THE EFFECT OF TAX REFORMS ON THE EFFICIENCY OF REVENUE COLLECTION IN KENYA

BY

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DECLARATION

I the undersigned declare that this is my original work and has not been submitted for any degree or examination in any other university.

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This research project has been submitted for presentation with my approval as the university supervisor.

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DEDICATION

This project is dedicated to my family for the support in my academic endeavors. To my friends, a big thank you for the support throughout the entire programme.

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LIST OF ACRONYMS AND ABBREVIATIONS

DPC – Document Processing Centre

ERS – Economic Recovery Strategy

ETR – Electronic Tax Register

GDP – Gross Domestic Product

ITMS – Integrated Tax Management System

KRA – Kenya Revenue Authority

LTO – Large Taxpayers Office

OECD – Organization for Economic Cooperation & Development

SPSS – Statistical Package for Social Sciences

TMP – Tax Modernization Program

VAT - Value Added Tax

ABSTRACT

The objective of this study was to establish the effects of tax reforms on the efficiency of tax revenue in Kenya. This involved collecting data from various government and non-governmental agencies i.e. Kenya Revenue Authority, Kenya National Bureau of Statistics, Transparency International, World Bank, International Monetary Fund. This data was collected for a period of 38 years beginning 1980 and ending 2017.The collected data was analyzed using SPSS version 20 and the following was established; there's a strong relationship between GDP and tax revenue as well as the relationship between inflation and tax revenue. However, there's no significant relationship between corruption and tax revenue as well as between tax evasion and tax revenue. The study concludes that in Kenya tax reforms have a significant and positive influence on the tax revenues. This therefore means that, over time, with the various reforms being instituted they will lead to an increase in tax revenues. However, further studies are required to determine why there is no substantial increase in tax revenues despite the various positive tax reforms.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Taxation is the means by which governments raise money to fund their expenditure and development projects. Tax revenue required is to be raised by proportionate taxes on some or all the revenues (Ramsey, 1927). Tax collection is among the oldest practices and recently been considered as “one pillar of a stable nation” that “may also provide a basis for accountable and responsive democratic state systems” (OECD, 2008). Tax revenues in Kenya were as a result of heavy taxation of a limited base, meaning that a small group of people were charged large amounts of taxes. Taxation on imports & exports were also high (Cheeseman & Griffiths, 2005). The fiscal agreement that exists between the tax payer and the political government of the day is a fiduciary relationship that connects both of them to rights & responsibilities. As a result, other than the responsibility to effectively and efficiently mobilize revenues, taxation is also meant to fairly distribute the tax incidence factoring in the tax payers’ ability to pay and among the persons paying taxes in the same income group (OECD, 2014). Taxation as an integral part of the economy, has been used in two main ways. First, to raise revenue to finance all public expenditures without the need to borrow. Second, to mobilize tax revenue in a way that is fair and at the same time does not disrupt the economic activities in the country (Moyi & Ronge, 2006).

The weight of government budget deficit has been a constant feature of the public financing in the recent past thus making it a standout statistic that gauges the impact of government economic strategies on the economy. Budget deficits have grown into a constant

occurrence in public sector financing all over the world (Ariyo, 1997). Tax reforms have been aimed at raising more revenues to facilitate government activities such as public expenditure & providing services. This matter has gained importance due to the wide spread crises in most countries lately. These crises have led to the tax reforms in many countries (Bird, 2013). Tax reforms have a critical 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'll 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.

1.1.1 Tax Reforms

Tax reform is the process through which a country changes the way in which taxes are levied, mobilized and utilized by the government of the day with an objective of improving tax administration or to provide social or economic benefits. Formulating of new laws that govern taxation, changes in tax administration as well as minimizing loop holes of tax evasion are some of the factors that lead to improvements in tax revenue collections (Morrisset & Izquierdo, 1993). In developing countries especially in Africa, tax reforms revolves around matters to do with economic policies while focusing particularly on the design of taxation structure and the tax management (Musgrave 1987). With this in mind, tax reform is torn between the equivalents of structure and development policy including issues such as the impact of alternative taxes on saving and investment and the resultant challenges for macro balance (domestic and foreign) of the economy. The concerted effort to reform the tax system, must contend with the headache of ensuring fairness in the spreading of the tax incidence. While at it, the stake holders also needed to address the

concerns of management reasonableness of the tax system and ensure that the politics does not have influence over the economic realities.

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 to be 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 Value added Tax (VAT) which was introduced in 1990 to replace the sales tax that had been in operation since 1973 (Wawire, 2006). Between 1986 & 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 percent of GDP, bolster administrative efficiency through computerization, increase greater dependence through self-assessment system supported by selective tax audits, address constraint in the operational tax structure as well as over reliance on direct taxes, improve economic efficiency of tax system through lowering and rationalization of tax rates (KIPPRA, 2006). Economic recovery strategy (ERS) paper (2003) highlighted other areas that required reforms in revenue collection such as the complete abolishment of the suspended import duties together with all the elective duty exemptions that were widely abused leading to tax evasion, combining all the taxes in the country & making it an exclusive mandate of KRA to collect these taxes, expanding the

taxation base so as to allow the government the possibility of lowering some of the taxation rates, working towards having the Kenya tax regime conform to the tax regimes of neighboring countries in the East African Community and the justification of the individual income tax by way increasing the tax threshold and lowering the taxation brackets.

One of the reforms was the implementation of the Simba (2005) system that basically revolutionized operations at KRA by automating virtually up to 90% of the customs activities thereby eliminating the need for clients of KRA to physically visit the KRA offices. Another crucial reform was the introduction of the Document Processing Centre (DPC) which transformed the customs clearance process by phasing out the so called long rooms and replacing them with a small group of about 30 officers, based in Nairobi to process customs lodgments (entries) from all over the country. 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 based platform to monitor & track the oil stocks data of every importer/marketer. Another transformational reform was the introduction& making mandatory for all traders to have the Electronic Tax Registers which aimed at keeping tabs on their sales thereby curbing the evasion of paying VAT on sales; taxpayer segmentation into Large taxpayers office (LTO). Turnover Tax for smaller taxpayers (TOT), and the medium taxpayer's office (MTO) created in November 2010 for taxpayers with a turnover of between 350 million to 750 million, which resulted in substantial increase in the overall revenue collections, voluntary compliance, broadened tax base and reduced cost of collection.

