AN ANALYSIS OF THE DETERMINANTS OF FISCAL DEFICIT IN KENYA

BY:

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DECLARATION

This Research Proposal is my original work and has not been presented in any other University.

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Signed.. Date ..10th November, 2011.

This Research Project has been submitted for examination with my approval as University Supervisor.

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DEDICATION

I dedicate this research project to my loving mother Priskilla Bonareri. Her encouragement and support from my childhood propelled me to achieve my goal in life.

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ABSTRACT

Fiscal deficit gives the signal to the government about the total borrowing requirements from all sources. The primary component of fiscal deficit includes revenue deficit and capital expenditure. Budget deficits are generated when governments spend more money than they take in from taxes and other sources of revenue. This study sought to establish the determinants of fiscal deficit in Kenya. The study was guided by one objective which was to analyze the determinants of fiscal deficits in Kenya.

The study used a case of the Kenya Government budget, covering a period of 9 years from the financial year 2002/2003 to 2010/2011. Secondary data was collected from the Ministry of Finance and Kenya National Bureau of statistics. Panel data methodology was used in the analysis since cross-sectional and time series were combined. The data collected was analyzed using regression analysis.

From the findings 84.3% of fiscal deficits in Kenya was attributed to combination of the nine independent factors (expenditure, income, domestic borrowing, external borrowing, money supply, previous year's consumption, civil servant salaries, inflation rate, and corporations receipts) investigated in this study.

Fiscal deficit is not dependent on any variable amounted to 1.143 Million. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in government expenditure will lead to a 0.635 increase in fiscal deficit. A unit increase in income will lead to a 0.235 increase in fiscal deficit; a unit increase in domestic borrowing will lead to a 0.451 increase in fiscal deficit; a unit increase in external borrowing will lead to a 0.825 increase in fiscal deficit. A unit increase in money supply will lead to a 0.354 increase in fiscal deficit; a unit increase in previous year consumption will lead to a 0.118 increase in fiscal deficit; a unit increase in civil servants salaries will lead to a 0.394 increase in fiscal deficit, a unit increase in inflation rate will lead to a 0.794 increase in fiscal deficit; and a unit increase in corporate receipts will lead to a 0.198 increase in fiscal deficit. This infers that external borrowing contribute more to

the fiscal deficit followed by inflation rate and least by previous year consumption and corporate receipts.

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1.1   Background to the study

Fiscal deficit is an economic phenomenon, where the Government's total expenditure surpasses the revenue generated. It is the difference between the government's total receipts (excluding borrowing) and total expenditure. Fiscal deficit gives the signal to the government about the total borrowing requirements from all sources. The primary component of fiscal deficit includes revenue deficit and capital expenditure. Revenue deficit is an economic phenomenon, where the net amount received fails to meet the predicted net amount to be received, while capital expenditure is the fund used by an establishment to produce physical assets like property, equipments or industrial buildings. Capital expenditure is made by the establishment to consistently maintain the operational activities. According to the view of renowned economist John Maynard Keynes (2009), fiscal deficits facilitate nations to escape from economic recession. From another point of view, it is believed that government needs to avoid deficits to maintain a balanced budget policy.

Budget deficits are generated when governments spend more money than they take in from taxes and other sources of revenue. While short-term budget deficits can be a prudent response to temporary fiscal shocks, most economists agree that sustained deficits can damage a country's economy. Among the potential harms associated with sustained budget deficits are contracted national savings, reduced future incomes Gale and Orszag (2003), and long-term current account deficits Yellen (1989). Further, in less stable developing economies, long-term deficits can lead to capital flight in anticipation of possible future government default or monetary expansion. As a result, while individual recipients of government largess may benefit from sustained deficit spending, the aggregate, long-term national impact is likely to be negative.

Tax revenue collection is one significant issue of economic development among others. It has been said that 'what the government gives it must first take away'. The economic

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resources available to society are limited, and so an increase in government expenditure normally means a reduction in private spending. The government through the Kenya Revenue Authority has been implementing substantive measures aimed at deepening tax reforms in order to improve tax compliance and enhance tax revenue. Taxation is one method of transferring resources from the private to the public sector, but there are others i.e. creation of more money, to charge for the goods and services it provides or to borrow. Taxation has its limits as well, but they considerably exceed the amounts that can be raised by resorting to the printing press, charging consumers directly, or borrowing. So while governments often use all four methods of raising resources, taxation is usually by far the most important source of government revenue.

A January 2009 review by Fitch Ratings gave Kenya a stable long-term outlook. The impact of the post-election violence has been compounded by a global economic recession, which will slow Kenya's recovery by reducing non-regional exports, tourism, remittances and capital flows for much needed investment. After a contraction by 1.5% and 2.6% in 2008 and 2009, Fitch estimates that Kenya's growth slowed to around just 1.5% for 2008 as a whole, down from 7% in 2007. Fitch Ratings, nonetheless, believes that Kenyan growth improved in 2009, supported by strong regional and domestic demand and a recovery of agriculture to around 4 to 5% (Fitch, 2009). The Kenya economy in 2010 real GDP expanded by 5.6% due to macroeconomic stability, increased credit to the private sector, low inflationary pressure, and improved weather conditions.

Historically, Kenya's economy recorded good performance in terms of economic growth in the 1960s and early 1970s, averaging 6.6% annual growth in GDP during 1964-73. The rapid economic growth was attributed to implementation of public investment, encouragement of smallholder agricultural production, and incentives for private, often foreign, industrial investment. However, the impressive GDP growth was short-lived. The growth rate recorded a downward trend from 1974 to 1995 due to inappropriate agricultural policies, inadequate credit to agriculture, poor international terms of trade, import substitution policy, rising oil prices, lack of export incentives, tight import controls, and foreign exchange controls.

Thereafter, the economy entered a period of slow or stagnant growth. However, in 2000 GDP growth was negative. Under the guidance of the Economic Recovery Strategy for Wealth and Employment Creation, the Kenyan economy recovered and resumed the path to rapid growth (Republic of Kenya, 2007). The economy registered a growth rate of 2.8% in 2003, 4.3% in 2004, 5.0% in 2005 and 6.7% in 2006. The 2008 economic survey indicates that the estimated growth rate in 2007 was 7%.

According to the January 2008 report by Fitch Ratings, public finances in Kenya have proven resilient to the country's political crisis. The fiscal deficit in FY08 (July 2007-June 2008) came in at 3.5% of GDP, below the projected 5.3% of GDP, reflecting strong revenue growth in the lead-up to the crisis, while reduced capital spending offset increased spending on security. The public debt ratio continued to decline to 43% of GDP from as high as 63% in FY04, although this is higher than the 29% of GDP median for the 'B' category, where many countries, unlike Kenya, have been beneficiaries of debt relief. Deficits are projected to widen due to increased infrastructure investment, which is positive for longer-term creditworthiness but means that debt ratios will decline more gradually going forward. In FY09 the planned Eurobond issue is unlikely to go ahead due to tight global credit markets. This will delay some planned infrastructure spending, and lower the deficit to around 4% of GDP compared with a budgeted 5.5% (Fitch, 2009).

Historically, the government of Kenya has run budget deficits since independence. Budget deficits result from expenditures falling short of government revenues. This shortfall is attributed to limited budgetary resources brought about by low economic performance, among other causes. A significant proportion of budgetary resources are internally generated through a myriad of taxes, with a huge proportion of financing devoted to recurrent expenditures. Development or capital expenditures have over the years been funded mainly by donors. The budget deficit is one of the variables influenced by IMF program policies.

The instability in the budget deficit can be attributed to several factors, including internal and external shocks, which sometimes require government intervention through fiscal policy. Budget deficits have contributed to the weak economic performance, by accumulating the high public debt and the associated high interest rates (Republic of Kenya, 2003).

The fiscal deficit is the core issue of most of the developing countries over the past several decades. The reason behind the large increase in fiscal imbalance is the rapid expansion in expenditure and low revenue collection. Recent endogenous growth model Romer (1986) has demonstrated that growth can be achieved by reducing fiscal imbalance, which can be achieved either by lowering expenditure or increase tax revenue. However, many developing countries have used option of reducing expenditure by reducing expenditures in case of health, education, and infrastructure, and other are rising tax revenue.

