

**THE EFFECT OF TAX REFORMS ON PERFORMANCE OF KENYA
REVENUE AUTHORITY**

BY

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DECLARATION

This research project is my original work and has not been submitted for a degree in any other university for any award.



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DEDICATION

I dedicate this project to God Almighty for being my source of inspiration giving me wisdom, knowledge and understanding during this research process. I would also like to dedicate this research project to my parents and siblings for their unwavering support and understanding during the long absence when undertaking this research project.

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LIST OF ABBREVIATION AND ACRONYMS

ANOVA	Analysis of Variance
COSIS	Customs Oil Stocks Information System
DPC	Document Processing Centre
DTD	Domestic Tax Department
ERS	Economic Recovery Strategy
ETR	Electronic Tax Register
GDP	Gross Domestic Product
HMRC	Her Majesty's Revenue and Customs
ICPAK	Institute Of Certified Public Accountant
IMF	International Monetary Fund
ITMS	Integrated Tax Management System
KIPPRA	Kenya Institute for Public Policy Research and Analysis
LTO	Large Taxpayers Office
MTO	Medium Taxpayer Office
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinal Least Square
PAYE	Pay As You Earn
SAP	Structural Adjustment Programmes
SAS	Self-Assessment Systems
SMEs	Small and Medium Enterprises
SPSS	Statistical Package for Social Science
TCMP	Taxpayers Compliance Measurement Program
TMP	Tax Modernization Programme
TOT	Turnover Tax
VAT	Value Added Tax
VIF	Variance Inflation Factors

ABSTRACT

Taxation reforms have been in existence since 1986. Dwindling tax collections was the main reason that Kenya instituted major tax reforms hoping to spur tremendous growth in tax collections. This has not been the case in the past. The government's failure to meet its annual income targets through the Kenya Revenue Authority (KRA) has compelled the need to explore ways to improve revenue earned through taxation. The objective of the study was to establish the effect of tax reforms on performance of Kenya Revenue Authority. The research was guided by the the optimal tax theory, theory of public expenditure and the Allingham and Sandmo portfolio theory. The research design was descriptive. This study collected secondary data. The data was collected for a period of fourty quaters beginning in the first quater of the 2010/2011 financial period upto the fourth quater of the 2019/2020 financial year. The data collected was time series data. The research utilized inferential statistics entailing correlation and multiple linear regression analyses. The results of the research showed that only tax reforms and interest rates were significantly correlated to KRA performance. Tax reforms and KRA performance had a significant positive correlation while interest rate and KRA performance had a significant negative correlation. However, the study findings also revealed that economic growth, inflation, and FDI did not have a significant correlation to KRA performance. Further study findings showed that the model entailing; tax reforms, economic growth, inflation, interest rates, and FDI explains to a great extent tax revenue collection by having a co-efficient of determination of 80.8%. Further findings were that the model entailing; tax reforms, economic growth, inflation, interest rates, and FDI significantly predicts KRA performance. The final findings were that only tax reforms had a significant relationship with the KRA performance; they had a positive significant relationship. However, the current study findings revealed that economic growth, inflation, interest rates, and FDI did not individually have a significant relationship with KRA performance. Policy recommendations are made to the government officials and policy formulators in the Treasury and the board of the Kenya Revenue to craft tax reforms so as to boost tax revenue collection. Additional policy recommendations are made to the treasury to regulate the interest rates through the Monetary Policy Committee (MPC) in order to enhance tax collection. Recommendations to the KRA management, consultants, and economists are made for them to estimate and base their projected tax revenue estimates and targets based on the tax reforms and prevailing interest rates. They should particularly be bullish about tax revenue collection when tax reforms have been instituted and when the lending interest rates are low. In addition, the KRA management should gauge tax reforms and lending interest rate levels to determine the level of tax revenue collection enforcement. Thus, during times of instituted tax reforms and low interest rates, they should increase the intensity of enforcement because more tax revenue can be obtained.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Tax reform is the process of changing how the government collects or manages taxes, which can include the execution of a Value Added Tax (VAT), growth of the VAT, removal of stamp and other minor levies, simplification and extension of corporate income, personal or asset taxes, or change of the tax codes to legislate through administration and criminal consequences for tax avoidance (Mahon, 2007). Taxation is the greatest source of government revenue in Kenya. Tax revenue accounted for 80.4 percent of whole government revenues between 1995 and 2004. Due to its crucial role, taxation has been used to achieve two goals. One, taxation is utilized to collect enough money to finance government spending devoid of resorting to a lot of borrowing. Secondly, it is utilized to raise revenue in a fair and efficient manner, with minimal negative consequences on economic activity (Glenday, 2012). Many tax systems throughout the world have undergone adjustments in order to broaden the tax base and raise more income for public finance (Moyi & Ronge, 2016; OECD, 2012).

This study was guided by the optimal tax theory, theory of public expenditure and the Allingham and Sandmo portfolio theory, as it sought to find out how tax reforms impacts on performance of Kenya Revenue Authority. The optimal tax theory assumes that in any system of the economic where equality is appreciated, income taxes should be a critical policy tool. The theory of public expenditure is based on the political theory of public expenditure determination, which claims that the government enjoys spending more funds, citizens dislike paying high taxes, and that the government should pay greater focus to the

aspirations and desires of its residents. Compliance rates and fine rates are dependent on audit rates and fine rates, according to the portfolio theory.

Over the years, Kenya's government has implemented a variety of revenue management reforms to rise tax collection (Masinde & Makau, 2018). The adoption of self-assessment systems (SAS) in 1992 was one of the measures put in place to boost tax collection in Kenya. Tax reforms have a vital role to play in the development process of a country. Kenya being a developing country then the reforms become imperative. The reforms are undertaken with the hope that they will lead to increased revenue collection. However, with the focus on higher revenues the government must be careful not to hurt the economic activities with increased taxes. It is from this background that the study sought to establish the effect of tax reforms on performance of Kenya Revenue Authority (KRA).

1.1.1 Tax Reforms

Tax reform is the procedure through which a country changes the way in which taxes are levied, mobilized and utilized with an aim of enhancing tax administration. Formulating of new laws that govern taxation, changes in tax administration as well as minimizing loop holes of tax evasion are some of the elements that result to improvements in tax revenue collections (Morrisset & Izquierdo, 2013). In developing countries especially in Africa, tax reforms revolve around matters to do with economic policies while focusing particularly on the design of taxation structure and the tax management (Musgrave, 1987).

In Kenya, the reforms began in the 1980s with the drafting and subsequent publication of Sessional paper No 1 of 1986. This was followed by massive changes in a number of areas in the tax management in the country. For instance, direct taxes were reduced through

moderate adjustment downwards of tax rates as well as widening of tax brackets and which necessitated the increase of indirect taxes to make up for the shortfall in revenue. However, that move was largely criticized since it reduced the redistributive effect of tax system as the indirect taxes were considered retrogressive and as a result had a substantial weight on the underprivileged. There was also a shift in focus from international trade taxes to domestic trade taxes. With this shift came the VAT which was put in place in 1990 to take the place of the sales tax that had been operational since 1973 (Wawire, 2006).

Between 1986 and 2002 the Tax Modernization Program was in full effect. These were the objectives that it intended to achieve at the end of its implementation; increase tax revenue from 22 to 28% of GDP, bolster administrative efficacy increase greater dependence, address constraint in the operational tax structure, reduce and rationalize tax rates to improve the economic effectiveness of the tax system (KIPPRA, 2006). Economic recovery strategy (ERS) paper (2003) indicated other parts that needed improvements in obtaining revenue like the complete abolishment of the adjourned import duties, combining all the taxes in the country and making it an exclusive mandate of KRA to collect these taxes, expanding the taxation base.

The execution of the Simba (2005) system was one of the reforms that revolutionized processes at KRA by automating virtually up to 90 percent of the customs actions thereby eliminating the need for taxpayers to physically visit the KRA offices. Another important innovation was the establishment of the Document Processing Centre (DPC), that transformed the customs clearance process by replacing what was known as the long rooms with a little group of roughly thirty officers located in Nairobi who processed entries on customs in the whole nation. The third important aspect of the reforms was the rolling out

of the Customs Oil Stocks Information System dubbed as (COSIS), which was an online built platform to monitor & track the oil stocks data of every importer. Additional transformational reform was putting in place of the Tax Invoice Management System (TIMS), which is an enhancement of the Electronic Tax Registers (ETR) Programme. TIMS enables automatic reporting of tax invoice transactions.