Another reform was the implementation of an Integrated Tax Management System (ITMS) which was to provide rapid feedback to its users thus fast tracking the clearance process and in the process reduce compliance costs, enhance taxpayer empowerment by availing all the necessary information and providing transaction flexibility, minimizing the chances of traders and customs officers coming into contact thus ensuring integrity, enabling data sharing across the departments within KRA and other relevant third party users of these data for analysis and future reference. In the process providing a one stop shop for all the needs of the taxpayer and improving tax collection (KRA, 2010).

The main objectives of the reforms were aimed at improving the organization & management of revenue administration and strengthen the regulatory framework as well as ensure the success of the previous changes introduced from prior years. With these broad objectives in place KRA expected to achieve its revenue targets, streamline internal processes, uphold professionalism among staff and improve service delivery to its customers (KRA, 2010).

1.1.2 The Efficiency of Tax Revenue

Tax revenue may be affected by various factors. One of the factors is corruption. Imam and Jacobs (2007) studied the performance of the various types of taxes in the Middle East and found out that corruption was partly to blame on the dismal performance of these taxes as a share of the GDP compared to other middle income regions in the world. This suggests that corruption is one of the factors that influence amount of taxes collected by governments. This view is also held by Ajaz and Ahmed (2010).

Wilford and Wilford (1978) found that GDP had an impact on tax revenues. Osoro (1993) revealed that in Tanzania, tax revenues were negatively affected by the tax reforms instituted. Ariyo (1997) found that there was a notable effect on the tax revenues as a result of tax administration in Nigeria. Chipeta (1998) observed & positively concluded that the tax improvement had had a pragmatic influence on the productivity of the tax revenue in Malawi. Milambo (2001) affirmed that in Zambia the tax reforms instituted had borne some fruits in terms of productivity of the overall tax system. Muriithi and Moyi (2003) employed the principles of tax buoyancy and elasticity to establish the effect of the tax changes in Kenya on the desired purpose of formulating tax strategies that were reactive to changes in earnings but not affecting the yield of individual taxes. In the end it was noted that these tax improvements had a pragmatic influence on the tax formation as well as on the various taxes. More recently, Wawire (2011) noted that VAT was highly influenced by the following factors; Gross Domestic Product institutional, demographics and the organizational attributes of the economy.

1.1.3 The Kenya Revenue Authority

The Kenya Revenue Authority (KRA) was established on 1st July 1995 by way of an Act of Parliament Cap 469 of the laws of Kenya, charged with the sole duty of garnering taxes for the government of the day. Kenya Revenue Authority (KRA) is run by a board of directors which are drawn from both private& public sector experts, where they approve policies which was implemented by the management of KRA. In charge of the board is the chairman who is a presidential appointee. At the top of the management of KRA is the commissioner general who is appointed by the minister of finance (KRA Website, 2011). 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, Western, Southern, Northern & Central.

For the purpose of administration and other functions the agency is set up into the following departments as follows; Domestic Taxes Department, Customs Services Department, Road Transport Department, Investigation and Enforcement Department and the Support Services Department. It's imperative to take note that each of these departments are headed by a commissioner who reports directly to the Commissioner General. For operational efficiency the agency is divided into seven service sub - departments; Finance Department, Human Resources, Information and Communication Technology, Marketing and Communications, Internal Audit Department, Research & Corporate Planning Services, Board Corporate Services & Administration Department.

1.2 Problem Statement

Dwindling tax collections was the main reason that Kenya instituted major tax reforms hoping to spur tremendous growth in tax collections (Moyi and Ronge, 2006). This has not been the case. Recent failure by the government through the Kenya Revenue Authority (KRA) to hit its annual revenue goals has necessitated the need to look for avenues that led to an increase in revenue generated by way of taxation. Further, the new government structure of a devolved system is envisaged to increase government expenditure. This calls for policy makers to look for ways that helped the government to raise more revenue. Despite the measures taken by KRA to improve its revenue collections such as the introduction of reforms and modernization programs, the authority has been falling short

of its revenue targets. This calls for a study to establish whether the reforms have impacted on revenue collections at all and whether economic factors could be the reason for the shortfalls in revenues collected.

There are numerous studies done on KRA. Examples of the most recent studies on KRA include Lekasi (2010) on strategic management process, Ngui (2010) on the relationship between risk profiling and revenue performance, Nzyoki (2010) on improving service quality measurement for sustainable tax administration. Awitta (2010) on the effectiveness of revenue collection strategies, and Kiiru (2010) on tax-payer non-compliance behavior. Others include Aliet (2008) on responses to challenges in implementation of customs reforms and modernization. Bondo (2008) studied on effectiveness of tax payer education as a revenue collection strategy, and Wambua (2008) on effects of reform programs on staff morale at KRA.

With the exception of Wawire (2011) who delved into the study of factors that affect Value Added Tax Revenues here in Kenya, most studies on tax issues have focused on different aspects. For instance, Owuor (2010) focused on risks that affect VAT revenue collection by KRA. Leseeto (2010) found that the effects of tax amnesty on VAT compliance in Kenya, and Chege (2010) on the impact of using ETR on VAT compliance of classified hotels in Nairobi. The study deviates from that of Wawire (2011) as the former tackled VAT while the present tackles the overall determinants of taxes collected by the Government of Kenya through KRA. Prior studies have shown that tax revenue may be influenced by corruption, tax administration reforms, and GDP among others. The study

thus poses the question: what are the effects of tax reforms on the efficiency of revenue collection in Kenya?

1.3 Objective of the Study

The general objective is to establish the effects of tax reforms on the efficiency of revenue collection in Kenya.

Specifically look at how;

I. Inflation impacts revenue collection
II. Corruption affects revenue collection
III. GDP fluctuation affects revenue collection
IV. Tax evasion impacts revenue collection

1.4 Importance of the Study

The study is invaluable to a number of parties. One, Kenya Revenue Authority used it to identify the various reforms that affect the revenue collections in Kenya.