International comparison of fiscal efforts of developing countries is researched several times. The famous studies in this area are Harley (1965); Lotz and Morss (1967); Raja (1971); Roy (1979); Dehnashwar Ghura (1998); Abhijit Sen Gupta (2007). Most of these studies used ordinary least square method (OLS) technique to find the determinants of total tax to GDP ratio and most common exogenous variables used by these studies were share of agriculture sector, share of industrial sector, share of foreign trade and per capital income. The other variables tested are monetization, level of education and urbanization in the estimation of tax potential of different developing countries.

The major aim of most governments in developing countries is to stimulate and guide their economic and social development. These governments continue to reach out for the goal of government promoted and directed development. Kaldor (1964) pointed out the

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importance of government revenue in accelerating economic development. Whatever the prevailing ideology or political situation of a particular country, it must steadily expand a host of non-revenue yielding services such as education, health, infrastructure, and social security. Toye (1978) asserted that the link between taxation and economic development is a link between a universal desire and a form of government action that is believed to be a means to that end. Wildford and Wilford (1978) asserted that one of the most important policy upon which most economists agree is that emerging nations must increasingly mobilize their own internal resources to provide economic growth. The most important instrument by which resources are marshaled is through the implementation of an effective tax policy.

Currently, tax revenues play a vital role in Kenya's economic development. This is evidenced by the attention problems of taxation have received over the years (Republic of Kenya, 1965, Republic of Kenya, 1986, Republic of Kenya, 1994, Republic of Kenya, 2000, Republic of Kenya, 2007. Tax Management Administration Guidelines (1986) and the Vision 2030 contain reforms in all areas of tax policy. They emphasize the need to raise more revenue without increasing the burden of taxation on those who are already contributing to the exchequer. The tax measures contained in these documents consist of broadening the tax base to include additional sector activities and strengthen tax administration.

These measures were adopted after the government realized that the present tax structure does not raise adequate revenues thereby encouraging domestic borrowing and seeking external finance, which are only temporary measures of deficit financing. Moreover, external funds can no longer be relied on due to donor conditions and the increasing interest to channel funds to Eastern Europe after the cold war (Gelb, 1993). Furthermore, potential sources for domestic borrowing are few and external grants reduce autonomy and increase political and economic dependence. The alternatives are therefore to raise

money through taxation, curtail desired government expenditures, or continuously revise the tax structure.

The main shortcoming of Kenya's tax structure since independence has been its over-dependence on a small number of sources of tax revenue, namely trade taxes, sales tax/VAT and income tax (Ole, 1975, Wawire, 1991, Wawire, 2000, Muriithi and Moyi, 2003, Wawire, 2003 and Wawire, 2006). The trade taxes, sales tax/VAT on various imported products are vulnerable to external events because their prices are determined in the world market and tend to be volatile. This has resulted in inadequate tax revenues and continuous existence of budget deficits.

The sources of inadequacy of revenue from taxation include tax structure that is not buoyant or income-elastic, a long time lag between government revenue collection and spending, lack of fiscal discipline, and reluctance of the government to control its expenditures, and lack of information about the behavior of Kenya's tax revenue functions.

1.2   Statement of the Problem

Budget deficits have attracted a great deal of attention over the past two decades. They were blamed for the assortment of ills that beset developing countries which included; high inflation, poor investment and growth performance and over indebtedness. The instability in the government fiscal position is attributed to various factors such as the budgeting process, low level of economic development, growth and instability of government revenues, control of government expenditure, and macroeconomic shocks among others. The method of financing the budget deficit results in some type of imbalance (Kosimbei as cited in Kouassy and Bohoun, 1993).   Lutfunnahar (2007) identified the determinants of tax share and revenue performance for Bangladesh along with 10 other developing countries for the 15 years through a panel data analysis. The results obtained suggest international trade, broad money, external debt and population growth to be significantly determinants of tax efforts. The study concluded that Bangladesh and other countries have low tax effort (less than unity index) and are not

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utilizing their full capacity of tax revenue and therefore have the potential for financing budgetary imbalance through raising tax revenue.

In Kenya, Ole (1975) estimated income elasticity of tax structure for the period 1962/63 to 1972/73. Tax revenue was regressed on income without adjusting for unusual observations. The results showed that the tax structure was income inelastic (0.81) for the period studied. Njoroge (1993) studied the revenue productivity of tax reforms in Kenya for the period 1972/73 to 1990/91. Tax revenue was regressed on income after adjusting tax revenues for discretionary changes. The period of study was divided into two to make it easier to analyze the effects of tax reforms on revenues from various taxes. Adari's (1997) study focused on the introduction of value added tax (VAT) in Kenya that replaced sales tax in 1990. The study analyzed the structure, administration and performance of VAT. Wawire (2000) used total GDP to estimate the tax buoyancy and income-elasticity of Kenya's tax system. Tax revenues from various sources were regressed on their tax bases. Based on empirical evidence, the study concluded that the tax system had failed to raise necessary revenues.

1.3 The objective of the study

The objective of the study was to analyze the determinants of fiscal deficit in Kenya.

1.4 Importance of the Study

The study contributes to the existing literature on the fiscal structure in Kenya. The results would be used to design growth-oriented programs and carry out tax changes that are growth enhancing. The study brings together comprehensive evidence on the determinants of tax revenues in Kenya. It provides an informed basis for taking action on tax policy in addition to filling the gap about what is currently known about tax revenue function in Kenya. This study hopes to provide decision-makers with reliable information on instruments available to the government for reduction of its fiscal deficit. It hopes to provide policy makers responsible for the formulation and management of fiscal policy with a historical review of full description of the fiscal deficit overtime.

The beneficiary of this study will be the implementers of the fiscal policy; who will will use the findings in this study to ascertain areas to emphasize on when carrying out fiscal policy programmes like taxation. In addition, financial planners of the Government will benefit by using the findings of this study to improve their knowledge and skills in the management of deficit in Kenya.

The study will also be of great benefit to academicians and scholars by providing a source of reference and suggestions for further research areas where they can review and decide on what is to be studied.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews both theoretical and empirical literature. The chapter starts by defining fiscal deficit as provided by various authors and identifying the determinants of the fiscal deficit in Kenya. The roles of external and internal factors in explaining the deficit financing Kenya and other developing countries are discussed at length in the literature.

2.2 Fiscal Deficit

The fiscal deficit (also referred to as budget deficit) is the amount by which the government's expenditures exceed its receipts during some specific time period, usually one year. The items that are included in the expenditures and receipts differ with countries. In the United Kingdom for example, a budget deficit denotes the excess of current expenditure over current revenue only. However, in the United States, a fiscal deficit generally refers to the gap between total budgetary expenditure (on both current and capital accounts) and current revenue (Joaquin, 1984). In Kenya, the concept of the overall budget deficit is close to the United States definition. It is the difference between receipts (that includes revenue plus foreign grant received) and recurrent and developing expenditures (that is the total expenditure plus lending minus repayment).

2.3 Determinants of Fiscal Deficit

How do persistent budget deficits and large government debt affect the economy?

Macroeconomic theory has divergent hypotheses regarding the implications of government deficits and debt on the economy. One strand of the literature contends that government debt reduces national saving which, in turn, crowds out capital accumulation (Mankiw, 2000). Thus, government debt hinders economic growth. Another strand of the literature implies the opposite: public debt does not influence national saving or capital accumulation. This view is based on the Ricardian equivalence theorem that asserts that it is only the quantity of government purchases, not whether such purchases are financed through between taxation or borrowing, which affects the economy. This implies that

economic agents are indifferent between governments borrowing now or to a tax increase in the future (Mankiw, 2000). It has been shown empirically that this is not the case in the real world. In addition, when the permanent income hypothesis and the effect on consumption are considered, the Ricardian equivalence may not hold (Romer, 2001).

Barro's tax-smoothing theory states that what determines the deficit is the desire of government to minimize distortions associated with raising taxes. The model implies that deficits and surpluses arise when the ratio of government purchases to output is expected to change. War and recession are times when the expected future ratio of government purchases to output is less than the current ratio. Consistent with the tax smoothing model, it has been observed that government usually run deficits during these times (ibid). This implies that when national income is low, or government purchases are large, governments run deficits.