The execution of an Integrated Tax Management System (ITMS), which was put in place to provide rapid feedback to its users and thus fast tracking the clearance process and in the process reduce compliance costs and enhance taxpayer empowerment. ITMS also provided for a one stop shop for all the needs of the taxpayer and improving tax collection (KRA, 2010). KRA introduced iTAX in 2015 to make payments and filing of tax easier such that one does not need to queue at KRA to make payments and file returns. iTAX simplifies the tax processes, shortens the time taken to file iTax returns and increases revenue collection (KRA, 2015).

1.1.2 Performance of Kenya Revenue Authority

Mesasuring performance is a continuous process of finding out how well or poorly an organization is meeting its goals and objectives. It entails collecting data on progress in this area on a continuous basis. Performance indicators, or measures, are created as standards for determining how well these goals are met (Wawire, 2011). The performance measures of the a tax administrator could be mainly qualitative or quantitative. Quantitative metric can comprise the proportion of activities undertaken by a tax administrator (for instance the level of audits carried out, served taxpayers, and processed returns) as well as the efficiency on how activities are conducted (proportions of calls responded per tax officer,

proportion of calls answered per tax officer, proportion of tax assessed hourly of auditor time, extent of collection cases) (Chipeta, 2008).

The level to which the tax agency's services and enforcement activities satisfy defined requirements is assessed using qualitative measures. They're calculated by making a comparison of completed work items against standard sets by tax officials (Ariyo, 2007). Administration of tax ought to set a foundation performance extent against which benchmarks can be formed in the future. It is vital to determine the foundation level of results while developing new measurements. After the baseline has been established, future performance targets can be defined. These targets are timelines or simple directions (like as rise or enhance some determined circumstance) that allow a firm to “judge” outcomes using performance metrics (Ajaz & Ahmed, 2010). Performance of Kenya Revenue Authority will be measured in different ways. These can include; the amount of revenue collected, the number of registered taxpayers and the extent of compliance of the taxpayers (Muriithi & Moyi, 2003).

1.1.3 Tax Reforms and Performance of Kenya Revenue Authority

Taxation reforms have been in existence since 1986 but there has been a tax gap of actual and potential tax revenue raising issues on whether tax reforms have an effect on performance of tax revenue (Francis, 2011). Kanyi (2014) used elasticity and buoyancy models to look at tax revisions and revenue productivity from 1990 to 2013. Despite various reform attempts, the analysis revealed that Kenya's tax system was in general ineffective. Studies done by ICPAK (2015) based on the 2010/2011 to 2014 /2015 data revealed that there has been a steady variance in revenue targets and actual exchequer collections in the excise duty and VAT. Excise duty actual revenue in 2014/2015 was 86B and expected was

104B whilst VAT actual revenue in 2014/2015 was 185B and expected was 231B. Tax reforms are a crucial instrument for ensuring that the domestic revenue base is protected and fostered on a regular basis.

A study on analysis of tax revenue responsiveness to variations in national income between 1986 to 2009 in Kenya by Okech and Mburu (2011) found that the Kenyan government goes on to run a budget deficit over the years. This was partly due to the tax system's inability to generate enough income to cover government spending. The lack of tax revenue responsiveness to fluctuations in national income has been blamed for the inadequacy of tax revenue to pay public expenditure. Gachanja (2012) found that reforms on tax were adversely and highly connected with revenue on tax, while corruption had a positive but small impact on revenue on tax in an evaluation on tax reforms effects on economic elements on taxation in Kenya.

1.1.4 Kenya Revenue Authority

The KRA was founded by a statute passed by Parliament, Chapter 469 of the Kenyan laws, which took effect on July 1, 1995. KRA is in responsibility of obtaining revenue on Kenyan government behalf. The Authority's main responsibilities are to examine, obtain, and account for revenues in compliance with established laws and their specific stipulations. To provide advice on issues associated to revenue management and gathering under laws or specific aspects of written laws. To conduct additional revenue associated roles as per the direction by the Minister.

The goal of the KRA is to become an internationally trusted revenue agency that makes tax and customs compliance easier. Its aim is to increase government revenue collection and

encourage economic and trade growth by guaranteeing compliance with tax and customs rules. KRA executes its mandate by way of assessing, collecting, administering and enforcing laws relating to taxation in Kenya. KRA is a government agency that operates autonomously from the government & the other agencies. For better service delivery to the taxpayers the agency is subdivided into five regions; Rift Valley, Central, Western, Northern and Southern (KRA, 2021).

1.2 Research Problem

Taxation reforms have been in existence since 1986. Dwindling tax collections was the main reason that Kenya instituted major tax reforms hoping to spur tremendous growth in tax collections (Moyi & Ronge, 2006). This has not been the case in the past. The government's failure to meet its annual income targets through the Kenya Revenue Authority (KRA) has compelled the need to explore ways to improve revenue earned through taxation. Furthermore, the new devolved government structure is expected to increase government spending. This necessitates policymakers looking for measures to assist the government in raising additional income. Despite the KRA's efforts to boost income collections, like the implementation of reforms and modernization projects, it has fallen short of its targets on revenue. This requires a study to determine how tax reforms affect performance of Kenya Revenue Authority.

International studies include, Adam and Johnson (2012) did an evaluation on reforms that may rise national income in the medium term in order to promote economic salvage in UK. Teera (2002) did a study on the system of taxation and tax structure of Uganda and elements that affected collection of revenue. Ndoricimpa (2021) investigated Burundi's tax reforms, civil wars, and tax revenue performance.

Local studies done includes, Ombati (2018) conducted a study on tax reforms effects on the efficiency of revenue collection in Kenya. Chilibasi (2014) did a research on the effects of VAT reforms on tax revenue collected by KRA. Mokuu (2012) did a study on the impact of tax reforms that have been undertaken on income tax, exercise duty, import duty and VAT on revenue productivity. Empirical studies on tax performance have focused on revenue collection and productivity however; little is known if the various taxation reforms effect on performance of tax revenue, hence the research gap. This study sought to fill the existing research gap by answering the following research questions, does tax reforms affect performance of Kenya Revenue Authority?

1.3 Research Objective

The objective of the study was to establish the effect of tax reforms on performance of Kenya Revenue Authority.

1.4 Value of the Study

The study findings would help Kenya Revenue Authority to obtain a better knowledge of concerns on tax reforms and performance, and to assist in the development of policies/reforms that would boost tax culture and so promote economic development. The research would also provide insight into reform areas that require development, assisting Kenya Revenue Authority management in overcoming the alleged lack of expertise in analysing the success or efficacy of their purchased systems and associated technology.

The outcomes of the study would add to the current literature on Kenya's tax reform experience. Future academics and academicians would benefit greatly from the outcomes of this study because it would supply literature and serve as a foundation for future research.

The research would add to the existing knowledge regarding the effect of tax reforms on business tax conformance. The report also adds to the existing knowledge gap in terms of gaining knowledge on performance of tax revenue and their relationship with tax reforms.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The literature relevant to the topic is reviewed in this chapter. It begins by describing the theories that guided the research, and then moves on to reviewing empirical literature on the impact of tax reforms on performance of KRA. Finally, there is a description of study gaps in the extant empirical literature.

2.2 Theoretical Review

This part entails an evaluation of the hypotheses that underpin this research. This study was guided by the optimal tax theory, theory of public expenditure and the Allingham and Sandmo portfolio theory as it sought to ascertain how tax reforms impacts on performance of KRA.

2.2.1 Optimal Taxation Theory

Mirrlees (1971) pioneered the optimum income taxation theory, although it has since been investigated by a number of theorists, comprising Sorensen (2009); Creedy (2009) and O'Brien (2009). The idea assumes that in any system of the economy whereby equality is respected, income taxes would be a critical policy instrument. It is also argued that progressive redistributive taxation is frequently tied to a man's income. Since individual's economic outcomes used as a sign of economic potential, Mirrlees recognized that total equality of societal marginal utilities of income is no longer desired because the system of tax that ought to achieve that outcome should totally prohibit disagreeable activity. The preceding opinion raises numerous questions about the type of rules that are meant to guide

the most efficient income taxation, design of schedule of taxation and inequality impact on tax plan creation.

According to Sorenson (2010) present advancements in this theory have caused it to be significantly easier to apply the theory, which may help describe certain present trends in tax policy internationally. O'Brien (2009) notes that, classical political economists developed a tax policy normative theory that inclined to take a principles-based method, stating that a successful tax system should meet certain desired characteristics. The system of tax system ought to be productive, calculable, equal, frugal, divisible, popular, and incorruptible, according to this philosophy. It is demonstrated that if the social welfare difficulties posed by the present system of taxation do not decrease monotony with level of taxpayer's income, it should be a challenge to protect such a system, and altering it ought to be explored. This theory can be used to describe why the customs system requires to be reformed so as to maximize tax revenue. This study was guided by the optimal tax theory in establishing how tax reforms affect performance of Kenya Revenue Authority.