Kenya stands to benefit a great deal from an improved tax revenue collection in terms of instituting better reforms for better revenue performance.

A number of various stakeholders used these study for among other uses, as a basis for further discussions in the field of taxation in Kenya. How to improve tax revenue collections and reduce the loopholes by tax administrators.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The section analyses theories and literatures related to tax reforms in past studies.

2.2 Theoretical foundations and Theoretical Framework

The theoretical framework was based on theory of optimal taxation, compliance theory and Keynesian theory.

2.2.1 Theory of Optimal Taxation

It posits that the main objective informing the choice of a tax regime must be to optimize a section of social security purpose depending on the availability of resources. The government get funds from revenue mobilization. The government in turn offers services to its citizens such as education, construction of roads, health services among others. This supposition is pertinent to this research because it shows why the government must aim at maximizing its revenue mobilization. One way of doing so is through having reforms in the taxation system.

2.2.2 The Keynesian Economic Theory

According to this theory, the aggregate demand is influenced by a number of economic decisions. The study states that public decisions include monetary, fiscal and tax policies. The theory observes that the government has the capability to improve a country's economy. This supposition is applicable to this study since the government has the authority to reform tax policies in the country. In doing so, revenue mobilization

productivity is achieved. This is made possible by tax policies which encourage tax compliance and avoid tax evasion by tax payers.

2.2.3 The Compliance Theory

This concept is anchored on the elements that affect the disposition of tax payers to abide by the tax policies. Tax compliance is very important in revenue mobilization. Tax policies should be just, simple and have equality. Compliance can be encouraged by a state through giving out exemptions on certain taxes, tax holidays, tax reliefs and incentives. Compliance theory is relevant to this study since it's through tax reforms that drive tax payers to comply. This in turn led to efficiency in revenue collections.

2.3 Review of the Empirical Studies

A study on the fiscal policy in Europe was done by Carlos and Lambarri (1995). The study used secondary data. The study established that lack of legislation on crime had a negative impact on efforts by the government in convincing its taxpayers that tax system is fair. This had a negative impact on revenue mobilization. The study recommends that the UK government should set up fiscal policy that can reduce tax burden.

Anyo (1997) assessed the yield of the Nigerian tax system from 1970 to 1990. The study established that productivity level was satisfactory while there were extensive disparities in the level of tax revenues to tax sources which were due to negligence in administration of non-oil tax sources.

Teera (2002) did a study on the tax system and tax structure of Uganda and factors that affected revenue collection. The study did establish that agriculture proportions, populace

solidity and tax evasion affect all types of taxes. GDP per capital showed negative sign. Tax dodging showed a notable bleak effect. Aid factor posted an encouraging result since aid in Uganda did support imports especially of raw materials.

Adam and Johnson (2012) carried out a research on reforms that could increase national income in the medium term to promote economic recovery. The study used secondary data. The study was carried out in the 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 would have lower administrative and compliance cost and would lead to increase national income.

Cambridge econometrics (1997) the potential effects of a number of other structural long term factors such as growing income inequality, rising self-employment and increased female participation. The study concludes that self-employment, unless it poses problems in the tax enforcement does not seem to have any significant impact on government receipts.

Muriithi and Moyi (2003) undertook a research on tax improvements and tax proceeds marshalling in Kenya. The study used secondary data. The study concludes that tax improvements have a productive effect on the general tax formation. The research opines that tax administrators need to focus more efforts on tax payer's sensitization, adherence and tax audits.

Gituku (2011) did a research on tax reforms and revenue productivity in Kenya. The research employed secondary data. Data was analyzed using descriptive statistics.

Stratified sampling technique was employed in coming up with the sample size. The study recommends constant review of tax structure due to the dynamic environment.

Gachanja (2012) undertook a research on the effect of tax reforms and economic factors on tax revenues in Kenya. The research reckons that tax reforms have inversely affected tax revenues in Kenya. The study recommends KRA to look keenly at the tax reforms to ensure that better revenues are 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 study recommended revenue collectors to be increased, imposing tough fines and penalties to tax defaulters and improved audits.

Chilibasi (2014) did a research on the effects of VAT reforms on tax revenue collected by KRA. Data was analysed using descriptive statistics. The study was carried out in Nairobi County where he concluded that online filing of VAT returns influences VAT revenue directly or indirectly.

2.4 Conceptual Framework

Independent variables **Dependent variable**

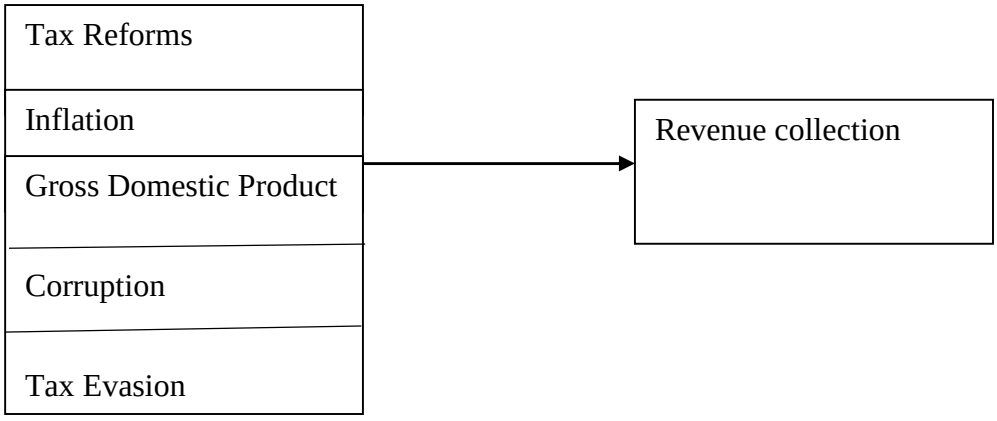

Figure 2.1: Conceptual Framework

2.5 Summary of Literature

Based on the review above, there are a number of theories that explain why tax reforms are carried out. These theories guided this study as far as explanation of the phenomenon is concerned. The empirical review has clearly shown that there is a gap as concerns a study on the impact of reforms, economic growth, and corruption on tax revenues is concerned. Given that the Kenya Revenue Authority initiated reforms to improve revenue performance yet the revenue stream has been dwindling, this study comes in handy to empirically test the impact of such reforms on revenue collections. Further, given the high corruption indices every year from the Transparency International, it is of importance to study what influence corruption has on revenue collection. The GDP rate has also not improved much over the years despite the reforms. This therefore calls for a study to address the impact of such economic growths on tax revenues. The study therefore deviates from the other studies that have been done on the Kenyan market in two significant ways by focusing on

overall tax revenues rather than specific taxes and by introducing corruption, inflation, tax evasion and economic growth into the model rather than focusing on reforms alone.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter the researcher outlines the methods of study employed in this study and these comprised of the research design, the target population, how the sample size was selected, data collection methods and how data was analyzed.