Roubini and Sachs (1988) find only partial evidence to support tax-smoothing, wherein tax rates are set over time to minimize the excess burden of taxation. They found a tendency for larger deficits in countries characterized by a short average tenure of government, the presence of many political parties in a ruling coalition and higher tax collection cost.

Inflation may affect budget deficits through various ways. The first way is through real tax revenues -- inflationary conditions reduce the real tax revenues collected by government, thus, pushing toward budget deficits. The second way is via the effect on nominal interest rates. Inflation increases the nominal interest rates and consequently debt servicing, thus increasing the budget deficit. With these two factors in mind, it may be expected that inflation negatively affects fiscal balances (Dornbush et al. 2003).

However, inflation may positively affect fiscal stance by raising revenues via income tax 'bracket creep.' The US experience in the late 1970s was high federal tax receipts as a percentage of GDP in the face of high inflation rates (of approximately 10%). The explanation given by Saez (1999) and Auerbach (2000) was that the US income tax

system at the time was not indexed for inflation (i.e. fixed in nominal terms), resulting in taxpayers near the top-end of a bracket to creep to the next bracket even if real income remained the same. Furthermore, if the tax system is designed to be elastic to changes in economic activity, it may be possible to have increased revenues with a boom and thus a positive influence on fiscal balance.

Easterly and Schmidt-Hebbel (1994) estimated the relationship between inflation and fiscal deficits. Across countries, the decision to print money to finance deficits (i.e. seignorage) would depend on the extent to which other means of financing are available. In their cross section estimation, they found no simple relationship between fiscal deficits leading to inflation. For case studies using time series data, revenue-maximizing inflation rates seem to rise with actual average inflation. In addition, money demand and inflation are nonlinearly related. It was found that money demand has decreasing semi-elasticity with respect to inflation. This implies that as inflation rises money demand becomes less semi-elastic. They concluded that seignorage is unimportant as a steady-state phenomenon, but it can be important as a temporary source of revenue in times of crisis. Furthermore, large surges of money creation are not closely linked to accelerated inflation. Though Easterly and Schmidt-Hebbel (1994) looked at how budget deficits affect inflation via seignorage, the opposite direction of this study, it is evident that the relationship of inflation and fiscal stance is not a simple one. The effect of inflation may be through various routes, thus making the actual relationship dependent on empirical evidence.

The level of development of the financial market is also believed to be related to fiscal performance. A more developed financial market would have more readily available forms of money to buy goods and services without incurring costs. The World Bank suggests that a more developed financial sector has increased flexibility in adjusting to macroeconomic shocks to prevent banking or financial crises. A measure of financial depth used by the World Bank is the ratio of liquid liabilities (i.e. broad money or M3) to GDP (2005 World Development Indicators).

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Another aspect of a financially deep economy is the link between banking openness and economic growth. Bayraktar and Wang (2006) found empirical evidence that banking sector openness may directly affect growth by improving the access to financial services and indirectly by improving the efficiency of financial intermediaries, both of which reduce the cost of financing and in turn, stimulate capital accumulation. Increased investments lead to economic growth and an improved fiscal performance, implying a positive relationship.

The literature on financial openness has also hinted at a positive relationship between financial depth and fiscal balance. Financial repression, as indicated by a less liquid banking sector, is practiced by government either to finance its budget deficits or to direct its access of cheap credit to select industries, or both (Mishkin 2004). Restrictive financial policy can be implemented in various ways: (1) imposing high nominal interest rate ceilings; (2) money creation (i.e. seignorage); and (3) imposing high reserve requirements (Remolona, 1985). Denizer, Desai and Gueorguiev (1998) found evidence that the post-Communist governments in their study inhibit the development of financial institutions to ensure adequate flows of external capital to enterprise sectors rather than to finance deficits.

Other empirical evidence, however, has shown a negative relationship between fiscal deficit and financial market development. Woo (2001) looked at the effect of financial depth on consolidated public sector deficit in developing countries. He found that an increase in financial depth is negatively associated with fiscal stance. He explained that a more liquid banking system can more easily finance fiscal deficits by issuing bonds without having to resort to inflationary finance. Aizenman and Noy (2003) found similar evidence that a budget surplus has a negative impact on financial openness for developing countries. That is, a bigger budget deficit will increase *de facto* financial openness. This was explained by evidence that developing economies engage in pro-cyclical, rather than counter-cyclical, policy. In developing economies, financial crises tend to lead to recessions that in turn result in lower budget deficits because government reduces its spending. In addition, if the tax system is relatively inelastic to economic

activity, an economic recession would lead to relatively higher tax revenues. However, in the same study, evidence of a positive relationship of fiscal balance and financial openness was found for OECD countries.

Turning to the open economy, most of the literature and studies about fiscal deficits and exchange rates have used fiscal stance as the independent variable. Easterly and Schimdt-Hebbel (1994) found robust relationships between the fiscal deficit, the trade deficit, and the real exchange rate. The fiscal deficit and the real exchange rate have a two-step relationship: the fiscal deficit and other determinants of investment and saving behavior determine the external deficit, which then determines the real exchange rate consistent with clearing of the domestic goods market (Remolona, (1985). Clarida and Prendergast (1999) estimated the dynamic relationship between fiscal policy and the real exchange rate in G3 countries since the advent of floating exchange rates. They found that in response to a fiscal expansion, there is, initially, an appreciation of the domestic currency. However, over time, the exchange rate overshoots and depreciates relative to the initial rate prevailing prior to the fiscal expansion shock.

The 1997 Asian financial crisis which was triggered by the collapse of the Thai baht brought about, through contagion effect, the sharp depreciation of all Asian currencies, including the overvalued Philippine peso, and an economic slowdown in the region. The combined effect of the depreciation of the peso, capital flight and decrease in economic activity contributed to the deterioration of the Philippine fiscal stance starting in 1998. The negative impact on the Philippine public finances may be attributable to three major factors: first, higher debt servicing; second, lower revenues because of slower economy and lower net taxable income of Philippine banks and other private firms; third, slowdown in economic activity which resulted in lower direct and indirect taxes. On debt servicing, over the past 25 years, foreign debt has averaged about 50 percent of total outstanding Philippine government debt.

Morrison (1992) examined the possibility that certain structural factors may make some developing countries more deficit–prone than others. His argument is that at low levels of

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development, governments find it difficult to control their budget balances for three main reasons: spending pressures, low private savings and low tax revenue. The end result of the interaction of these factors is that governments of relatively low-income may feel compelled to respond to the perceived inadequacy of private savings and tax revenues to satisfy public expectations by deciding to force savings through deficit financing. Morrison argues that governments with slowly growing revenues may require deficit financing in order to support even the minimum expenditures that they consider to economically and politically necessary and governments that experience relatively large fluctuations in revenue will tend to incur larger budget deficits than governments with more stable revenues. An export earnings shortfall and the subsequent use of inflationary deficit financing is a favorite scenario of the structuralist explanations in less developed countries.

According to the author Morrison, government control over expenditures and the extent of government participation in the economy also affect budget deficits. The efficiency of the budgetary system, coordination between planning and finance ministries, and the share of recurrent expenditures in total expenditures are examples of factors that influence the ability of the government to control expenditures. The relative level of government participation in the economy is a structural factor in the sense that increasing government intervention is a very difficult process to reverse.

The author Morrison carried out an empirical study of a sample of 31 countries using the following log-linear regression function:

$$\log D = a_1 \log Y + a_2 \log R + a_3 \log I + a_4 \log C + a_5 \log G$$

Where, D= Average annual government deficit as a percentage of total government expenditure for 1964-1975

Y= GDP per capita representing levels of development

R= Government revenue growth rate (an annual average growth rate adjusted for inflation for 1961 - 75)

I= S/M= Instability of revenues

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S= Standard error of the estimated time trend equation of government revenues for 1961 - 1975

M= Mean value of revenues over the same period

C= Ratio of government expenditure instability to government revenue instability over the period 1961 – 1975 - both defined by S/M. This represents the degree of government control of expenditures

G= Annual average ratio of government expenditures to GNP from 1961 – 75. This represents government participation in the economy.

