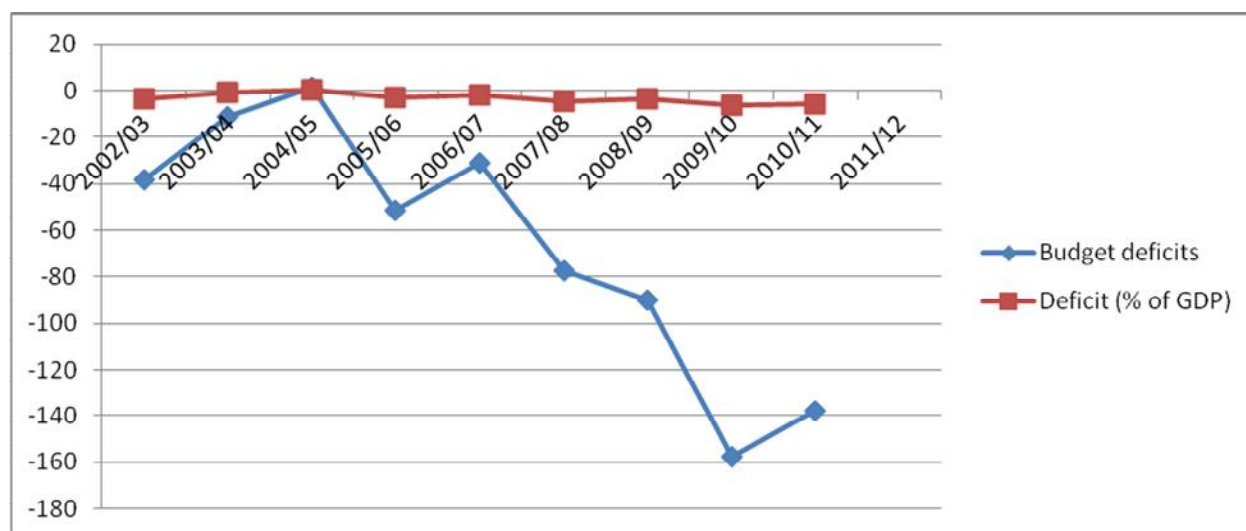


Table 3 - Collection statistics in Kshs 'billions'

Year	2002/ 03	2003/ 04	2004/ 05	2005/ 06	2006/ 07	2007/ 08	2008/ 09	2009/ 10	2010/ 11	2011/ 12
Targets				301	356	424.7	493	545.2	641.2	
Achieved				297.7	360.1	433.9	480.6	534.4	634.9	
Rating				99%	101%	102%	97%	98%	99%	

Source; KRA Fourth and Fifth Corporate plans

Figure 3 - Collection statistics in Kshs 'billions'