3.2 Research Design

Saunders, Lewis and Thornhill (2007) reckon that a research design can be named in terms of data collection strategy, choice of research methods, planning horizons. Using the time horizon as a basis in the research, the present research is definitely a longitudinal study because there is available secondary data on revenues for a long period of time as well as data on economic factors (especially GDP) which can be manipulated in the research. But naming this study in this manner cannot capture the way in which reforms were analyzed. Thus, the study named the research design on the basis of classification by method of analysis (Mugenda & Mugenda 2003). In this regard, a research may be planned as causal comparative, correlational study or descriptive. The approach of study that most brings out the objective of the survey is correlation and the correlation design being the design study that is appropriate for this subject. In this style, the survey was able to establish how the variables in the study are related.

3.3 Population and Sample

The type of data collected for this research was secondary data. This data was collected for a 38 year period beginning 1980-2017. The 38 year period is wide enough to cater for the

variations in yearly revenues collected over the time. The specific data collected is for the tax revenue (dependent variable). GDP, corruption indices, tax reforms, inflation rates and tax evasion (all independent variables).

Tax revenue data for the 38 year period under study was collected from the Kenya Revenue Authority offices where the data on the revenue was collected per year. GDP values were obtained from the World Bank and the Kenya National Bureau of Statistics for each of the years under study. Corruption indices for the 38 year period was collected from the Transparency International Website. Tax evasion data was obtained from the Kenya revenue authority and was measured by the number of tax evasions cases prosecuted. Inflation indices were extracted from the KNBS website. Tax reforms was measured using dummy variables. A value of 1 was accorded to the reform period while 0 for the pre-reform period.

3.4 Data Analysis

The gathered data was fed into the Statistical Package for Social Sciences (SPSS) software. A regression analysis was used to conduct various regression examinations.

The results of the regression interpreted based on the Pearson correlation coefficient, r. the r2, and the adjusted r2. Further, the F-statistics was observed and interpreted for significance using the p-value. Then, the coefficients of each of the variables in the model observed and interpreted for the direction of influence (+ or - effect) as well as for their significance in the model (t or p-values). The following model was used:

$$lnTAX = \beta_0 + \beta_1 REF + \beta_2 GDP + \beta_3 CORP + \beta_4 Infl + \beta_5 Evas + \eta \ldots\ldots\ldots\ldots\ldots\ldots 1$$

Where

TAX = Tax Revenue

REF = Tax reform (Dummy)

GDP = Gross Domestic product (Annual)

CORP = Corruption (Index)

Infl = Inflation

Evas =Tax Evasion

β_0= Constant

$\beta_1 - \beta_5$= Coefficient of explanatory variables

$\eta = error\ term$

Tax Rev is the tax revenue (dependent variable) measured by the revenue figures from 1980-2017.

Tax-Ref is the tax reforms (independent variable) measured by dummy variables. A value of 1 was awarded for the period after reforms.

GDP is the Gross Domestic Product (independent variable). This measures the economic growth. The GDP values were picked from 1980- 2017 and converted by using natural logarithms.

Corr is the corruption indices (independent variable). This was measured using corruption perception indices from 1980 -2017 using the Transparency International figures available on their website.

Infl is the inflation rates (independent variable). This was measured using the inflation rates for a duration of 38 years beginning 1980 ending 2017. This data was extracted from the KNBS website.

Evas is the tax evasion (independent variable). This was measured using the number of cases prosecuted by the Kenya Revenue Authority. The data was obtained from the Kenya Revenue Authority website.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents descriptive statistics, correlation analysis, model summary, regression result and interpretation of the findings.

4.2 Descriptive Statistics

Descriptive statistics details the mean and standard deviation of the variables used in the study. Maximum and minimum values were also considered. From table 4.1 below, it is evident that the mean value of tax revenue was approximately Khs 236.489 billion during the study period. Tax reforms were coded 0 for the periods Kenya never had any tax reform and 1 for periods Kenya had tax reforms. On average, Kenya had a mean annual GDP growth rate of 3.87% with a standard deviation of 2.30%. Corruption index had a mean of 2.63 for CPI transparency, accountability, and corruption in the public sector rating for Kenya. This implies that Kenya has fair corruption perception.

Table 4.1: Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Tax Revenue	38	39518000000.0000	676601375587.4000	236,489,026,050.602260	181874243180.9071700
Tax Reforms	38	0	1	.84	.370
GDP(Annual%)	38	-.799	8.406	3.87376	2.300202
Corruption	38	2	3	2.63	.489
TaxReforms1	38	0	1	.84	.370
Inflation %	38	1.6	46	7.526	8.598
Valid N (listwise)	38				

4.3 Trend Analysis

Before conducting regression analysis, trending analysis was performed to determine the behaviour and nature of the variables over time. This is important in ascertaining whether the variables have been experiencing growth or have been retarded during the study period. Figure 4.1 show that tax revenue collection has been increasing, though between 1980 & 1994 there was a very gentle increase. From 1995 to 2007 there's a significant increase in revenues. However, since 2008 to 2017 there has been sharp and steady growth in revenues collected. This is attributed to tax modernization programme (TMP) in the late 1980s, sales tax being replaced by value-added tax (VAT), utilization of the Personal Identification Number (PIN) assigned to each taxpayer to increase tax compliance and Computerization of KRA system.