2.2.2 Theory of Public Expenditure

The advancement of this theory was by Peacock and Wiseman (1961). Its basis is on political theory of public spending determination, that indicates that the government usually spends alot, citizens are unlikely to pay much taxes and the government should pay a lot of attention to the aspirations and desires of its citizens. The idea attempted to describe the cyclic trendsof alterations in government spending in response to political economy development while also recognizing that citizens' taxable capacity is a restriction (Kanyi, 2014).

Government expenditure is mostly governed by taxation and revenue by government, according to the public expenditures theory. To this end, theorists predicted that as the income and economy rose, tax revenue ought to follow suit. As a result, government spending can increase in lockstep with the growth of the economy (GDP). There exists a perception that the taxation level like a restraint is acceptable. Furthermore, there is a claimed that there could be inconsistencies amid a desired tax rate and government spending (Baghebo, 2012). This theory could be used to describe the association of the efforts by the government to rise the collected tax so as to deal with its agenda on development and the ability to collect the needed tax revenue in reforms on customs, tax revenue and modernization context. The study used the theory of public expenditure in establishing how tax reforms affect performance of Kenya Revenue Authority.

2.2.3 The Allingham and Sandmo Portfolio Theory

Allingham and Sandmo (1972) established this portfolio theory, which leads to the plausible and productive conclusion that conformance is dependent on audit and fine rates. Actually, the key tenet of this method is that people pay taxes out of fear of being discovered and punished. This method, on the other hand, suggests that a person pays taxes solely to avoid the economic repercussions of discovery and penalty. The numerous portfolio strategy extensions greatly complicate theoretical evaluations and, in general, make it impossible to obtain unambiguous analytical results. Nonetheless, these extensions maintain the core method and result: people focus solely on financial incentives of tax elusion, and people pay taxes primarily since they are afraid of being identified and penalized (Allingham & Sandmo 1972).

According to Ajzen (1991) explained human behaviour in a specific context. General attitudes have been assessed with respect to organizations and institutions with regard to particular with whom a person might interact. Though conformance varies greatly between nations (and taxes) and is frequently poor, it rarely reaches the level expected by the traditional economic theory of conformance. Government enforcement operations alone do not appear to be sufficient to account for high levels of compliance (Allingham & Sandmo, 1972). This study was guided by the Allingham and Sandmo portfolio theory in establishing how tax reforms affect performance of Kenya Revenue Authority.

2.3 Determinant of Performance of Kenya Revenue Authority

Performance of Kenya Revenue Authority is determined by various factors. This section will highlight several studies that have been conducted in this area by previous researchers and explore their findings. The review has been broken down into four broad thematic areas which are considered to have the biggest impact on performance of Kenya Revenue Authority.

2.3.1 Tax Reforms

Reforms on taxes is mainly done to rise tax administration efficiency and maximize social and economic benefits that the system of tax could give. Tax can be referred to as a levy imposed or a financial charge by the state on a taxpayer either a legal entity or a person (Granger, 2013). Direct wealth and income taxes (property, corporate and individual income taxes) and indirect consumption taxes (Value Added Tax (VAT), excise levies) are examples of taxes.

The interest of donors in developing nations domestic income mobilization, particularly taxation, is growing (Fjeldstad, 2014; Mascagni et al., 2014). Taxation's significance in building of the nation, by strengthening state capability and state-society interactions, is becoming more widely recognized. The financial crisis of 2008 resulted in a temporary reduction in assistance levels, as well as a new donor focus on the effectiveness of aid and making sure that donors encourage other than hinder developing nations' efforts to raise cash (Fjeldstad, 2014). Tax reforms could minimize revenue avoidance and evasion, as well as make tax collection more efficient and equitable, allowing for the funding of public goods and services. It has the potential to increase revenue levels while also promoting coming independence from foreign help and earnings on natural resources. Through redistribution and behavior change, it can boost economic growth and alleviate concerns of inequality (Byanima, 2014).

2.3.2 Economic Growth

Economic growth can be referred to a raise in a nation's capacity on production examined annually. Taxes are a proportion of income from a nation's population obtained by the government for which the tax payer receives no stated reciprocal benefit (Hatane & Nurina, 2015). Using data from Nigeria, Immanuella (2016) studied VAT contribution to the growth of GDP. Revenue from VAT and GDP are connected positively and are significant, according to the results of a multiple regression study. In the Nigerian context, the study further discovered that total tax revenue and VAT are connected positively. Also, Hakim, Karia, and Bujang (2016) looked at the impact of commodity and services taxes on growth of GDP in a number of wealthy countries. In selected industrialized nations, it was discovered that goods taxes and growth of GDP were positively connected and significant.

Jalata (2014) looked into the influence of VAT on Ethiopia's GDP growth. VAT, total tax revenue and growth of GDP were all studied using time series macroeconomic data. It was discovered that, a comparison to tax on sales, VAT enhances the Ethiopian economy's overall GDP development, yet the issue of regressively mimicking sales tax persists. In Kenya, Njogu (2015) utilized secondary time series data such as VAT rates, CPI, unemployment rates, and growth of GDP. When it came to the association of rates on VAT and growth rates of GDP, multiple regression analysis revealed that a 1% change in the GDP rate equals a 7% increase in the GDP incident rate for every unit decrease in VAT. As a result, in Kenya, there is a considerable negative link between VAT rates and GDP.

2.3.3 Inflation Rate

Inflation is defined as a long-term increase in the general price of commodities and services in a given economy. In the case price of things rises, every currency unit purchases less, and as a result, inflation indicates a decrease in the money purchasing power. Inflation is measured in annualized percentage changes in the overall prices of goods and services, which is known as the inflation rate. It is mostly constituted by the consumer price index over time (Udoka & Roland, 2015). The global economy has suffered considerably since the global financial crisis of 2008, leading global inflation to grow. In 2008, global inflation surged by more than 6.4 percent over the previous year, reaching its highest level in the recent decade (IMF, 2005). In East Africa, inflation remained a key sign of macroeconomic stability in 2018, remaining in double digits, up 0.5 percentage point from 14.0 percent in 2017 (IMF, 2018).

Kenya's year-on-year inflation rate increased slightly to 5.70 percent in June 2019, up from 5.49 percent the previous month, but fell short of market estimates of 6.40 percent. Inflation

is directly related to tax performance as economist Milton Friedman said that, under certain circumstances, inflation can become an effective form of tax. If the government increases the rate of excise duty (tax on petrol/alcoholic drinks) as we have seen in the past years in Kenya, the prices of goods tend to go higher. This has often caused a temporary rise in the rate of inflation as was seen in the financial budget of 2016/2017 where the government increased excise tax of bottled water, beer and other beverages which made the inflation rise to 10 percent (Ng'etich & Wangari, 2020). Hence inflation has always caused taxes to increase since people tend to pay more for goods and services more than they should.

2.3.4 Interest Rate

In a country, rising interest rates have negative consequences. It raises the cost of borrowing, limiting whole consumption and investment, and thus the country's whole economic growth (Ng'etich & Wangari, 2011). In South Africa, the effect of real exchange rate on growth of economy was investigated by Sibanda et al., (2013). For the study, quarterly time series data from 1994 to 2010 were employed. The influence of real exchange on growth of economy was calculated by use of the Johansen cointegration and vector error correction model. Creation of gross fixed capital, real exchange rate, trade openness, real interest rate and money supply were the explanatory factors. Real exchange rate had a long term dampening effect on growth of economy, per the findings.

Udoka and Roland (2012) agreed that rates of interest are among the indicators that indicate a country's economic growth; nevertheless, an upsurge in rates of interest also indicates a falling GDP. Interest rates, on the other hand, have little impact on economic growth. Increased interest rates will result in lower actual growth rates (Giovanni et al., 2009).

Interest rates have an impact on growth of economy, which also has an impact on the overall amount of taxes obtained in a nation. Spengel and Heckemeyer (2016) discovered that when interest rates are low, average tax burdens are higher, resulting in increased tax revenues for a government.