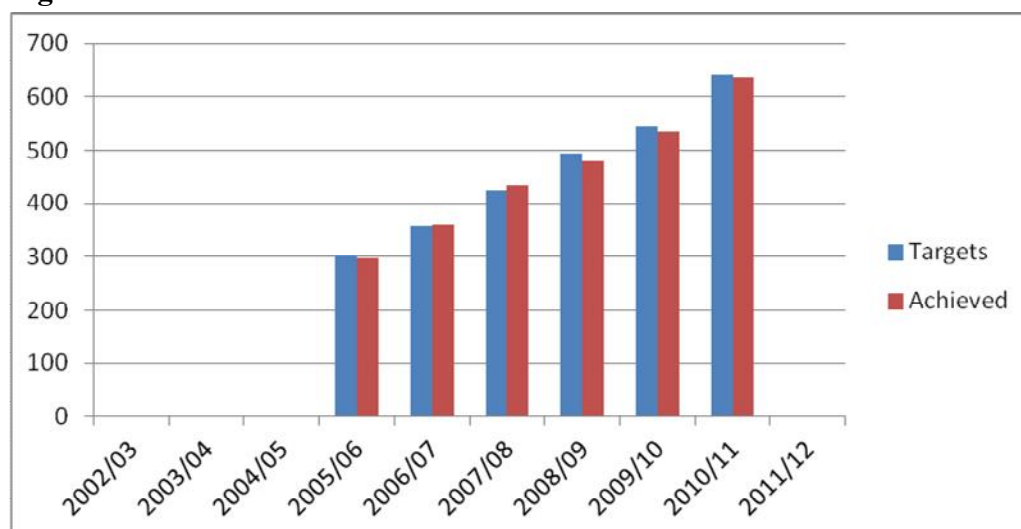
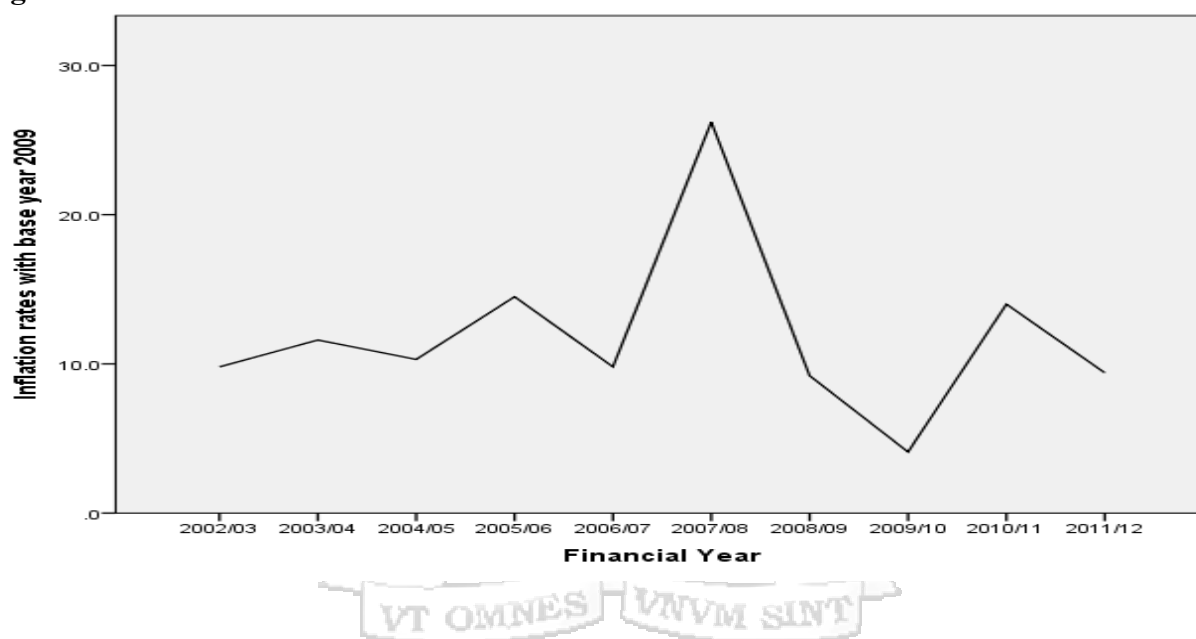


Table 4 - Inflation rates

Financial Year	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Inflation rates (%)	9.8	11.6	10.3	14.5	9.8	26.2	9.2	4.1	14.0	9.4

Source; Kenya National Bureau of Statistics website (www.knbs.or.ke)

Figure 4 - Inflation rates



Oracle Database extraction commands

Individual with business income

```
SELECT COUNT(*) FROM ASSESSMENT.TAXIND A, ASSESSMENT.RETURNID B
WHERE A.FIN_BIT > '0' AND B.YYINCOME = '2003' AND
A.SYSKEY=B.SYSKEY
```

Individual with farm income

```
SELECT COUNT(*) FROM ASSESSMENT.TAXIND A, ASSESSMENT.RETURNID B
WHERE A.FIN_FARM > '0' AND B.YYINCOME = '2003' AND
A.SYSKEY=B.SYSKEY
```