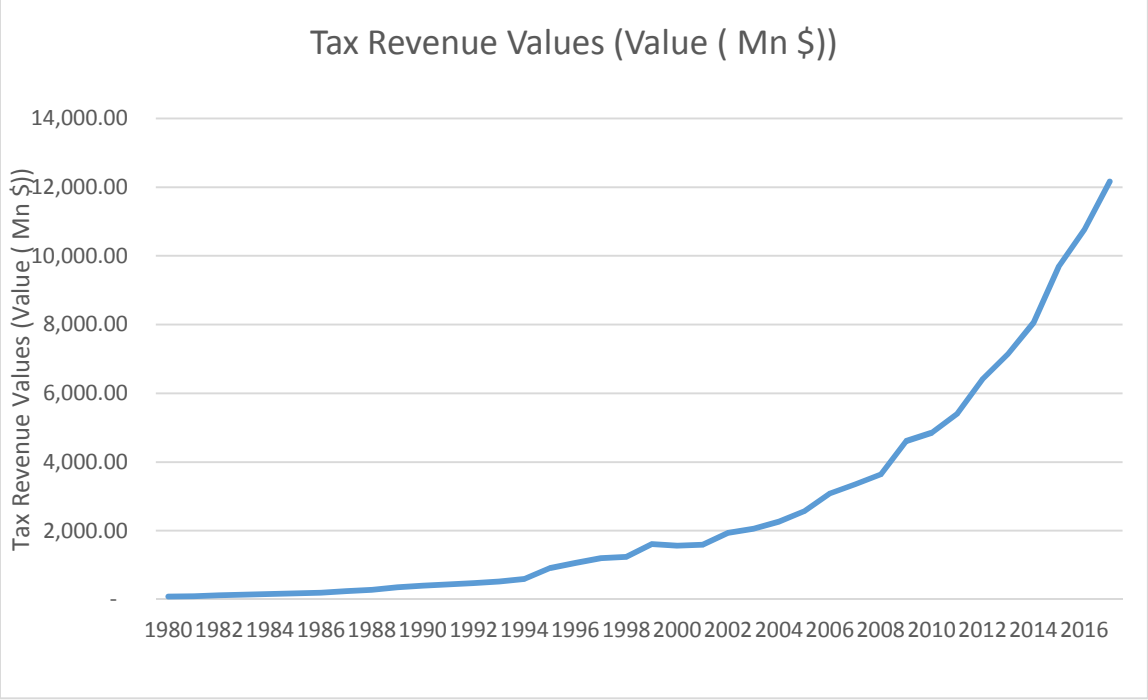

Figure 4.1: Tax Revenue Values

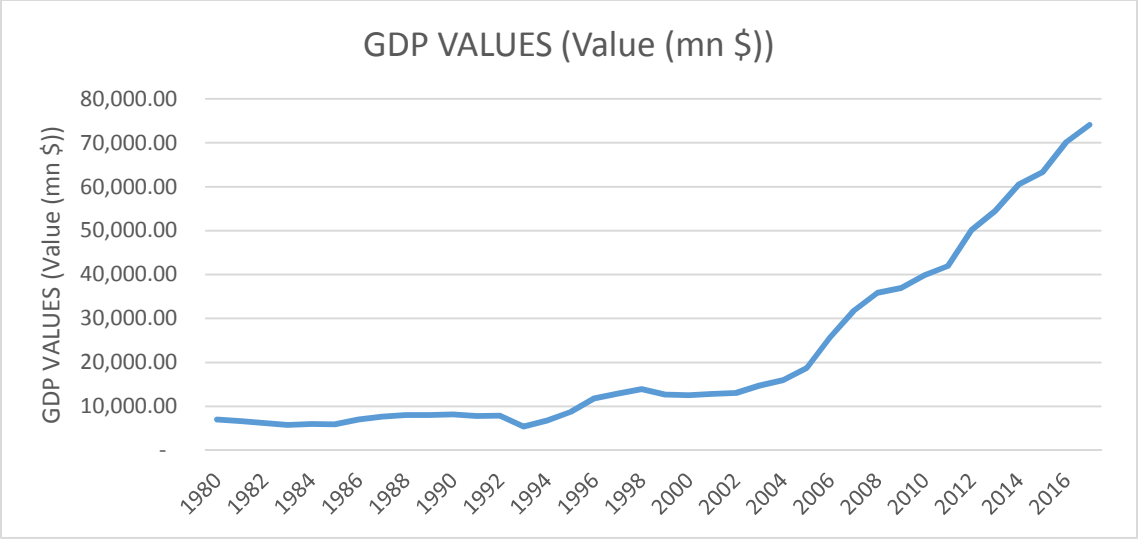

Figure 4.2: GDP values

From figure 4.2 GDP remain somehow constant from 1980 to 1984. In 1993 there was a drop then increased from 1994 to 1998 then dropped until 2002.Since then there has been a steady increase in GDP. This can be attributed to changing economic conditions ranging from political activities to government fiscal policies aimed at stabilizing the economy.

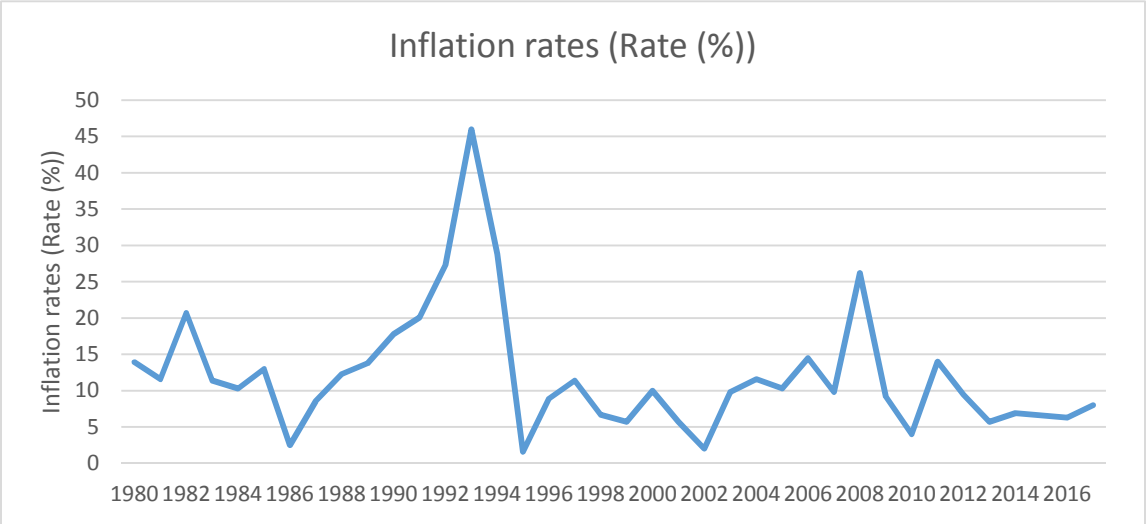

Figure 4.3: Inflation rates

In the year 1993, there was the highest level of inflation rate followed by a very sharp decrease in 1995.This was followed by a relatively high inflation in 2008 and from 2013 there has been low level of inflation.