The result supported (Kiptui, 1989), that developing countries are likely to have large government budget deficits the lower their level of their economic development, the greater the degree of government participation in the economy, and the less the control exercised over government expenditures.

2.4   Theoretical Framework

The use of fiscal policy as a tool for stabilization is credited to Kenya's fiscal deficit during the pre-Keynesian or classical era, discretionary fiscal policy would result in expansionary aggregate demand, which will pull up the price level as a side effect. Kenya assumed an inflexible normal wages-price relation yielding a positively sloped aggregate supply curve. This led policy market to search for additional instruments that could shift the aggregate supply curve, hence to eliminate the inflationary effect of movement in aggregate demand. This led to the growth of the income policy during 1974-1975 recessions. The Keynesian approach which was implemented in the 1950s and 1960s was optimistic that budget deficit incurred during the recessionary phases of business cycle would be smoothened out during period of budget surplus in the recovery phases. However, this was not the case during the 1974-1975 practically supply induced recession , this brought income policy to the fore-front of macro-economic policy since the !980s.this new approach has led to a fundamental motivation for theoretical and empirical studies on stabilization policies.

Despite a world where Keynesianism abounds and a wide acceptance of its goals and tools, there is still a remarkable persistence in the notion that government budgets ought to e balanced annually. Classical economists like Adam Smith and Alfred Marshal in their view opposed unbalanced budgets. Their assumption is that the economic role of the state must necessarily be limited and they proceeded to theorize about the proper role of the state diverting national product towards consumer spending away from capital expenditure. Classists also observed that annual tax burdens occasioned by high interest payment may derive capital out of the country and once accumulated to a certain degree, it leads to national bankruptcy.

David Ricardo in his work pointed out that the effects of the annual transfer would depend on what the taxpayer and the credit would do with the revenue, the impact of the burden of national debt was not in the annual interest transfer but in loss of original capital.

The persistence of fiscal deficit in both developed and developing countries has been a pervasive macro- economic phenomenon. The use of fiscal policy, a major component of the macro –economic theory has undergone a considerable evolution since the Keynesian revolution. Keynes laid emphasis on fiscal policy and deficit as components of aggregate demand, hence the pre-Keynesian assumption of the cyclical balance budget. In peacetime the budget should be balanced or even in surplus to pay off government debt generated by wartime deficit (Barro,1986).These theories assumed that the taxes levied to pay off debt affect neither work nor savings behavior (Fisher and Easterly, 1990).the neo-classical model of debt emphasizes that when the government initiates a project, whatever the source of funding resources are removed from the private sector(public expenditure is generally associated with "crowding out" effect on the private sector).the earlier analysis that the government investment funds are not at the expense of consumption is questioned. The shift of emphasis is from the effect of fiscal policy on aggregate demand to its effects on the components of demand.

Blejer and Cheasty(1991) established that economic growth was possible only with sound macro-economic policies and that fiscal policy was one of these , the study analyzed the

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macro-economic effects of budget deficit of a resource constraint economy using the saving investment identity as a useful guide to their analysis.

Budget deficit= (private saving-private investment) + current account deficit.

The study tackled the greater issues of how to define deficits in an economically meaningful way in order to remove short term distortion from deficit measures. Budget deficit was defined in three aspects, the conventional budget deficit, primary budget deficit, and operational budget deficit. The conventional budget deficit measures the difference between total government cash out lays, including interest payment but excluding amortization of payment of the outstanding stock of public debt, and total cash receipts including tax and non-tax revenue and grants but excluding proceeds .the primary budget deficit is anon- interest deficit, which measures the discretionary budgetary stance by excluding interest payments fro the budget. The primary budget deficit measures how current actions improve or worsen the public sectors net indebtness and is important in evaluating the sustainability of government deficit.

The operational budget deficit is a useful way of providing an approximate measure of the size of the deficit the government would have to deal with if it succeeded in getting rid of inflation

Operational deficit=primary deficit+ real component of interest payment

Inflation besides interest rates can significantly change the size of government nominal debt services while reducing the real value of the outstanding stock of unindexed debt; inflation may compensate creditors for erosion in their real assets through higher normal interest rates. Thus some of the interest payments are in reality part of amortization of debt hence if the inflationary component of interest payments is not removed the deficit will be over stated.

2.5 Empirical Review

Several empirical studies have been undertaken to assess tax performance across different countries. Most of the studies have used tax share in GNP/GDP or tax ratio as the dependent variable with different combinations of explanatory variables. Lotz and Morss

(1967) used the data of developed and developing countries to find the ratio of tax revenue to GNP. He used per capita GNP and openness for this. His results showed the positive and statistically significant effect for both per capita GNP and for openness. Tanzi (1987) found only the per capita income effect positive and significant by taking the data of only developing countries.

There are a few empirical studies that have specifically examined the impact of budget deficit on the current balance in developing countries. Only those that are directly relevant to the current study are discussed. Morgan (1979), for example, developed a framework using the concepts of domestic budget balance and foreign budget balance to demonstrate the interrelationships among budgetary development and domestic liquidity, aggregate demand, and the balance of payments. Findings from the 12 oil exporting countries considered show that there are strong relationships among fiscal operation, credit creation, inflation and the balance of payments.

In Nigeria, Olopoenia (1986) adopted Morgan's analytical framework to evaluate the implications of fiscal operations in Nigeria's balance of payments developments. On the basis of the theoretical relationships established, the argument was advanced that because the source of financing the domestic budget balance comes mainly from the foreign budget balance, increased aggregate demand enhanced through the monetization of foreign exchange earnings would propagate inflation and create a balance of payments problem. The policy relevance of this theoretical exposition is the recognition that adequate care must be taken in financing budget deficit through credit creation in order to achieve the macroeconomic objective of price stability with external balance.

Aghevli and Sassanpur (1982) developed a macro-econometric model to investigate the impact of a rise in crude oil prices in the Iranian economy, covering 1960 to 1977. Although the model is highly aggregative, it recognizes important structural relations between fiscal operations and the balance of payments in this country. Simulation results indicate that increased oil revenues stimulated the growth of the economy of Iran. There is also the finding that the expansion in government expenditure induced by the rise in oil

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revenues precipitated a deterioration of the balance of payments via increased expenditure on imports. These authors suggested that government expenditure should be related to the absorptive capacity of the economy so as to maintain external balance. This proposal should be relevant to other developing countries that consider government as the engine of growth (Keynes, 1936).

Reference to the work by Zaidi (1985) becomes relevant here. Central to this study is the effect of savings, investment and fiscal deficits on the current account deficits of some developing countries. The Granger (1969) and Sims (1972) causality tests were explored to investigate the relationships between each of these macroeconomic variables and the current account deficit. Test results demonstrate that annual changes in both domestic investment and savings cause changes in the current account balance. Evidence of causal relationship between the current account balance and investment behaviour, an indication that foreign exchange constraint may have inhibited the volume of investment, was found for some of the countries in the sample.

There is an aspect of the article by Zaidi (1985) that examined the relationship between fiscal deficit and the current account balance. This was conducted using cross-sectional time-series data drawn from 12 developing countries. Although the estimated results showed a direct association between these variables, the causality tests conducted for some countries were diverse. Bi-directional causality exists between fiscal deficits and the current account deficits for South Korea and the Philippines, but a unidirectional causality (from the current account deficit to budget deficit) was the case for Thailand and Greece. As for Brazil, the result showed that the two variables are statistically independent for the period between 1972 and 1980.

Perhaps the most comprehensive empirical research on the impact of budget deficit on the current balance is that of Mansur (1989). This study, which is based on the Philippines, covered the period between 1970 and 1982. The study used a structural model (containing price, revenue, import, income and private sector absorption equations, with relevant identities) explaining the inter-relationships between fiscal expansion and

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the current account balance, on the one hand, and government fiscal operations, domestic credit and money supply, on the other. Simulation results demonstrate that enlarged budget deficits (resulting from increased government expenditure) financed from both bank credit and external borrowing lead to a deterioration of the current account. It was proposed that the achievement of a sustained balance of payments position in the Philippines required fiscal restraint.