2.3.5 Foreign Direct Investment

Foreign Direct Investment (FDI) is a long-term initiative that involves the injection of international cash into a company based in a country other than the financier's. The investor has a significant influence over the company's operations, and for practical purposes, the investor must possess 10% of the company (UNCTAD, 2009). Foreign Direct Investment (FDI) is widely seen as a critical facilitator of development in the economy in developing nations. FDI is thought to address major problems such as a lack of financial resources, technology, and skills (Alabede, 2016). FDI can take a variety of forms. For starters, it's a Greenfield project, which entails the start-up of a new business in a different country. Mergers and acquisitions with an existing company in that country, startup projects, joint ventures with local partners, and partial acquisitions through licensing are the other options (UNCTAD, 2009).

Ngotho (2014), in their study on determinants of revenue collection in less developed countries, demonstrated that FDI boosts productivity and profitability in all sectors of the economy, and that an investment climate that supports FDI is beneficial since it boosts tax revenue collection. The OECD (2018) report shows that a rise of 1% in company tax in the FDI was 0.5%. This is also shown by a decline in corporate tax and other tax incentives that directly influence corporations, in Kenya where FDI has been rising since 2010 to USD

1.6 billion in 2018. The government has also been on a spree of creating favourable tax rates for the corporate sectors by decreasing the excise and custom duties.

2.4 Empirical Review

The empirical literature on the impact of tax reforms on performance of KRA is reviewed in this section of the study. The section examines empirical literature from both a global and local perspective.

2.4.1 International Review

Adam and Johnson (2012) did an evaluation on reforms that may rise national income in the medium term in order to promote economic salvage. The study relied on secondary information. The study was done in United Kingdom. The study concluded that a tax system should be put in place which is more neutral to the current one. The tax system may have low administrative and compliance cost and would lead to rise national income.

Teera (2002) did a study on the system of taxation and tax structure of Uganda and elements that affected collection of revenue. The study did establish that agriculture proportions, populace solidity and tax evasion affects all types of taxes. GDP per capital indicated a negative sign. Tax dodging indicated a notable bleak effect. Aid element showed an encouraging outcome because aid in Uganda did support imports especially of raw materials.

Cambridge econometrics (1997) the possible impacts of a number of other long-term structural elements, like rising inequality in income, rising self-employment, and increased female participation. The study concludes that, unless it causes problems with tax

enforcement, self-employment does not appear to hold a significant effects on government receipts. From 1970 to 1990, Anyo (1997) evaluated the Nigerian tax system's yield. The analysis found that production levels were good, but that there were significant alterations in tax collections between tax sources, which were due to poor administration of non-oil tax sources.

Ndoricimpa (2021) investigated Burundi's tax reforms, civil wars, and tax revenue performance. The goal of the study was to see how Burundi's tax performance relates to tax revisions and civil war. The findings revealed that tax revisions had no effect on total tax revenue or tax categories. Fiscal corruption, the negative economic effects of conflicts, abusive tax exemptions, and a failure to focus on extending the tax base are all reasons why tax revenue performance may not be linked to tax reforms.

2.4.2 Local Review

Ombati (2018) studied tax reforms effects on the efficiency of revenue collection in Kenya. The goal was to find out the effects of tax reforms on tax revenue efficiency in Kenya. It was discovered that there is a high link between GDP and tax revenue, as well as between inflation and tax revenue. Moreover, there is no significant association between corruption and tax revenue and between tax evasion and tax revenue.

Kiara (2021) researched on impact of indirect tax policy reforms on revenue performance in Kenya. The goals were to determine the effects of introduction of Withholding VAT agents, introduction of EGMS and switching the tax system from hybrid to a uniform specific or ad valorem Excise tax regime on revenue collection in Kenya. From the difference-in-difference model, the analysis reveals that the introduction of EGMS led to

an upsurge in excise revenue by 81.2%. This was significant at 1% level of significance. VAT increased by 13.4 per cent following the introduction of VAT withholding agents. This was equally significant at 5% level of significance. These findings are expected to shape policy direction that is aimed at enhancing domestic revenue mobilization.

Chilibasi (2014) did a research on the effects of VAT reforms on tax revenue collected by KRA. Descriptive statistics were used to analyze the data. The study was carried out in Nairobi County where he concluded that online filing of VAT returns influences VAT revenue directly or indirectly. Gachanja (2012) undertook a study on tax reforms and economic elements on Kenyan tax revenues. According to the study, tax reforms in Kenya negatively affected tax revenues. According to the report, KRA should pay close attention to tax reforms in order to ensure that more revenue is collected.

Mokua (2012) did a study on the impact of tax reforms that have been undertaken on income tax, exercise duty, import duty and value added tax on revenue productivity. The study used published secondary data to come up with the relationship between tax reforms and revenue productivity. The research advised that revenue collectors be increased, that strong fines and penalties be imposed on tax evaders, and that audits be strengthened.

Gituku (2011) did a research on tax reforms and productivity in Kenyan revenue. The research employed secondary data. Data was analysed using descriptive statistics. Stratified sampling approach was adopted in coming up with the sample size. The study recommends constant review of tax structure due to the dynamic environment. Muriithi and Moyi (2003) undertook a research on tax enhancements and tax proceeds marshalling in Kenya. Secondary data was used. It was noted that tax reform has a positive impact on overall

taxation formation. According to the findings, tax administrators should devote more resources to tax payer education, compliance, and audits.

2.5 Conceptual Framework

It is a diagrammatic depiction of a supposed link between variables. The independent variable is tax reforms, the dependent variable is performance of KRA. Figure 2.1 shows this conceptual framework.

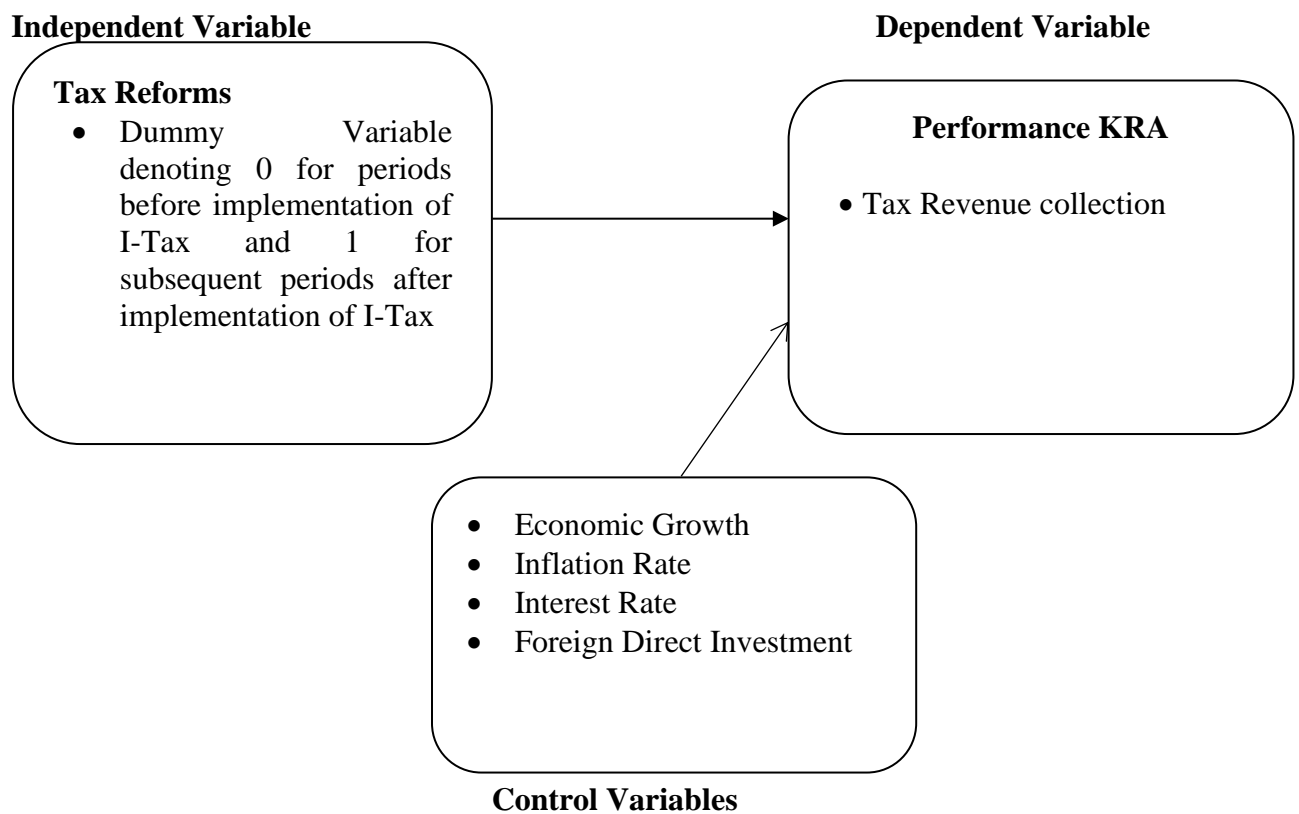


Figure 2.1: Conceptual Framework

2.6 Summary of Literature Review

Studies gone through have covered the concept of tax reforms and performance of Kenya Revenue Authority. From the empirical review, it may be assumed that the determinants of performance of Kenya Revenue Authority are numerous and varied. Empirical studies on

performance of tax revenue have focused on tax collection however; little is known on how taxation reforms affect performance of KRA, hence the research gap. No notable study has been done in Kenya to establish the effect of tax reforms on performance of Kenya Revenue Authority. This study therefore sought to fill that gap.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter is the blueprint of the research study where it lays out the methodology of the study. The chapter covers several subsections, which include research design expounding on the design applicable to the study. Data collection is also looked into where data required is specified and how it is going to be collected. Finally, the chapter shows the data analysis technique that will be used for the study.