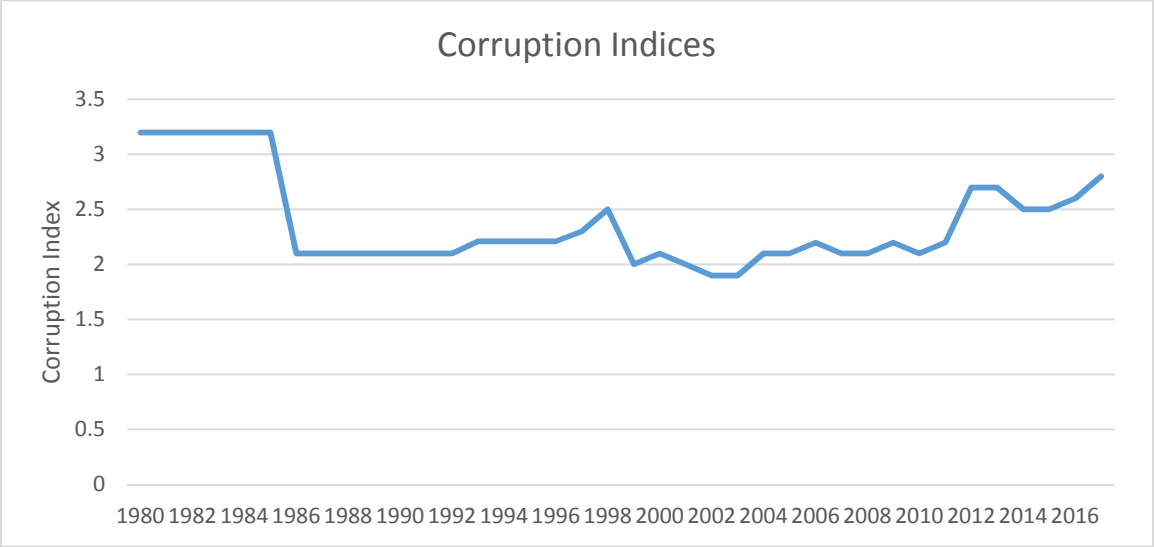

Figure 4.4: Corruption Indices

In the year 1984 there was a sharp decrease in corruption, however this level has been increasing steadily since 2014.

4.4 Correlation Analysis

Correlation analysis shows the sturdiness and direction of the association connecting the variables used in the study. Correlation matrix in table 4.2 shows that relationship between GDP growth rate and tax revenue is positive and moderate (R=0.593). This indicates that if GDP growth rate increase, tax revenue also increased. Corruption perception index has a negative association with tax revenue (R=-0.665). Therefore, if corruption perception index increase, tax revenue decreased.

Table 4.2: Correlation matrix

Table 5: Pearson Correlation

		Revenue	inflation	gdp	Corruption	tax_evasion
Pearson Correlation	revenue	1.000	-.296	.989	.062	.517
	inflation	-.296	1.000	-.288	-.011	-.326
	gdp	.989	-.288	1.000	.071	.509
	corruption	.062	-.011	.071	1.000	-.340
	Tax evasion	.517	-.326	.509	-.340	1.000
Sig. (1-tailed)	revenue	.	.036	.000	.356	.000
	inflation	.036	.	.040	.474	.023
	gdp	.000	.040	.	.337	.001
	corruption	.356	.474	.337	.	.018
	Tax evasion	.000	.023	.001	.018	.
N	revenue	38	38	38	38	38
	inflation	38	38	38	38	38
	gdp	38	38	38	38	38
	corruption	38	38	38	38	38
	tax_evasion	38	38	38	38	38

From the result in table 4.2, inflation is inversely related to revenue collection because of negative correlation coefficient (-0.296), which means that increase in inflation leads to reduced revenue collection and vice versa. GDP has a direct relationship to revenue because of positive (0.989) correlation coefficient.

4.4.1 Inflation impact on revenue collection

Table 4.3: Correlations between inflation and revenue

		Inflation	Revenue
inflation	Pearson Correlation	1	-.296*
	Sig. (1-tailed)		.036
	N	38	38
revenue	Pearson Correlation	-.296*	1
	Sig. (1-tailed)	.036	
	N	38	38

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

There is indication of significant relationship between inflation and revenue since the p value is less than 0.05.The Pearson Correlation is negative which means that there is

inverse relationship between inflation and revenue collection. If there is low level of inflation, the level of revenue collected rises and whenever inflation rates are high the amount of revenue collected reduces.

4.4.2 GDP fluctuation affects revenue collection

Table 4.4: Correlations between revenue and GDP

		Revenue	Gdp
revenue	Pearson Correlation	1	.989**
	Sig. (1-tailed)		.000
	N	38	38
Gdp	Pearson Correlation	.989**	1
	Sig. (1-tailed)	.000	
	N	38	38

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

There is significant relationship between revenue and GDP since the P-value (Sig. (1-tailed)) is less than 0.05. Pearson Correlation is positive (0.989) which means direct relationship so that if GDP reduces, revenue collected reduces and vice versa. In addition the pearson correlation coefficient tends towards 1 that indicates perfect relationship.