Chelliah et al. (1975) by taking the data of 47 countries during for period 1969- 1971 regressed the tax share in GNP on agriculture share, mining share and export share.
The results showed the negative and significant effect for agriculture share, positive and significant effect for mining share and export share. Tait et al. (1979) took the data of 47 countries for period 1972-1976 and found the same results.

Bird (1976); Ahmad and Stern (1991) resulted that an economy with a large GDP share of agriculture value added is expected to generate low tax revenues. Due to political reasons, it is usually difficult to directly tax the agriculture sector in Pakistan, though it is often very heavily taxed in many implicit ways, e.g., through import quotas, tariffs, controlled prices for output, and overvalued exchange rates.

Leuhold (1991) and Stotsky and WoldeMariam (1997) examined the tax share for African countries by taking the share of agriculture in income, mining share, per capita income and export ratio as its determinants. Their results showed that agricultural share has negative; mining share has positive while the share of foreign trade and the share of foreign grants and loans have also positive and statistically significant relation.

Teera (2002) examined the tax system and tax structure of Uganda to investigate the factors effecting tax revenue in the country. He used the time series data of the period 1970 to 2000 and estimated a model. His results showed that agriculture ratio, population density and tax evasion affect all type of taxes. GDP per capita showed the surprising negative sign. Tax evasion and openness (as measured by import ratio) showed the

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significant negative impact. Aid variable showed positive sign since aid in Uganda always supported imports especially raw material so not surprisingly.

Bahl (2003) by using the data of OECD and less developed economies explained the determinants of tax revenue. He used the non-agricultural share of GDP, openness and the rate of population growth all of which showed the positive and statistically significant result. Simple correlation between tax effort and the size of shadow economy showed the negative but statistically significant result. Alm et al. (2004) took agricultural/GNP, mining/GNP, GNP per capita, taxes on international trade/GNP and shadow economy/GNP as the determinants of total tax to GDP ratio by using the data of developed and developing countries. His results showed the negative but not significant relation with agricultural/GNP and international trade/GNP, positive and statistically significant relation with mining/GNP and negative but statistically significant relation with GDP per capita and shadow economy/GDP.

Bilquees (2004) measured the buoyancy and elasticity of tax revenue system in Pakistan over the period 1974 to 2003 by using the Divisia Index Approach and analyzed the factors responsible for the resulting size of elasticity coefficients. Her estimates of buoyancy suggested that tax changes did not lead to significant revenue augmentation. However high coefficient of sales tax with respect to GDP base reflected the inclusion of service sector and utilities in sales tax net, which has serious implications for poor.

Ahsan and Wu (2005) examined the tax share in GDP for developed and developing countries for 1979-2002 and found the negative and significant relation of agriculture share, GDP per capita, and population growth to the tax ratio while trade share in GDP has positive and significant relation but corruption has negative and insignificant relation. Lutfunnahar (2007) identified the determinants of tax share and revenue performance for Bangladesh along with 10 other developing countries for the 15 years through a panel data analysis. The results obtained suggest international trade, broad money, external debt and population growth to be significantly determinants of tax efforts. The study concluded that Bangladesh and other countries have low tax effort (less than unity index)

and are not utilizing their full capacity of tax revenue and therefore have the potential for financing budgetary imbalance through raising tax revenue.

Kemal (2007) explored the long-run relationship between the underground economy and formal economy. Results showed that underground economy is causing the formal economy but not the vise versa. He suggested to the increase in the number of legal documentation, strengthening the institutions, better governance, decrease the number of regulations and restrict smuggling through tariff rationalization to cut down tax evasion.

Mahdavi (2008) used the advanced estimation techniques with an unbalanced panel data for 43 DCs over the period 1973-2002 including Pakistan. His results showed that aid had a negative effect, non-tax revenue had also negative effect while agriculture sector share had positive but insignificant coefficient. Trade sector share had a positive effect and economically active female variable had a net adverse but insignificant effect while the old-age portion of population showed negative association for both income and sales tax. Extent of urbanization and literacy rate both showed positive effect. Population density, monetization and inflation rate remained negatively correlated. Inverse of GDP per capita was strongly and negatively correlated with the level of taxation. Net effect of political rights and civil liberties was significant.

Ehrhart (2009) estimated by using the panel of 66 developing countries over the period 1990-2005 that democracy influence domestic tax revenue, properly correcting for the endogeneity of democracy with an original instrument. He found the strong evidence that the political regime in a country influence the extent to which domestic tax reforms are implemented and higher domestic revenues achieved.

Ahmad and Mohammad (2010) examined the determinants of tax buoyancy of 25 developing countries by using the cross section data for the year 1998 to 2008 and pooled least square method for result analysis. For agriculture sector it showed insignificant effect and for services sector it showed positive and significant effect instead of past insignificant result of many researches. Monetization and budget deficit showed positive influence while growth in grants showed negative impact on tax buoyancy.

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The studies that have measured the impact of GDP on tax revenues include Wilford and Wilford (1978a) who estimated income-elasticity and buoyancy of the tax revenue in Central America for the period 1955 to 1974, using an exponential tax revenue function. The study found that income elasticity of the tax revenue was less than unity. This suggested that the tax structure was stable and therefore tax revenue grew less than proportionately in response to growth in income.

Osoro (1993) examined the revenue productivity implications of tax reforms in Tanzania. In the study, the tax buoyancy was estimated using double log form equation and tax revenue elasticity using the proportional adjustment method. The argument for the use of proportional method was that a series of discretionary changes had taken place during the sample period, 1979 to 1989, making the use of dummy variable technique impossible to apply (Osoro 1993). For the study period, the overall elasticity was 0.76 with buoyancy of 1.06. The study concluded that the tax reforms in Tanzania had failed to raise tax revenues. These results were attributed to the government granting numerous tax exemptions and poor tax administration.

Concerned about the rapid expansion of budget deficit in developing countries, Bartoli (1989) developed a set of structural equations to evaluate the impact of this phenomenon on the current account balance. The results of the model, which were applied on ten Latin American countries (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela), are easily discernible. Particularly revealing from this research is the finding that inflation tax and the method of financing budget deficit worsens the current account balance through its negative impact on domestic savings. The study submitted that short-run movement in the current account balance in the sampled countries is explained by government capital expenditure, which tended to crowd-in private investment as it raised domestic absorption, which aggravated the current account deficit. The need to control budget deficit in order to achieve a viable current account balance is obvious from this result.

Prior to these quantitative investigations, Kelly (1984) had examined the impact of fiscal deficit on the current account balance. The results of this comprehensive study, which focused on industrialized countries, suggest a strong positive association between budget deficit and the current account deficit. It will be recalled that Milne (1977) and Tahari (1978) had earlier reached similar conclusions, using single equation models.

Ariyo (1997) evaluated the productivity of the Nigerian tax system for the period 1970 - 1990. The aim was to devise a reasonable accurate estimation of Nigeria's sustainable revenue profile. In the study, tax buoyancy and tax revenue elasticity were estimated using equation (4) and (5) respectively. The slope dummy equations were used for the oil boom and SAPs. It was found that on the overall, productivity level was satisfactory. However, the results indicated wide variations in the level of tax revenue by tax source. The variations were attributed to the laxity in administration of non-oil tax sources during the oil boom periods. Significant reduction in public expenditure and prudent management of financial resources were suggested as solutions to the fiscal deficit. The study further asserted that there was need to improve the tax information system to enhance the evaluation of its performance and facilitate adequate macro-economic planning and implementation (Ariyo, 1997)

Chipeta (1998) evaluated effects of tax reforms on tax yields in Malawi for the period 1970 to 1994. The results indicated buoyancy of 0.95 and an elasticity of 0.6. The study concluded that the tax bases had grown less rapidly than GDP. Kusi (1998) studied tax reform and revenue productivity of Ghana for the period 1970 to 1993. Results showed a pre-reform buoyancy of 0.72 and elasticity of 0.71 for the period 1970 to 1982. The period after reform, 1983 to 1993, showed increased buoyancy of 1.29 and elasticity of 1.22. The study concluded that the reforms had contributed significantly to tax revenue productivity from 1983 to 1993.