Income classes -

```
SELECT * FROM ASSESSMENT.TAXIND A, ASSESSMENT.RETURNID B
WHERE A.TXP_TAXABLE > '100000000' AND B.YYINCOME = '2003' AND
A.SYSKEY=B.SYSKEY
```

No of returns filed per year

```
SELECT COUNT(*) FROM ASSESSMENT.RETURNID A, ASSESSMENT.TAXIND B
WHERE A.TYPEFORM IN ('0','1','3') AND A.YYINCOME = '2003' AND
A.SYSKEY=B.SYSKEY
```

Taxpayers with additional assessments

```
SELECT COUNT(*) FROM ASSESSMENT.RETURNID A, ASSESSMENT.TAXIND B
WHERE A.TYPEFORM = '4' AND A.YYINCOME = '2003' AND
A.SYSKEY=B.SYSKEY
```

Taxpayers with civil penalties

```
SELECT COUNT(*) FROM ASSESSMENT.TAXIND A, ASSESSMENT.RETURNID B
WHERE A.PENALTIES > 0 AND B.YYINCOME = '2003' AND
A.SYSKEY=B.SYSKEY
```

Taxpayers with fraud penalties

```
SELECT COUNT(*) FROM ASSESSMENT.ASSNTID A, ASSESSMENT.TAXIND B
WHERE A.DISTCODE = '99' AND A.YYINCOME = '2003' AND
A.SYSKEY=B.SYSKEY
```

Request for Data & Approval letter

Approved
20/03/2014

Anne Gichuku Nyaga
Strathmore University
School of Management & Commerce
Student No. 047115
19th March 2014



The Commissioner, DTD-MST
Kenya Revenue Authority,
P.O BOX 48240-00100, Nairobi.

Dear Madam,

RE: REQUEST FOR DATA COLLECTION FOR THE YEARS 2003 TO 2011

I hereby request your permission to collect data for the calendar years 2003 to 2011 regarding tax compliance from your department – DTD-MST.

For the last seven years I have worked in the department as a Revenue Officer and now as an Officer. I have been working at the DTD online support desk since January 2012 as a Revenue Officer and since September, 2013 as an Acting Supervisor. Previously I served in the DTD-MST Nyeri station in the Taxpayer Audit and Compliance sections.

I am currently pursuing a Masters of Commerce in Strathmore University specializing in Forensic Accounting where I am writing a thesis titled *the effects of enforcement policies and taxpayer service on tax compliance in Kenya*. I'm supervised by the Dean of Strathmore's School of Management and Commerce, Dr Wang'ombe.

It for this reason I seek your permission to allow me collect data that will enable the conclusion of this thesis that I believe would also greatly benefit the authority of which I intend to make a copy available. The data I seek is found in the worksheets of a select 300 self-employed individuals. The worksheets are accessible through the ITMIS database – I seek your permission to extract this. In addition I also seek two sets of data from your management reports on number of taxpayer service activities and the audit operating budget.

I look forward to your approval and affirm that the data will solely be used for the purpose of the study.

Sincerely,

A handwritten signature in blue ink, appearing to be 'ANNE'.

Anne Nyaga.

Sample Return-of-Income for individual Taxpayers (I.T.1)



**KENYA REVENUE
AUTHORITY**

www.kra.go.ke

DOMESTIC TAXES DEPARTMENT.
Business, Rent, Employment, Commissions e.t.c

2008 INDIVIDUAL RETURN

**PRINT ONLY WITHIN
BOXES**

GOOD

BAD

A26

A26

Please read the attached
notes before starting to
fill in the Return

Under Sec.52B of the Income Tax Act you are required to file this Return not later than 30th June 2009. If you do not submit the Return by this date you will be liable to a penalty at the rate of 5% of the net tax due for every period of 12 months or part thereof, minimum Kshs. 1,000. The balance of tax due is payable on or before 30th April, 2009. Submit your Return to the DOMESTIC TAXES DEPARTMENT or to the KENYA REVENUE AUTHORITY Office nearest to you and make payment to COMMISSIONER OF INCOME TAX at Cash Office Nairobi, Mombasa, Kisumu or Eldoret.