3.2 Research Design

The research design applied in the study was a descriptive research design. This research design is in charge of addressing the questions of who, how, what, when and where in relation to the study question/problem. This study method gathers data about a situation as it occurs naturally in the surroundings, short of tampering with it (Anastas, 2009). The design is based on observing, describing, and documenting parts of a scenario as it occurs naturally. The descriptive technique was used in this study since it aids in describing relationships between variables as well as addressing questions about current events. As a result, it is a good way to figure out how tax reforms affect performance of Kenya Revenue Authority.

3.3 Data Collection

The study collected secondary data. The data was obtained from published information online materials. The source of the data was mainly KRA and Kenya National Bureau of Statistics. The study gathered quarterly data for a period of fourty quaters, from the first

quarter of the 2010/2011 financial period to the 2019/2020 financial year and the data to be collected was time series/longitudinal data.

3.4 Diagnostic Tests

The data collected was subjected to diagnostic test such as autocorrelation, multicollinearity, homoscedasticity, and normality so as to find if it is appropriate for conducting linear regression model.

3.4.1 Normality Assumption

In linear models the assumption is that the error term has a normally distributed with a mean of zero and a constant variance $(0, 2)$. Other factors impacting the dependent variable that aren't included in the model are usually covered by the error term (Gujarati, 2004). The researcher determined this by conducting a Shapiro- Wilk test which though uncommon, fails to work well where large amount of data is involved, and the test was supplemented by the Kolmogorov-Smirnov test, which is suitable for testing distributions of Gaussian nature that have specific mean and variance.

3.4.2 Multicollinearity

Multicollinearity is a common occurrence in time series data because the majority of the data tends to follow a certain trend. Values can either increase or decrease with time. The coefficients produced from the regression model were indeterminate if the data is multicollinearity (Gujarati, 2004). Variance inflation factors (VIF) and Tolerance tests were used in this study to test for this assumption (Nachtsheim, 2004).

3.4.3 Test for Autocorrelation

Autocorrelation is found in time series data since it tends to follow certain tendencies as time passes. As a result, there's a good possibility that subsequent observations were correlated. Autocorrelation has no influence on linearity, biases, or the asymptotic state of estimators; the only impact it has is on OLS's best property of giving correct findings during hypothesis testing. The Durbin-Watson statistic was used in this study to check for this assumption (Gujarati, 2004).

3.4.4 Heteroscedasticity

Heteroscedasticity has no effect on the lack of bias or linearity. It solely impacts the OLS best attribute, resulting in incorrect hypothesis testing findings. The Breusch-Pagan test was used in this investigation to check for this assumption (Gujarati, 2004).

3.5 Data Analysis

In a statistical researcher, the researcher aims to ascertain the connection between independent and dependent variables (Freund, 2001). To improve efficiency and effectiveness in interpretation, data obtained from the field was analysed using SPSS version 25. The researcher undertook correlation analysis so as to identify the association of each independent and control variable utilized in the study to the dependent variable whereas regression analysis was utilized in determining relationship amongst them. The Ordinal Least Squares (OLS) Regression was run on the collected data, which fulfilled the Best Linear Unbiased Estimates (BLUE) assumptions. Study findings were presented in figures and tables.

3.5.1 Analytical Model

A model was developed to determine the link existing between the study variables. This study used the regression model developed by Shojai (1999) to establish the effect of tax reforms on performance of KRA. The model was as follows: -

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon$$

Where;

Y = performance of Kenya Revenue Authority

β_0 = a constant term that is the regression equation's intercept

β_{1-5} = the coefficient of the variables.

X_1 = Tax Reforms

X_2 = Economic Growth

X_3 = Inflation Rate

X_4 = Interest Rate

X_5 = Foreign Direct Investment

ϵ = Error Term

3.5.2 Test of Significance

Regression analysis was used in the research. ANOVA was utilized to ascertain the effect predictor variables have on the response variable. The study employed variance in mean squares and the chi-square tests to see if tax reforms and performance of KRA are connected. The t-test is among statistical tests that are used to test hypotheses. A significance level of 5% was used.

3.6 Operationalization of Variables

Table 3.1: Operationalization of Variables

Variable	Measurement
KRA Performance	Will be denoted by the ln tax revenue collected by KRA
Tax Reforms	Will be denoted by Technological Tax Reform; a dummy variable will be utilized with values of 0 denoting periods preceding the implementation of I-Tax and Values of 1 denoting subsequent periods after implementation of I-Tax
Economic Growth	Will be denoted by changes in GDP; $(GDP_{t+1} - GDP_t) / GDP_t$
Inflation	Will be denoted by the CPI
Interest Rate	Will be denoted by the Weighted Average Lending Rate
Foreign Direct Investments	Will be the changes by FDI net inflows

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

The present chapter focuses on the analysis of data, discussion and interpretation of the findings obtained in the study. It is divided into three parts, which are as follows: diagnostic tests, inferential statistics, and interpretation and discussion of study results.

4.2 Diagnostic Tests

To guarantee Best Linear Unbiased Estimators (BLUE), diagnostic tests were performed prior to performing linear regression. Normality tests, homoscedasticity tests, and multicollinearity tests were among the diagnostic tests used in this research. To determine normality of the distribution, Shapiro-Wilk test was used and complemented by Kolmogorov-Smirnov test. Test of Breusch-Pagan was employed to determine homoscedasticity while to establish multi-collinearity, tolerance and VIF were adopted.

4.2.1 Normality Test

Table 4.1 emphasizes testing of normal distribution for the study variables.

Table 4.1: Normality Test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Ln Tax Revenue Collection	.099	40	.200*	.951	40	.080
Tax Reforms	.377	40	.000	.629	40	.000
GDP Growth	.207	40	.000	.713	40	.000
Inflation	.276	40	.000	.770	40	.000
Interest Rate	.167	40	.007	.929	40	.015
Ln FDI (Net Inflows)	.210	40	.000	.886	40	.001

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

a. Lilliefors Significance Correction

Both the Kolmogorov-Smirnov and Shapiro-Wilk significance values for the variable tax revenue collection are greater than the α value (0.05) as indicated in Table 4.1. Therefore, the variable's data series is normally distributed. However, both Kolmogorov-Smirnov and Shapiro-Wilk significance values for tax reforms, the economic growth, inflation, interest, and FDI variables are lower than the α value (0.05). Therefore, the variables' data series are not regularly distributed. Standardization is the cure for non-normal data; thus, the data series of all variables were thus standardized as a means to correct distribution non-normality.

4.2.2 Test for Homoscedasticity

Test for homoscedasticity for all of predictor variables used in this research is summarized in Table 4.2. The Breusch-Pagan test was used to determine the results. In SPSS, there is really no explicit Breusch-Pagan heteroscedasticity test. Nonetheless, there is a less straightforward way to go about it. The residuals, both standardized plus unstandardized are saved and transformed through squaring them and the resulting variable is then regressed with all of the study's predictor variables. The resulting Analysis of Variance output is the Breusch-Pagan test.

Table 4.2: Test for Homoscedasticity

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.011	5	.002	2.078	.092 ^b
	Residual	.037	34	.001		
	Total	.048	39			

a. Dependent Variable: RES_1_SQ

b. Predictors: (Constant), Ln FDI (Net Inflows), Tax Reforms, Inflation, GDP Growth, Interest Rate

Because the significance value achieved in the results given in Table 4.2 (0.092) is greater than the critical value (0.05), the data series for all the entire response variables are homoscedastic, as demonstrated by the findings. Thus, the predictor variables utilized in the study had constant variance.

4.2.3 Test for Multicollinearity

Table 4.3 shows the results for VIF and tolerance to ascertain multi-collinearity test.