Easterly and Schmidt-Hebbel (1994) estimated the relationship between inflation and fiscal deficits. Across countries, the decision to print money to finance deficits (i.e. seignorage) would depend on the extent to which other means of financing are available.

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In their cross section estimation, they found no simple relationship between fiscal deficits leading to inflation. For case studies using time series data, revenue-maximizing inflation rates seem to rise with actual average inflation. In addition, money demand and inflation are nonlinearly related. It was found that money demand has decreasing semi elasticity with respect to inflation. This implies that as inflation rises money demand becomes less semi-elastic. They concluded that seignorage is unimportant as a steady state phenomenon, but it can be important as a temporary source of revenue in times of crisis. Furthermore, large surges of money creation are not closely linked to accelerated inflation. Though Easterly and Schmidt-Hebbel (1994) looked at how budget deficits affect inflation via seignorage, the opposite direction of this study, it is evident that the relationship of inflation and fiscal stance is not a simple one. The effect of inflation may be through various routes, thus making the actual relationship dependent on empirical evidence.

Milambo (2001) used the Divisia Index method to study the revenue productivity of the Zambian tax structure for the period 1981 to 1999. The results showed elasticity of 1.15 and buoyancy of 2.0, which confirmed that tax reforms had improved the revenue productivity of the overall tax system. However, these results were not reliable because time trends were used as proxies for discretionary changes and this was the study's major weakness.

In relation to Kenya, Ole (1975) estimated income elasticity of tax structure for the period 1962/63 to 1972/73. Tax revenue was regressed on income without adjusting for unusual observations. The results showed that the tax structure was income inelastic (0.81) for the period studied. The study recommended that the system required urgent reforms to improve its productivity. The results also implied that Kenya's tax structure was not buoyant and therefore the country would require foreign assistance to close the budget deficit.

Njoroge (1993) studied the revenue productivity of tax reforms in Kenya for the period 1972/73 to 1990/91. Tax revenue was regressed on income after adjusting tax revenues for discretionary changes. The period of study was divided into two to make it easier to

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analyze the effects of tax reforms on revenues from various taxes. Income elasticity of total tax structure was found to be 0.67 for the period 1972 to 1981. This meant that the government received a decreasing share of rising GDP as tax revenues. The elasticity estimates for individual taxes were as follows: sales tax 0.6, import duties 0.45 and income tax 0.93. The buoyancy for the overall tax system for the same period was 1.19, implying that the tax system was quite buoyant. For the period 1982 to 1991, Njoroge (1993) found that the overall elasticity was 0.86 while buoyancy was 1.00. The study concluded that from a revenue point of view, the system did not meet its target; hence it required constant review as the structure of the economy changes. However, the results could not be relied upon because the study never took into account time series properties of the data.

Adari (1997) study focused on the introduction of value added tax (VAT) in Kenya that replaced sales tax in 1990. The study analyzed the structure, administration and performance of VAT. The estimated buoyancy and elasticity coefficients were less than unity implying a low response of revenue from VAT to changes in GDP. This suggested the presence of laxity and deficiencies in VAT administration. However, the estimation of buoyancy and elasticity coefficients were done in total disregard of the time series properties and without taking care of unusual observations in the data. Therefore, the results were not reliable for planning purposes.

Wawire (2000) used total GDP to estimate the tax buoyancy and income-elasticity of Kenya's tax system. Tax revenues from various sources were regressed on their tax bases. Based on empirical evidence, the study concluded that the tax system had failed to raise necessary revenues. However, the shortcomings of the study were, first, it never considered other important determinants of tax revenues, for example, unusual circumstances that could have affected tax revenue productivity. Second, it never disaggregated tax revenue data by source hence it was difficult to say which taxes and bases contributed more to the exchequer. Third, it never took into account the time series properties of the data.

Muriithi and Moyi (2003) applied the concepts of tax buoyancy and elasticity to determine whether the tax reforms in Kenya achieved the objective of creating tax policies that made yield of individual taxes responsive to changes in national income. They used equation 2 to estimate the responsiveness of tax yields on income. The results showed that tax reforms had a positive impact on the overall tax structure and on individual tax handles. The study concluded that despite the positive impact, the reforms failed to make VAT responsive to changes in income. However, VAT had been around for about eleven years only and subjecting it alone in a regression model did not make statistical sense. The current study differs from this study because it separates the effect of average monetary GDP and average total GDP on tax revenue and uses average figures instead of the annual ones because the tax revenue figures are on fiscal year basis that starts on 1st July while the GDP figures are on calendar year that starts on 1st January.

In an attempt to highlight the trends in Kenya's tax ratios, tax effort indices and their implication for further tax reforms, Wawire (2003 and 2006) performed a regression of tax revenue on income. The estimated tax equation was used to compute tax effort indices by dividing the predicted with the actual figures. After examining the tax effort indices, the study concluded that the slowdown in economic growth had resulted in high levels of taxation that did not match delivery of public goods and services. The study however, never took into account the time trend characteristics of variables that were used.

Tanzi and Biejer (1984) examined fiscal deficits and the balance of payments disequilibrium in the International Monetary Fund Adjustment programs. They distinguished the mode of financing between domestic and foreign, between inflationary and non- inflationary and between voluntary and compulsory. The results indicated adverse effects from foreign especially when loans carry interest rates high enough to disqualify most projects; when loans are not utilized to finance productive expenditures but to support subsidies of various kinds; and when long-term projects are financed with short- term loans. The non-inflationary domestic financing was found to raise the share of the public debt in the GNP especially at low rates growth of GNP. As a consequence, the fiscal deficit feeds upon itself through the interest rate component of public expenditure.

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The previous studies (Harley 1965), Lotz and Morss (1967), Raja (1971), Raja et al (1975) and Roy (1979)) of tax performance have been dwelling much on quantitative measures of tax performance such as the tax ratio. There is a need to incorporate both a quality and a quantity measure of tax performance, in this case tax buoyancy. There are few studies (for example Teera, 2002 and, Bird and Zolt, 2003) carried out in this area especially for African countries. It is a new area which needs further investigation around the regions of the world. Also the study involves the determination of yearly buoyancy, of which several studies Quazi (1994), Begum (2007) and Teera (2002)) have been involved in the use of single averages over a period. The main base of this study's approach is that tax buoyancy changes over time even annually because of many factors (discretionary changes) which may include the political environment among others.

John and Jose (1984) examined budget deficits and the current account using an inter-temporal disequilibrium approach. The effects of temporary as well as permanent changes in government spending on the current account were discussed taking into consideration the differing effects of tax finance versus monetization of fiscal deficits. Their results were that tax financed government spending in the first period worsened the current account during the first period , while financing through money creation leaves the current account unaffected. Additional government expenditure in the second period regardless of how it is financed improves the current account. Permanent spending can improve or worsen the current account while money financed deficit necessarily improves it. This is at variance with the findings of Branson and Buiter (1983) that, under flexible exchange rates a permanent tax financed increase in government spending worsens the current account, while a money financed budget deficit may worsen or improve it.

2.6   Chapter Summary

The main aim of this chapter was to review past studies done on the determinants of fiscal deficit. Inflation and interest rates affect budget deficit among other factors such as inefficiency in controlling government expenditure. The theoretical framework in existence does not provide an exhaustive answer to the question of the determinants of fiscal deficit in the context of less developed countries. This has created need for

empirical investigation, but unfortunately such empirical studies have been impaired due to limitation of data availability in developing world. The major difficulty in this area of study has been how to define fiscal deficit, whether to adopt a narrow or a wide definition. In accordance to the literature review, deficit financing has continued to draw the controversy of macro-economic thinkers. Governments of developing countries , in order to meet the ever increasing demands of the populace often engage in deficit financing, by assuming that the desired growth is not achievable through reliance on public revenue alone. The early studies , tended to adopt a wide definition of the fiscal deficit , concentrating on the correlation between the deficit and other causalities. These studies ranging from Kiptui (1989), Islam and Wetzel (1993) and Egwakhinde (1997) generally deal with the macro-economic effects on the deficit, but as Koussy and Bohoun (1993) points out these results may not be conclusive due to the diverse methodology used and the related information gaps.