4.4.3 Corruption affects revenue collection

Table 4.5: Correlation between revenue and corruption

			Revenue	**Corruption**
Spearman's rho	Revenue	Correlation Coefficient	1.000	-.149
		Sig. (1-tailed)	.	.186
		N	38	38
	Corruption	Correlation Coefficient	-.149	1.000
		Sig. (1-tailed)	.186	.
		N	38	38

Even though there is no indication of significant relationship between corruption and revenue collection as P-value is more than 0.05 (0.186), the Correlation Coefficient is

negative (-0.149) which means inverse relationship between corruption and revenue collection. When there is high level of corruption, revenue collected reduces.

4.4.4 Tax evasion impacts revenue collection

Table 4.6: Correlation between revenue and tax evasion

		Revenue	Tax evasion
Revenue	Pearson Correlation	1	-.011
	Sig. (1-tailed)		.480
	N	23	23
Tax evasion	Pearson Correlation	-.011	1
	Sig. (1-tailed)	.480	
	N	23	23

Since the P-value is more than 0.05 (0.48), there is no indication of significant relationship between revenue collection and tax evasion. However, Pearson Correlation coefficient is negative (-0.011) that means an inverse relationship so that an increase in tax evasion would lead to a reduction in revenue collected and vice versa.

4.5 Regression result

We estimate the coefficients of each explanatory variable together with coefficient of determination and analysis of variance.

4.5.1 Model Summary

Model summary provides coefficient of determination statistics. R-squared is important in showing the proportion of dependent variables (tax revenue) described by the changes in the explanatory variables included in the model. R-squared of 0.977 illustrates that 97.7% of the total change in dependent variable (tax revenue) is attributed to the changes in the

independent variables (GDP growth rate, tax reforms, corruption index, inflation rates, tax evasion).

Table 4.7: Model summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.989[a]	.977	.975	512.96867	.977	358.221	4	33	.000

a. Predictors: (Constant), tax evasion, inflation, corruption, gdp

The regression model is significant because P-value is less than 0.05 (Sig =0.000) as displayed in table 4.7. In addition the model indicates that 98% of the unevenness of the dependent variable is described by the model as given by adjusted r square in table 4.7.

4.5.2 Analysis of Variance

The analysis of variances helps determining if the model applied in the analysis is the best model. F-statistics of 11.096 with a probability value of 0.001 indicates that the model is stable and therefore appropriate for the analysis.

Table 4.8: Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7.658	2	3.829	11.096	.001[b]
	Residual	6.557	19	.345		
	Total	14.214	21			

a. Dependent Variable: ln(Tax Revenue)
b. Predictors: (Constant), Corruption, GDP(Annual%), tax reforms

4.5.3 Coefficient estimates

Table 4.9: Coefficient estimates

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	694.603	607.788		1.143	.261			
	inflation	-3.232	10.542	-.009	-.307	.761	-.296	-.053	-.008
	gdp	.154	.005	.978	1.996	.000	.989	.983	.798
	corruption	-15.628	225.443	-.002	-.069	.945	.062	-.012	-.002
	Tax evasion	5.965	13.388	.015	.446	.659	.517	.077	.012
	tax reforms	1.184	.364	.662	4.983	0.00			

a. Dependent Variable: Tax Revenue

Apart from GDP whose P-value is less than 0.05 (Sig=0.000) all other independent variables are not significant in the model.

The coefficient estimates were presented in table 4.9 above. Other factors held constant, the average tax revenue is approximately USD 694.6 billion. Tax reforms have a pragmatic and consequential influence on tax revenue ($t=4.983$, $p = 0.00$, $p<0.05$). Therefore 10% increase in tax reforms led to 18.14% rise in tax revenue. GDP growth rate has a pragmatic but inconsequential effect on tax revenue ($t= 1.996$). The coefficient of corruption index is negative implying that corruption perception index has a bleak and consequential impact on tax revenue ($t=-0.69$, $P=0.012$, $P<0.05$). This then means that 10% increase in corruption perception index led to 15.62% decrease in tax revenue.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATION

5.1 Introduction

This chapter entails, summary of the results, conclusion, recommendations and suggestions for further study based on the results in chapter four.

5.2 Summary

During the study period the mean value of tax revenue was approximately Khs 236.489 billion. Kenya had a mean annual GDP growth rate of 3.87% with a standard deviation of 2.30%. Corruption index had a mean of 2.36 for CPIA transparency, accountability, and corruption in the public sector rating for Kenya. Tax revenue for Kenya has been gradually increasing overtime. This was attributed to tax modernization programme (TMP) in the late 1980s, sales tax being replaced by value-added tax (VAT), utilization of the Personal Identification Number (PIN) assigned to each taxpayer to increase tax compliance and Computerization of KRA system. However, GDP growth rate was characterized by periods of low and high values. This is due to changing economic conditions ranging from political effects to government fiscal policies aimed stabilizing the economy.

The relationship between GDP growth rate and tax revenue was positive and moderate (R=0.593). Corruption perception index had a negative association with tax revenue (R=-0.665). R-squared of 0.539 was obtained illustrating that 53.9% of the total change in dependent variable (tax revenue) was attributed to the changes in the independent variables (GDP growth rate, tax reforms, corruption index). F-statistics of 11.096 with a probability value of 0.001 was obtained indicating that the model was stable and appropriate for the

analysis. Tax reforms have a productive and consequential impact on tax revenue. Therefore 10% increase in tax reforms led to 18.14% increase in tax revenue. GDP growth rate has a pragmatic but inconsequential effect impact on tax revenue while corruption perception index has a bleak and consequential impact on tax revenue.

5.3 Conclusion

The study concludes that in Kenya, tax structure improvements have a significant impact on the tax revenues**.** The study has also shown the tax structure improvements have a pragmatic relationship with the tax revenues. This therefore means that over time with the various reforms being instituted have led to growth in tax revenues.

From the study it's evident that the prevailing economic conditions (GDP) have an influence on the revenues. There's a positive relationship depicted from the study between GDP and tax revenue. This then translates to high tax revenues when GDP is high and low tax revenues when GDP is low.

The study also concludes that corruption does not impact on the tax revenues significantly. From the study, corruption has a negative relationship with the tax revenues which means that higher tax revenues were associated with lower corruption indices. This conforms to theory and practice; when corruption is low then revenues will be high.

The study equally concludes that inflation has a bearing on the tax revenues to be collected in a given year. From the study, there's an inverse relationship between inflation rate and tax revenues. This means that when inflation rates are high, tax revenues are low and when the inflation rates are low then the tax revenues are high.