Table 4.3: Multicollinearity Statistics

Model		Collinearity Statistics	
		Tolerance	VIF
1	Tax Reforms	.565	1.771
	GDP Growth	.871	1.148
	Inflation	.393	2.547
	Interest Rate	.248	4.030
	Ln FDI (Net Inflows)	.512	1.953

a. Dependent Variable: Ln Tax Revenue Collection

Table 4.3 findings reveal all of predictor variables used for the research are more than 0.1 in tolerance, while the VIF value fall between 1 and 10. Thus, the predictor variables in the research do not exhibit multicollinearity.

4.2.4 Tests for Autocorrelation

The result on the autocorrelation test carried out using the Durbin-Watson Statistic is presented on Table 4.4.

Table 4.4: Autocorrelation Test

Model	Durbin-Watson
1	1.571 ^a

a. Predictors: (Constant), Ln FDI (Net Inflows), Tax Reforms, Inflation, GDP Growth, Interest Rate

b. Dependent Variable: Ln Tax Revenue Collection

The Durbin-Watson statistic ranges from point 0 and point 4. If there exist no correlation between variables, a value of 2 is shown. If the values fall under point 0 up to a point less than 2, this is an indication of a positive autocorrelation and on the contrast a negative autocorrelation exist if the value falls under point more than 2 up to 4. As a common rule in statistics, values falling under the range 1.5 to 2.5 are considered relatively normal whereas values that fall out of the range raise a concern. Field (2009) however, opines that values above 3 and less than 1 are a sure reason for concern. Therefore, the data used in this panel is not serially autocorrelated since it meets this threshold having a Durbin-Watson Statistic of 1.571.

4.3 Inferential Statistics

The relationship, strength and direction of the link between the response and predictor variables are determined using inferential statistics. This section contains inferential statistic used in this research, which comprise of the multiple linear regression and correlation analyses.

4.3.1 Correlation Analysis

Correlation analysis measures two or more aspects to regulate or ascertain the degree to which the values for the variables are associated (Higgins, 2005). The degree and connection of a linear association between two factors is measured by correlation, which

ranges from -0.1 to +0.1 (Skeran & Roger, 2009). The current study employed the ratio scale of measurement, thus Pearson's correlation, denoted by (r_s), was utilized. Spearman correlation is frequently employed for evaluating connections with ordinal variables whereas the extent of link among continuous variables is determined by Pearson correlation (Hauke & Kossowski, 2011). Table 4.5 summarizes the findings.

Table 4.5: Correlation Analysis

		Ln Tax Revenue Collection	Tax Reforms	GDP Growth	Inflation	Interest Rate	Ln FDI (Net Inflows)
Ln Tax Revenue Collection	Pearson Correlation	1	.841**	-.192	-.223	-.521**	.158
	Sig. (2- tailed)		.000	.235	.167	.001	.329
Tax Reforms	Pearson Correlation	.841**	1	-.110	-.271	-.540**	-.062
	Sig. (2- tailed)	.000		.500	.091	.000	.704
GDP Growth	Pearson Correlation	-.192	-.110	1	.065	.186	-.319*
	Sig. (2- tailed)	.235	.500		.691	.251	.045
Inflation	Pearson Correlation	-.223	-.271	.065	1	.650**	.129
	Sig. (2- tailed)	.167	.091	.691		.000	.429
Interest Rate	Pearson Correlation	-.521**	-.540**	.186	.650**	1	-.332*
	Sig. (2- tailed)	.001	.000	.251	.000		.036
Ln FDI (Net Inflows)	Pearson Correlation	.158	-.062	-.319*	.129	-.332*	1
	Sig. (2- tailed)	.329	.704	.045	.429	.036	
	N	40	40	40	40	40	40

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The results in Table 4.5 show that only tax reforms and interest rates were significantly correlated at the 5% level of significance to KRA performance. This is because their significance values are less than the α (0.05). There is no significant correlation, according to the null hypothesis, but there is a significant correlation according to the alternate hypothesis. The null hypothesis is rejected and the alternate hypothesis is adopted since the significance value of interest rate is less than the α (0.05). As a result, at the 95 percent confidence interval, tax reforms and interest rate are significantly correlated to KRA performance. Because the correlation coefficient of the correlation between tax reforms and KRA performance is positive, it implies that the two variables have a significant positive correlation. Additionally, because the correlation coefficient of the correlation between interest rate and KRA performance is negative, it signifies that the two variables have a significant negative correlation.

However, the study findings also revealed that economic growth, inflation, and FDI do not have a significant correlation at the 5 percent significance level to tax revenue collection. This is due to the fact that their significance values are greater than the α (0.05). There is no significant correlation, according to the null hypothesis, but there is a significant correlation according to the alternate hypothesis. The null hypothesis cannot be rejected since the significance levels of all predictor variables exceed the α (0.05). As a result, at the 95 percent confidence interval, the predictor variables are not significantly correlated to KRA performance.

4.3.2 Multiple Linear Regression Analysis

The connection of cause and effect of the predictor variables used throughout the research with the response variable was assessed using a multiple linear regression model. Because

not all variables used during this research were normally distributed as shown in the Shapiro-Wilk and Kolmogrov-Sminorv tests displayed in Table 4.1, standardization of the data series was performed as a remedy for correcting non-normal distribution.

A significance level of 5% was utilized for the multiple linear regression analysis. The critical values displayed in the Tests of Between-Subject Effects and the Parameter Estimates with Robust Standard Errors outputs were contrasted to the significance values obtained in the study analysis. The F-value and T statistics obtained in the study analysis were also contrasted to critical values.

Table 4.6: Multiple Linear Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.868 ^a	.754	.718	.179037459238403		
Model	Sum of Squares		Df	Mean Square	F	Sig.
1	Regression	3.339	5	.668	20.836	.000 ^b
	Residual	1.090	34	.032		
	Total	4.429	39			
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	5.500	.028	194.295	.000	
	Zscore: Tax Reforms	.296	.038	.878	7.754	.000
	Zscore: GDP Growth	-.010	.031	-.031	-.335	.740
	Zscore(Inflation)	-.023	.046	-.067	-.493	.625
	Zscore: Interest Rate	.027	.058	.081	.477	.637
	Zscore: Ln FDI (Net Inflows)	.080	.040	.239	2.007	.053

a. Dependent Variable: Ln Tax Revenue Collection

a. Predictors: (Constant), Zscore: Ln FDI (Net Inflows), Zscore: Tax Reforms, Zscore(Inflation), Zscore: GDP Growth, Zscore: Interest Rate

a. Dependent Variable: Ln Tax Revenue Collection

b. Predictors: (Constant), Zscore: Ln FDI (Net Inflows), Zscore: Tax Reforms, Zscore(Inflation), Zscore: GDP Growth, Zscore: Interest Rate

The Co-efficient of Determination (R Square) shows changes in the response variable as a result of modifications of the predictor variables used in the research model. Table 4.16 data reveal that the value of R Square is 0.868, which shows that the model entailing; tax reforms, economic growth, inflation, interest rates, and FDI results in 86.8% of tax revenue collection. Other variables not included in the model account for 48.9% of the variations in tax revenue collection.

The results shown in Table 4.6 also displays that the significance value of obtained in the Analysis of Variance (ANOVA) (0.000) is less than the critical value utilized in the current study (0.05). This means that the model entailing; tax reforms, economic growth, inflation, interest rates, and FDI significantly forecasts tax revenue collection. The critical F-value for this study is 2.49361595, and the F-value obtained in the current study (20.836) is greater than the critical value. This means that the model entailing; tax reforms, economic growth, inflation, interest rates, and FDI significantly forecasts tax revenue collection.

The final study results in Table 4.6 demonstrates that only tax reforms individually has a significant relationship with tax revenue collection. This is because its significance value is less than the critical value used in the research of 0.05. In addition, for a two-tail test the critical T value is ± 2.022691 . The T value of tax reforms (7.754) lie out of the range of ± 2.022691 . Thus, this also implies that tax reforms individually has a significant relationship with KRA performance. It has a positive significant relationships with the KRA performance.

However, the study established that economic growth, inflation, interest rates, and FDI each individually do not have a significant relationship with tax revenue collection. This is due

to the fact that their significance levels are all higher than the critical value used in the current research of 0.05. In addition, for a two-tail test the critical T value is ± 2.022691 . The T values for economic growth, inflation, interest rates, and FDI fell under the range of ± 2.022691 . Thus, this also implies that economic growth, inflation, interest rates, and FDI individually do not have a significant relationship with tax revenue collection.