More recent studies have begun to concentrate on the narrow definition of the deficit and its determinants on order not to compromise the feedback effect. Unfortunately, the determinants of fiscal deficit in Kenya have received very little attention .This study will address the various variables that determine deficit. It will overcome the shortcoming of the existing studies on Kenya by capturing the determinants of fiscal deficit in order to obtain robust results.

No study has been carried out on the determinants of fiscal deficit in Kenya, therefore a research gap exist that need to be filled by doing a thorough survey on the determinants of fiscal deficits in Kenya.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter summarizes the research design, data sources and analysis. The chapter served to explain and achieve the objective of the study, Case study of Kenya Government Budget from 2002 to 2011.

3.2 Research Design

This was an empirical research which covered a period of 9 years from the financial years 2002/2003 to 2010/2011; and sought to establish the determinants of fiscal deficit in Kenya.

3.3 Sampling Techniques

Pannel data for the Kenya Government was utilized which qualifies a case study.

3.4 Data Collection

Data collection is considered as a crucial stage in gathering the required information; it is fundamental in achieving main objectives of the study. Secondary data was collected from documented sources. Total tax receipts, total government expenditure and public debt were obtained from the Ministry of Finance and Kenya National Bureau of Statistics.

3.5 Data Analysis

Panel data methodology was used in the analysis since cross-sectional and time series are combined. In panel studies, the researcher estimate before-after conditions by examining the same sample over a number of periods. The methodology is more common for the comparison of different periods (Nachmias and Nachmias, 1996)

The data collected was analyzed using regression analysis. The regression method allowed a full discussion of the instruments utilized currently for fiscal deficit reduction. The results were presented in two groups, the tests of the structural functions and those of the reduced form model. All the empirical results were obtained by estimating the model on Time Series Processor software and using the Ordinary Least Squares.

3.5.1 The Working Model

The analysis of the determinants of fiscal deficit raises two problems namely that of fiscal deficit measurements and that of relevant variables affecting fiscal deficit. The measurement of fiscal deficit depends on the definition adopted. If a narrow definition is assumed, which considers only spending and receipts of the central government, then, there is a serious risk of an understanding of actual size of the fiscal deficit. The extension of fiscal deficit to Parastatal and other autonomous agencies brings about many problems inclusive of those of consolidated accounts(Blejer and Cheasty, 1991).this study will takes a narrow approach to limit measurement problems.

Another approach consists of the determination of fiscal deficit exclusive of interest payment. This is done in order to get what is called an operational deficit. This estimation of fiscal deficit is difficult to calculate because it requires a full estimate of domestic debts, a precise measurement of domestic of inflation, and on appropriate assumptions about expected inflation.

Fiscal deficit can also be calculated directly by taking the difference between total budget spending (OB) and government ordinary revenues, or directly through the government borrowing requirements. Generally, the World Bank and the IMF estimate fiscal deficit by credit to the government.

The final problem related to the measurement of fiscal deficit is that of inflation rate and public domestic arrears. It has been argued that price inflation affect the spending as well as the revenue sides of fiscal deficit (Blejer and Cheasty, 1991).in fact rapid inflation increases the prices of goods, services and nominal interest rates, pushing public current expenditures upwards, while time lag in tax collection may result in sizeable relative fall in the real value of tax revenue in such a context (Koussay and Bohoun, 1993).

The accumulation of public domestic arrears can affect seriously the size of fiscal deficit. Indeed, Kenya as with most African countries has run high arrears since the early 1980s.this means that payments due for existing outlays may not be made on time. An accurate measure of fiscal deficit should include changes in these arrears and the deriving

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interests. But their integration raises numerous practical problems and for this reasons, they were not be included in our estimation of the fiscal deficit in Kenya. The variables which were retained and developed during the modeling process.

The starting point is the following budget constraints picked from Choudhry's basic model for this purpose:

$$G+IP= TR+DM+DV+EX \quad - \quad (1)$$

Where;

G = Public consumption spending,

IP = Public expenditure on investment

TR = Tax revenue

Dm = Demand of money in the market

DV = Domestic Bond Borrowing

EX = External financing of fiscal operations.

From this budget constraints and introducing returns on public investment, the researcher derived fiscal deficit and its mode of financing as:

$$FD= (G+lp)-(TR+Rlp)+DM+DV+EX \quad - \quad (2)$$

Where;

FD= Fiscal Deficit

RIP= Return on Public investment

$$FD= (G+lp)- (TR+Rlp) \quad - \quad (2)$$

Equation 2' offers possibilities of modeling FD from the spending and revenue sides

Modeling the spending sides through the structural equations of G and IP

$$G = f(Y, EC, P, G_{t-1}) \quad - \quad (3)$$

Where;

EC =Civil servants wages bill (EC=Nc *Wc with Nc the number of civil servants and Wc a wages correcting factor)

P =Price inflation rate

G_{t-1} = Previous year consumption budget.

From the equation 3 it is evident that EC will capture budgetary weight of civil servants, G_{t-1} the time lag and the other spending items effects .Y and P are generally retained to take into account distributional effects of GDP and the impact of inflation on G mentioned above.

Since IP is exogenous, it comes as an argument in the equation of fiscal deficit as follows:

$$FD = f(IP, DO) \quad - \quad (4)$$

Where;

DO= Dummy, with zero from 2005-2011 for information missing

Modeling the revenue sides through the structural equations of TR and RIP

$$TR = f(Y, T, TP, IP)$$

Where;

T =Annual average variation of tax rate

TP =Tax sensitivity of Public investment (TP=DTR/DIP)*(IP/TR).TP plays a fundamental role in this model. Since IP affects GDP directly (through) the contribution of public sector to GDP.

In order to take into account the long-run effects the researcher introduced a time lag in the tax revenue equation. This gives the next equation:

$TR = f(Y, T, TP, IP, TR_{t-1})$ -   (5)

$RIP = RC + RM$ -   (6)

Where;

RC = Receipt from public corporate companies

RM = Receipts from marketing boards.

RM can be expanded by breaking down its contribution into price differentials (*dl*) and quantities handled by the two marketing boards (K).

From that the structural equation of RIP is:

$RIP = f(RC, DI, K)$ -   (7)

With *dl* the average of price differentials between international and domestic prices applied on Tea, coffee, rice and sugar.

3.5.2 The Full Model

From equations (3) to (7), we can write the final expression of FD:

$FD = f(Y, EC, P, X, F, t, tp, Rc, dl, K)$ -   (8)

The version of the model which was used is as follows.

The structural functions:

1. $G = f(y, EC, P, G,)$

2. $FD = f(Ip, dO)$

3. $TR = f(Y, t, tp, Ip)$ or

3.' $TR' = f(Y, t, tp, TR, 1)$

4. $RIp = f(Rc, dl, K)$

5. $FD = f(Y, G_{t-1}, Ip, t, tp, TRt_{-1}, Rc)$

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter covers data analysis and presents the research findings. The data is summarized and presented in the form of tables and graphs. The collected data has been analyzed and interpreted in line with the aim of the study which is to analyze the determinants of fiscal deficit in Kenya.

The researcher set out to establish the determinants of fiscal deficit in Kenya from the year 2002/2003 to 2010/2011. All the necessary data was collected for the relevant years which directed the foregoing analysis.

4.2 Economic performance in the financial Year 2002/2003

The study sought to find the fiscal deficit in Kenya in the financial year 2002/2003. From the data analysis, income was 214,149.26, expenditure was 310,341 million. In this year, the government domestic borrowing stood at 200,608 million and external borrowing was 359,370 millions. Money supply was 262,603 while previous year's (2001/2002) consumption was 131,672. In this year, the inflation rate was 9.8% and corporation receipts stood at 35,740 millions. These figures are well illustrated in table 4.1 and figure 4.1 below.