LAST NAME	FIRST NAME	MIDDLE NAME	I.D. NUMBER
ADDRESS	POSTAL CODE	TOWN	P.I.N.
EMPLOYER'S PIN	SPOUSE'S PIN	SPOUSE'S NAME (SEPARATE NAMES WITH A BLANK BOX)	
TELEPHONE NUMBER	E-MAIL		
GROSS TURNOVER (FROM SOURCES A TO F) {Kshs}			

PART A - BUSINESS INCOME (EXCLUDE INCOME FROM SOURCES SPECIFIED IN PARTS B TO F)

Describe exact nature of:- (1.) Self business		(2.) Wife's profession	(3.) Wife's Self-Employment
Line No.	DESCRIPTIONS	A SELF {Kshs}	B WIFE {Kshs} (includes professional/self employment/business income)
1	Chargeable business income (Attach Accounts & Computation)		
2	Share of partnership profit/loss		
3	Total chargeable business income (Line 1+2)		
4	Loss brought forward from previous year		
5	Net Business Income (Lines 3-4)		

PART B - INCOME FROM FARMING

Line No.	DESCRIPTIONS	A SELF {Kshs}	B WIFE {Kshs}
6	Chargeable farming income (Attach Accounts & Computation)		
7	Share of partnership profit/loss		
8	Total chargeable farming income (Line 6+7)		
9	Loss brought forward from previous year		
10	Net farming income (Line 8-9)		

PART C - INCOME FROM RENT

Line No.	DESCRIPTIONS	A SELF {Kshs}	B WIFE {Kshs}
11	Chargeable Rent income (Attach Rent Schedule(s))		
12	Share of partnership profit/loss, (if in rental partnership)		
13	Total chargeable Rent (Line 11+12)		
14	Loss brought forward from previous year		
15	Net rent income Line (13A+13B) - (14A+14B) Chargeable on self		

FORM I.T.1

PART D - INTEREST INCOME

Line No.	DESCRIPTIONS	A Self (Kshs)	B Wife (Kshs)
16	Non-qualifying Interest income - see note 5 (attach schedule & certificates)		
17	Share of partnership interest, (if in partnership)		
18	Total chargeable Interest Self & Wife (Lines 16+17)		

PART E - INCOME FROM INSURANCE COMMISSION CHARGEABLE ON SELF & WIFE SEPARATELY

Line No.	DESCRIPTIONS	A Self (Kshs)	B Wife (Kshs)
19	Chargeable income (Attach Accounts & Computation)		
20	Share of partnership profit/loss		
21	Total chargeable commission (Line 19+20)		
22	Loss brought forward from previous year		
23	Net chargeable commission (Line 21-22)		

PART F - OTHER INCOME NOT SPECIFIED IN PART A-E ABOVE

DESCRIBE THE NATURE OF OTHER INCOME.			
Line No.	DESCRIPTIONS	A Self (Kshs)	B Wife (Kshs)
24	Chargeable income (Attach Accounts/Schedules & Computation)		
25	Add share of partnership profit/loss, (if in partnership)		
26	Total chargeable profit/loss (Line 24+25)		
27	Loss brought forward from previous year		
28	Net chargeable income (Line 26-27)		