Consequently, the following model was developed for the study;

$$Y = 5.500 + 0.296X_1$$

Where;

Y = Tax Revenue Collection

X₁ = Tax Reforms

The y intercept obtained in the model of 5.500 implies that before the I-Tax digital tax reform was introduced, the KRA performance was 5.500 units. The beta coefficient of tax reforms had a value of 0.296, this indicates that after the introduction of the I-Tax digital tax reforms, tax revenue collection increased by 29.6%.

4.4 Interpretation and Discussion of Findings

This study aimed at establishing the effect of tax reforms on performance of Kenya Revenue Authority. It also aimed at unravelling the impact of; economic growth, inflation, interest rate, and FDI on performance of Kenya Revenue Authority. The study findings exhibited that only tax reforms and interest rates were significantly correlated at the 5% level of significance to KRA performance. Tax reforms and KRA performance had a

significant positive correlation while interest rate and KRA performance had a significant negative correlation. However, the study findings also revealed that economic growth, inflation, and FDI do not have a significant correlation at the 5 percent significance level to KRA performance.

Additional current study findings were that the model entailing; tax reforms, economic growth, inflation, interest rates, and FDI explains to a very great extent the KRA performance by having a co-efficient of determination of 86.8%. Further current study findings were that the model entailing; tax reforms, economic growth, inflation, interest rates, and FDI significantly predicts tax revenue collection. The final current study findings were that only tax reforms had a significant relationship with the KRA performance. The current study findings further exhibited that it had a positive significant relationship with tax revenue collection. However, the current study findings revealed that economic growth, inflation, interest rates, and FDI did not individually have a significant relationship with KRA performance.

This optimal tax theory describes why the tax system requires to be reformed so as to maximize tax revenue. The current study finding that tax reforms have a significant positive relationship with tax revenue collection is congruent to the optimal tax theory. The theory of public expenditure theory describes the association of the efforts by the government to rise the collected tax so as to deal with its agenda on development and the ability to collect the needed tax revenue in reforms on customs, tax revenue and modernization context. The current study finding that tax reforms have a significant positive relationship with tax revenue collection is congruent to the public expenditure theory. The Allingham and Sandmo portfolio theory states that government enforcement operations alone do not

appear to be sufficient to account for high levels of compliance (Allingham & Sandmo, 1972). However, the current study finding that tax reforms have a significant positive relationship with tax revenue collection is contradicts to the Allingham and Sandmo portfolio theory.

Many tax systems throughout the world have undergone adjustments in order to broaden the tax base and raise more income for public finance (Moyi & Ronge, 2016; OECD, 2012). Reforms on taxes is mainly done to rise tax administration efficiency and maximize social and economic benefits that the system of tax could give (Granger, 2013). The current study finding that tax reforms have a significant positive relationship with tax revenue collection is in tandem to these assertions.

Tax reforms could minimize revenue avoidance and evasion, as well as make tax collection more efficient and equitable, allowing for the funding of public goods and services. It has the potential to increase revenue levels while also promoting coming independence from foreign help and earnings on natural resources (Byanima, 2014). The current study finding that tax reforms have a significant positive relationship with tax revenue collection is in tandem to this assertion.

Kiara (2021) researched on impact of indirect tax policy reforms on revenue performance in Kenya. The goals were to determine the effects of introduction of Withholding VAT agents, introduction of EGMS and switching the tax system from hybrid to a uniform specific or ad valorem Excise tax regime on revenue collection in Kenya. From the difference-in-difference model, the analysis reveals that the introduction of EGMS led to an upsurge in excise revenue by 81.2%. This was significant at 1% level of significance.

VAT increased by 13.4 per cent following the introduction of VAT withholding agents. This was equally significant at 5% level of significance. The current study finding that tax reforms have a significant positive relationship with tax revenue collection is in tandem to Kiara's (2021) study findings.

Chilibasi (2014) did a research on the effects of VAT reforms on tax revenue collected by KRA. Descriptive statistics were used to analyze the data. The study was carried out in Nairobi County where he concluded that online filing of VAT returns influences VAT revenue directly or indirectly. The current study finding that tax reforms have a significant positive relationship with tax revenue collection is in tandem to Chilibasi's (2014) study findings.

Muriithi and Moyi (2003) undertook a research on tax enhancements and tax proceeds marshalling in Kenya. It was noted that tax reform has a positive impact on overall taxation formation. The current study finding that tax reforms have a significant positive relationship with tax revenue collection is in tandem to Muriithi and Moyi's (2003) study findings.

Ndoricimpa (2021) investigated Burundi's tax reforms, civil wars, and tax revenue performance. The goal of the study was to see how Burundi's tax performance relates to tax revisions and civil war. The findings revealed that tax revisions had no effect on total tax revenue or tax categories. The current study finding that tax reforms have a significant positive relationship with tax revenue collection contradicts Ndoricimpa's (2021) study findings.

Gachanja (2012) undertook a study on tax reforms and economic elements on Kenyan tax revenues. According to the study, tax reforms in Kenya negatively affected tax revenues. The current study finding that tax reforms have a significant positive relationship with tax revenue collection contradicts Gachanja's (2012) study findings.

Inflation has always caused taxes to increase since people tend to pay more for goods and services more than they should (Ng'etich & Wangari, 2020). The current study finding that inflation neither has a significant association nor relationship with tax revenue collection is not in agreement to this assertion.

Teera (2002) did a study on the system of taxation and tax structure of Uganda and elements that affected collection of revenue. The study did establish that GDP per capital indicated a negative significant relationship with tax collection. The current study finding that economic growth neither has a significant association nor relationship with tax revenue collection is not in agreement to this assertion.

Ombati (2018) studied tax reforms effects on the efficiency of revenue collection in Kenya. The goal was to find out the effects of tax reforms on tax revenue efficiency in Kenya. It was discovered that there is a high link between GDP and tax revenue, as well as between inflation and tax revenue. The current study finding that economic growth and inflation neither have a significant association nor relationship with tax revenue collection is not in agreement to this assertion.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

The overview of the research results, as well as conclusions and suggestions for policymakers and practitioners, are all included in this section. In addition, the study limitations and recommendations for further research are discussed.

5.2 Summary of Findings

This study aimed at establishing the effect of tax reforms on performance of Kenya Revenue Authority. It also aimed at unravelling the impact of; economic growth, inflation, interest rate, and FDI on performance of Kenya Revenue Authority. The analysis of the data collected and the interpretation of the results were therefore carried out in accordance with the stated general and specific goals.

Multiple linear regression and correlation analysis were comprehensively used to achieve the study objectives. The examination of the correlation used in the research found out that only tax reforms and interest rates were significantly correlated to KRA performance. Tax reforms and KRA performance had a significant positive correlation while interest rate and KRA performance had a significant negative correlation. However, the study findings also revealed that economic growth, inflation, and FDI do not have a significant correlation to KRA performance. Analysis from multiple linear regressions showed that the model entailing; tax reforms, economic growth, inflation, interest rates, and FDI explains to a very great extent the KRA performance by having a co-efficient of determination of 86.8%. Further findings were that the model entailing; tax reforms, economic growth, inflation,

interest rates, and FDI significantly predicts KRA performance. The final findings were that only tax reforms had a significant relationship with the KRA performance; they had a positive significant relationship. However, the current study findings revealed that economic growth, inflation, interest rates, and FDI did not individually have a significant relationship with KRA performance.

5.3 Conclusion

This section contains the research's conclusion. The conclusion is written in accordance with the study's broad objective. The study's broad objective was to determine the effect of tax reforms on performance of Kenya Revenue Authority. The study concluded that tax reforms have a significant effect on tax revenue collection. The current study's specific objectives were to unravel the impact of economic growth, inflation, interest rate, and FDI on performance of Kenya Revenue Authority. The study concludes that interest rates have a significant negative association with tax revenue collection but it does not have a significant positive relationship with tax revenue collection. Finally, the current study concludes that economic growth, inflation, and FDI neither have a significant association nor relationship with tax revenue collection.

5.4 Recommendations

Those who will conduct future research in the area of finance will benefit from the results of this study in regards to tax reforms and tax revenue collection. Subsequent researchers interested in tax reforms and tax revenue collection will use the study results as a reference. The study will bring about curiosity among scholars and challenge them into carrying out further studies on government revenue collection. Similarly, the work will provide resourceful material for future scholars and researcher interested in the subject of tax

reforms and tax revenue collection.