Finally the research deduces that there's a converse association between tax evasion and tax revenues. There will be an inverse effect between the tax revenues and the tax evasion cases. Where there are few tax evasion cases, there will be a higher yield on the tax revenues. Equally where there are rampant cases of tax evasion that will translate to lower yields of tax revenues.

5.4 Recommendations

The main intent of the research was to establish the effects of tax reforms on the efficiency of tax collection in Kenya. The findings from this research have established that tax reforms have a significant impact on tax revenues and a positive effect as well. Therefore, based on this finding, tax administrators in Kenya must continually reform the tax structure with the aim of improving the effectiveness and yield of taxation, as well as to grow the tax revenues and management, while reducing tax rates and gaining efficiency courtesy of higher tax elasticity.

5.5 Limitations of the study

Researches always face some challenges and limitations and this one is no exception.

First, the research only surveyed for a duration of 38 years beginning 1980 and ending in 2017. This period is long enough to cover a number of reforms and their effects thereof. However, it would be of great importance to the taxman and the society at large to know what taxation was like before 1980.

The study used five only five independent variables. Obviously there are many other factors that impact tax revenues which need to be studied and there influence determined. Therefore not all factors were controlled in the model used in this study.

5.6 Suggestion for further studies

Further studies are required to determine why there are no substantial increases in tax revenue despite the tax reforms having a positive correlation with the tax revenues. Ordinarily it's expected that the reforms will bring about a major increase in tax revenues but clearly from this study that is not the case.

There's need to increase the time series of the study. The best way would be to expand the period of study to independence years, or even better start from the colonial period. This can guarantee better results than the 38 year period considered in this study.

Further research needs to find a better way of measuring the tax reforms. Instead of using the 0 for the period before reforms and 1 for the period after reforms.

In the spirit of economic blocs, further studies can expand this study to the East Africa Community. It could be of great benefit if we are informed of how other jurisdictions operate in terms of taxation and what affects their tax revenues.

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APPENDIX I: DATA

GDP VALUES		Inflation rates		Corruption Indices		Tax Revenue Values		Tax Evasion cases		Tax Reforms	
Year	Value (mn $)	Year	Rate (%)	Year	Indices	Year	Value (Mn $)	Year	Value	Year	Value
2017	74,117.87	2017	8	2017	2.8	2017	12,165.58	2017	17	2017	1
2016	70,191.42	2016	6.3	2016	2.6	2016	10,769.58	2016	15	2016	1
2015	63,323.23	2015	6.6	2015	2.5	2015	9,694.69	2015	13	2015	1
2014	60,579.81	2014	6.9	2014	2.5	2014	8,054.23	2014	15	2014	1
2013	54,496.76	2013	5.7	2013	2.7	2013	7,141.86	2013	9	2013	1
2012	50,187.34	2012	9.4	2012	2.7	2012	6,414.69	2012	10	2012	1
2011	41,961.91	2011	14	2011	2.2	2011	5,401.64	2011	13	2011	1
2010	39,852.46	2010	4	2010	2.1	2010	4,854.42	2010	15	2010	1
2009	36,976.86	2009	9.2	2009	2.2	2009	4,614.43	2009	18	2009	1
2008	35,863.50	2008	26.2	2008	2.1	2008	3,639.57	2008	20	2008	1
2007	31,814.01	2007	9.8	2007	2.1	2007	3,353.29	2007	14	2007	1
2006	25,755.44	2006	14.5	2006	2.2	2006	3,080.02	2006	13	2006	1
2005	18,731.70	2005	10.3	2005	2.1	2005	2,573.53	2005	10	2005	1

2004	15,953.76	2004	11.6	2004	2.1	2004	2,266.41	2004	27	2004	1
2003	14,738.44	2003	9.8	2003	1.9	2003	2,059.23	2003	26	2003	1
2002	13,026.16	2002	2	2002	1.9	2002	1,943.42	2002	6	2002	1
2001	12,838.51	2001	5.7	2001	2	2001	1,593.26	2001	14	2001	1
2000	12,575.58	2000	10	2000	2.1	2000	1,563.06	2000	16	2000	1
1999	12,723.15	1999	5.7	1999	2	1999	1,617.50	1999	18	1999	1
1998	13,964.09	1998	6.7	1998	2.5	1998	1,245.06	1998	20	1998	1
1997	12,943.58	1997	11.4	1997	2.3	1997	1,202.74	1997	13	1997	1
1996	11,819.96	1996	8.9	1996	2.21	1996	1,059.70	1996	8	1996	1
1995	8,726.17	1995	1.6	1995	2.21	1995	916.79	1995	5	1995	1
1994	6,785.82	1994	28.8	1994	2.21	1994	596.63	1994	0	1994	1
1993	5,391.62	1993	46	1993	2.21	1993	527.90	1993	0	1993	1
1992	7,854.64	1992	27.3	1992	2.1	1992	475.11	1992	0	1992	1
1991	7,777.93	1991	20.1	1991	2.1	1991	434.96	1991	0	1991	1
1990	8,206.61	1990	17.8	1990	2.1	1990	398.27	1990	0	1990	1
1989	8,038.98	1989	13.8	1989	2.1	1989	359.88	1989	0	1989	1

1988	8,031.68	1988	12.3	1988	2.1	1988	284.06	1988	0	1988	1
1987	7,690.92	1987	8.6	1987	2.1	1987	239.82	1987	0	1987	1
1986	6,999.53	1986	2.5	1986	2.1	1986	201.39	1986	0	1986	1
1985	5,925.74	1985	13	1985	3.2	1985	176.57	1985	0	1985	0
1984	5,987.64	1984	10.3	1984	3.2	1984	158.73	1984	0	1984	0
1983	5,788.80	1983	11.4	1983	3.2	1983	144.87	1983	0	1983	0
1982	6,177.18	1982	20.7	1982	3.2	1982	122.37	1982	0	1982	0
1981	6,639.89	1981	11.6	1981	3.2	1981	91.96	1981	0	1981	0
1980	7,043.42	1980	13.9	1980	3.2	1980	87.33	1980	0	1980	0