PART G - SELF AND WIFE'S EMPLOYMENT INCOME CHARGEABLE SEPARATELY

NOTE: IF YOU OR YOUR WIFE HAD MORE THAN ONE SOURCE OF EMPLOYMENT OR DIRECTORSHIP, INDICATE IN PART L INCLUDE UNDER SELF, WIFE'S NON - ARMS LENGTH EMPLOYMENT INCOME. (See note 7)			
DESCRIBE THE NATURE OF EMPLOYMENT			
SELF			
WIFE			
Line No.	DESCRIPTIONS	A Self (Kshs)	B Wife (Kshs)
29	Gross pay (includes salaries,wages,bonus,etc.) attach Forms P9A or P9B		
30	Benefits from employment - other than car and housing (see note 1)		
31	Value of car (provide Make) cc Rating Cost (see note 2)		
32	Net Value of housing (Tick if director) Self Wife..... (see note 3)		
33	Pension in excess of Kshs. 180,000		
34	Total employment income (Line 29 + 30 + 31 + 32 + 33) both A & B		

PART H - TOTAL TAXABLE INCOME

Line No.	DESCRIPTIONS	A Self {Kshs}	B Wife {Kshs}
35	Self taxable income (Add positive Line 5A+10A+15+18+23A+28+34A)		
36	Wife's Employment, Professional & Self employment income (Add positive Lines 5B+10B+23B+34B)		
37	Pension contribution (see note 4)		
38	Mortgage interest (Maximum kshs 150,000 per annum) (Attach mortgage statement and certificate).		
39	Deposit on Home Ownership Saving Plan (Maximum kshs 48000 or ksh 4000 a month) (Attach mortgage statement and certificate).		
40	NET TAXABLE INCOME:- SELF - (Line 35A-(37A+38A or 39A) WIFE - (Line 36B-(37B+38B or 39B)		

PART I - TAX COMPUTATION

Line No.	DESCRIPTIONS	A Self {Kshs}	B Wife {Kshs}
41	Tax payable by wife (Line 40B- apply applicable rates) (see note 8)		
42	Personal relief shs 13,944, if resident individual (see note 6a)		
43	Insurance relief of 15% of gross premiums paid or Kshs.60,000, whichever is lesser.(see note 6b) (Attach copy of insurance policy certificate).		
44	Total tax payable by wife less reliefS (Line 41- (42 + 43))		
45	Tax payable by self (Line 40A- apply applicable rates) (see note 8)		
46	Personal relief shs 13,944, if resident individual (see note 6a)		
47	Insurance relief of 15% of gross premiums paid or Kshs.60,000, whichever is lesser.(see note 6b)(Attach copy of insurance policy certificate).		
48	Total tax payable by self less reliefS (Lines 45 - (46 + 47))		

PART J - FINAL TAX

Line No.	DESCRIPTIONS	{Kshs}	{Kshs}
49	Total tax payable by wife & self (44B +48A)		
50	Total P.A.Y.E deducted (Self & Wife)		
51	Credits under Section 12A (Advance Tax - P.S vehicles)		
52	Other credits or withholding tax deducted at source. (Attach certificates) (Do not include tax on qualifying interest and presumptive income tax)		
53	Total credits (Line 50+51+52)		
54	Tax due/Refund due (Line 49-53)		

N.B. Tax is due if line 49 is greater than 53 and refund is due if 53 is greater than 49.

PART K - DETAILS OF PAYMENTS, PENALTIES AND INTEREST

Line No.	DESCRIPTIONS	(Kshs)
55	TOTAL INSTALLMENT TAX PAID	
56	Balance of Tax Due (Line 54 (if positive)- 55)	
57	Penalty for filing return late (Line 56 x 5%), for every period of 12 months or part thereof, minimum Kshs. 1000	
58a	20% penalty on the difference between (a) the amount of instalment tax due and (b) the instalment actually paid multiplied by 110% i.e (a - (b X 110%)) X 20 %	
58b	20% penalty on the amount of tax and penalty that remained unpaid after the due date for payment of the balance of tax	
59	Interest at the rate of 2% per month or part thereof on any amount of tax and penalty that remained unpaid one month after the due date. Note: interest charged shall not exceed 100% of principal tax due in line 54	
60	Total penalties and late payment interest (57+58a+58b+59)	
61	TOTAL Tax, Penalties and Interest (Line 56+60)	

PAY THIS AMOUNT