Policy recommendations are made to the government officials and policy formulators in the Treasury and the board of the Kenya Revenue Authority, that since it has been established that tax reforms have a positive significant effect on tax revenue collection, the policy makers should try to craft tax reforms to boost tax revenue collection. Additionally, since it has been established that interest rates have a significant negative relationship with tax revenue collection, policy recommendations are made to the treasury to regulate the interest rates through the Monetary Policy Committee (MPC) in order to enhance tax collection. The research project findings will serve as a road-map for key government bodies and authorities as they develop policies and procedures to strengthen government revenue collection. The current study findings will provide empirical findings to the government and other relevant agency to help guide the formulation and implementation of relevant policies and regulation.

The finding of the current study that tax reforms have a significant effect on tax revenue collection and further study findings that interest rates have a significant negative relationship with tax revenue collection generates recommendations to the KRA management, consultants, and economists to estimate and base their projected tax revenue estimates and targets based on the tax reforms and prevailing interest rates. They should particularly be bullish about tax revenue collection when tax reforms have been instituted and when the lending interest rates are low. In addition, the KRA management should gauge tax reforms and lending interest rate levels to determine the level of tax revenue collection enforcement. Thus, during times of instituted tax reforms and low interest rates, they should increase the intensity of enforcement because more tax revenue can be

obtained.

5.5 Recommendations for Further Study

To explore the impact of tax reforms on tax revenue collection is very important for government officials and policy formulators in the Treasury and the board of the Kenya Revenue Authority, KRA management, consultants, and economists. However, the current study has been performed in the context of the national government tax collection; the same study might be repeated on other government units especially after the advent of devolution in Kenya. Thus the study can be carried out across other counties to see whether the study findings will hold. The present research has been performed solely in Kenya, additional investigations may be carried out in the East African, African or global settings to determine if current results of the studies are conveyed.

The present research has solely included economic growth, inflation, interest rate, and FDI variables the study's control variables that additionally influence tax revenue collection. Additionally, a research may be carried out to see if there are other variables that moderate, intervene, or mediate the relationship between tax reforms and tax revenue collection.

This study has only utilized secondary data, the study can be followed by studies using primary data. This may either compliment or criticize the study's findings. The statistical analytical techniques of the present research were multiple linear regressions and correlation analyses. Additional methodologies for statistical analysis, for instance; descriptive statistics, cluster analyses, discriminant analysis, granger causality, components analysis, among other methodologies, can be incorporated in further studies.

5.6 Limitations of the Study

The present research was a formal study and it applied the deductive research approach for the reason that it was guided by pertinent literature and theories to further test the theories and empirical literature findings. Employing theories and previous empirical literature assists in laying the groundwork for comprehending the research issue being investigated. However, there was absence of previous researches on the effect of government bond yields on the equity market segment performance. The research was carried out solely in the context of the national government tax collection in view of time and financial limitations, which does not clearly demonstrate the present outcome if government units are taken into consideration. In addition, there would be more uncertainty if comparable research were repeated in other nations.

Although the research engaged secondary sources of data, there were some major challenges like some of the data being not readily available; especially data on exchange rate fluctuations and it took great lengths and costs to obtain it. The data was not utilized in their raw form and further calculations and manipulations of the data were required. Impending delays were experienced due to data processing and further editing before the compilation by the researcher.

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APPENDICES

Appendix I: Data Collection Sheet

	2016	2017	2018	2019	2020
Economic Growth					
Inflation Rate					
Interest Rate					
Foreign Direct Investment					

	2016 (%)	2017(%)	2018(%)	2019(%)	2020(%)
Policy tax reforms					
Administrative tax reforms					
Technological Tax reforms					

	2016 (%)	2017(%)	2018(%)	2019(%)	2020(%)
Level of tax collection					
Number of registered tax payers					
Level of tax compliance					

Appendix II: Research Data

Financial Year	Quarter	Tax Revenue Collection (Billions)	Ln Tax Revenue Collection	Tax Reforms	GDP at Constant 2009 Prices (Millions)	GDP Growth	Inflation	Interest Rate	FDI (Net Inflows)	Ln FDI (Net Inflows)
2019/20	Q4	331.3	5.803024	1	1,196,080	-0.08202	0.054433	0.1192	47	3.850148
	Q3	339.6	5.827768	1	1,302,954	0.013853	0.050333	0.1219	47	3.850148
	Q2	385.2	5.953763	1	1,285,151	0.015138	0.0559	0.1235	33.31092	3.505885
	Q1	371.5	5.917549	1	1,265,986	0.005263	0.043967	0.1244	33.31092	3.505885
2018/19	Q4	421.7	6.044294	1	1,259,358	0.017243	0.056067	0.1248	33.31092	3.505885
	Q3	337.8	5.822454	1	1,238,011	0.013604	0.046967	0.124933	33.31092	3.505885
	Q2	351.4	5.861925	1	1,221,395	0.017083	0.039867	0.125567	40.64803	3.70495
	Q1	329.3	5.796969	1	1,200,880	0.006701	0.0449	0.128467	40.64803	3.70495
2017/18	Q4	372.3	5.9197	1	1,192,886	0.014337	0.049833	0.132367	40.64803	3.70495
	Q3	306.8	5.726196	1	1,176,025	0.021029	0.075233	0.136067	40.64803	3.70495
	Q2	313	5.746203	1	1,151,804	0.020104	0.107967	0.136767	31.65343	3.454847
	Q1	317.4	5.760163	1	1,129,104	0.006955	0.0877	0.1368	31.65343	3.454847
2016/17	Q4	374	5.924256	1	1,121,305	0.014909	0.065	0.133733	31.65343	3.454847
	Q3	271.1	5.602488	1	1,104,833	0.005745	0.063333	0.136533	31.65343	3.454847
	Q2	293.5	5.681878	1	1,098,522	0.016306	0.053567	0.136867	16.97009	2.831452
	Q1	280.9	5.637999	1	1,080,897	0.007556	0.070233	0.1654	16.97009	2.831452
2015/16	Q4	326.7	5.789042	1	1,072,791	0.022191	0.0735	0.181467	16.97009	2.831452
	Q3	241.6	5.487283	1	1,049,501	0.022568	0.061433	0.179267	16.97009	2.831452
	Q2	266.7	5.586124	1	1,026,339	-0.00014	0.069933	0.173467	15.493	2.740388
	Q1	256.6	5.547518	1	1,026,485	0.014603	0.058167	0.160833	15.493	2.740388
2014/15	Q4	289.6	5.668501	1	1,011,711	0.012937	0.0618	0.155733	15.493	2.740388
	Q3	222.2	5.403578	1	998,790	0.021551	0.075433	0.1562	15.493	2.740388

	Q2	251	5.525453	1	977,719	0.018129	0.070333	0.159767	20.52336	3.021564
	Q1	223	5.407172	0	960,310	-0.02047	0.0678	0.164033	20.52336	3.021564
2013/14	Q4	236.2	5.464679	0	980,380	0.039624	0.074233	0.166767	20.52336	3.021564
	Q3	193.7	5.266311	0	943,014	0.027311	0.069967	0.17	20.52336	3.021564
	Q2	221.7	5.401325	0	917,944	-0.00381	0.043667	0.1696	27.97048	3.33115
	Q1	200.2	5.299317	0	921,452	-0.00154	0.040767	0.169467	27.97048	3.33115
2012/13	Q4	193.7	5.266311	0	922,875	0.018757	0.0353	0.1743	27.97048	3.33115
	Q3	167.2	5.119191	0	905,883	0.026769	0.063833	0.179	27.97048	3.33115
	Q2	181.9	5.203457	0	882,266	0.023423	0.117767	0.183233	34.50418	3.54108
	Q1	158.4	5.065123	0	862,074	0.013844	0.1687	0.200033	34.50418	3.54108
2011/12	Q4	256.9	5.548687	0	850,302	0.004646	0.191867	0.202133	34.50418	3.54108
	Q3	144.3	4.971894	0	846,370	0.009918	0.165067	0.200533	34.50418	3.54108
	Q2	162.3	5.089446	0	838,058	0.017976	0.1316	0.1792	36.2615	3.590757
	Q1	143.9	4.969119	0	823,259	0.007534	0.0705	0.144167	36.2615	3.590757
2010/11	Q4	180.1	5.193512	0	817,103	-0.0019	0.038433	0.139033	36.2615	3.590757
	Q3	134.4	4.90082	0	818,659	0.006839	0.033333	0.139567	36.2615	3.590757
	Q2	145.2	4.978112	0	813,098	0.029457	0.036767	0.1389	17.80642	2.879559
	Q1	124.9	4.827513	0	789,832	0.039108	0.050333	0.1415	17.80642	2.879559
2009/10	Q4				760,106					