Table 4.1

Expenditure	Income (Millions)	Domestic Borrowing	External Borrowing	Money supply (Millions)	Previous year consumption	Civil salary (Millions)	Inflation rate (%)	Corporations-receipts
310,341.00	214,149.26	200,608	359,370	262,603	76,056	131,672	9.8	35,740

Source: Research data, 2011

Figure 4.1:
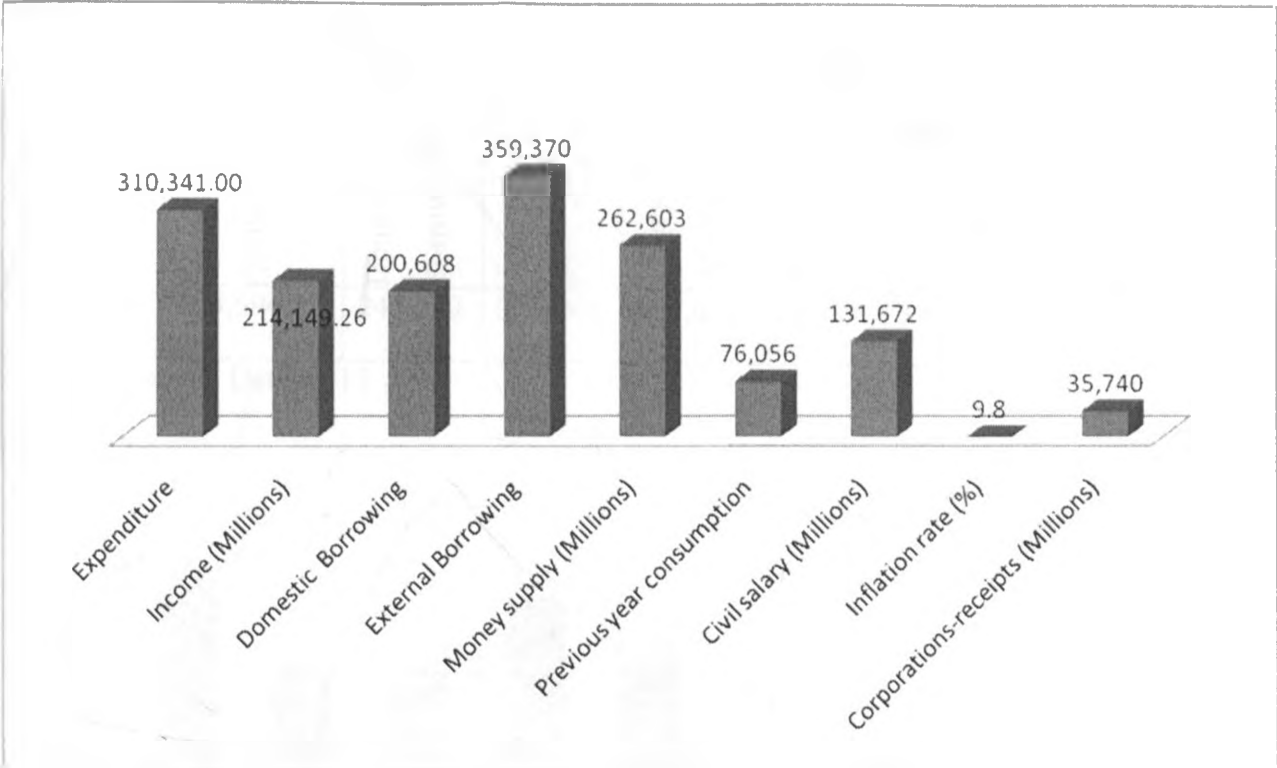
Source: Research data, 2011

4.3   Economic performance in the financial Year 2003/2004

The study also analyzed the country performance of the year 2003/2004. The statistics were as follows: expenditure increased from 2002/2003 financial year from 310,341 million to 376, 176.69; income increased to 254,696.22 million. Government borrowing included domestic borrowing and external borrowing. Domestic borrowing stood at 245,630 while external borrowing stood at 353, 264 million. Money supply was 268,059 and previous year's consumption stood at 56, 229. Salary to civil servants was 116,541 while the inflation increased as compared to the previous year to stand at 11.6%. Corporation receipts remained almost the same at 35,782 million. These are well illustrated in table 4.2 and figure 4.2 below.

Table 4.2:

Expenditure	Income (Millions)	Domestic Borrowing	External Borrowing	Money supply (Millions)	Previous year consumption	Civil salary (Millions)	Inflation rate (%)	Corporations-receipts
376,176.69	254,696.22	245,630	353,264	268,059	56,229	116,541	11.6	35,782

Source: Research Data, 2011

Figure 4.2:
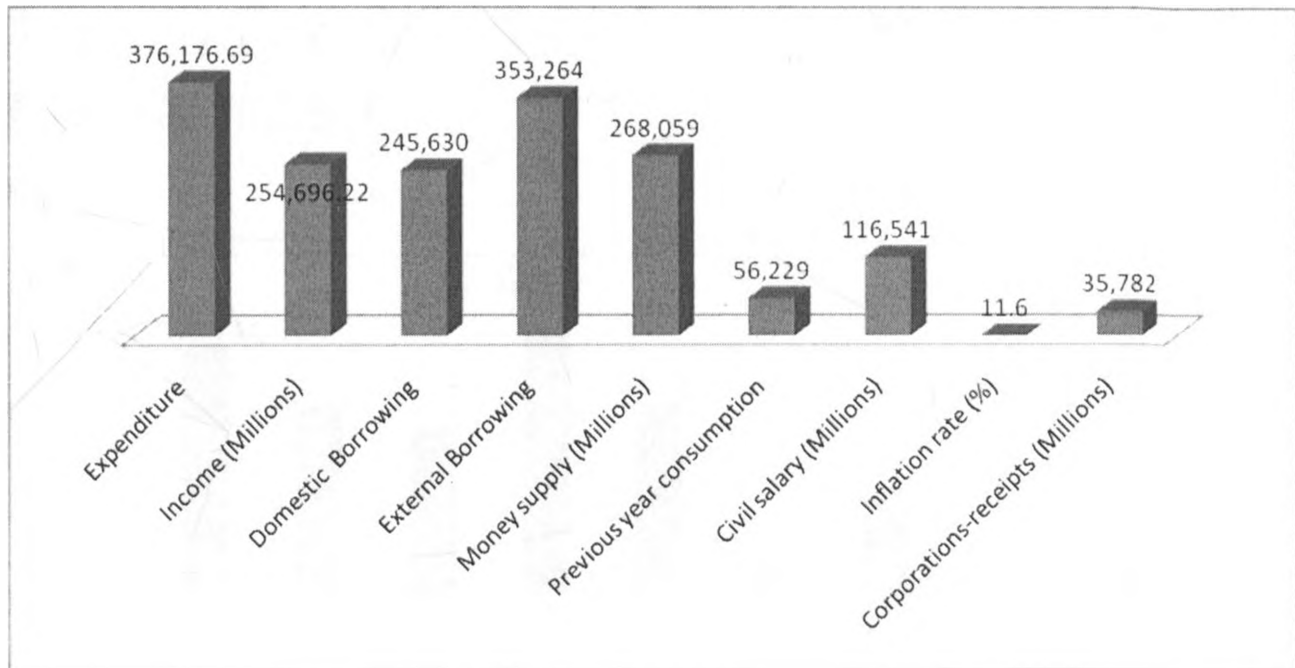
Source: Research data, 2011

4.4 Economic Performance of the year 2004/2005

The study sought to analyze the data for the financial year 2004/2005. Government expenditure increased slightly compared to that of previous year to stand at 379,665.61 million. Government income too increased to 284, 822.7. The government also engaged in some borrowing. Domestic borrowing stood at 254, 647 million while external borrowing was 443,157. The money supply in the year stood at 289,818. Previous year's

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consumption was 50,550 million while expenditure on civil servants salaries stood at 120,089 million. In this year, the inflation rate dropped slightly compared to the previous year to stand at 10.3. In this year, receipts from corporations rose to stand at 46. 384. These figures are well illustrated in table 4.3 and figure 4.3

Table 4.3:

Expenditure	Income (Millions)	Domestic Borrowing	External Borrowing	Money supply (Millions)	Previous year consumption	Civil salary (Millions)	Inflation rate (%)	Corporations-receipts
379,665.61	285,822.70	254,647	443,157	289,818	50,550	120,089	10.3	46,384

Source: Research Data, 2011

Figure 4.3:

Source: Research data, 2011

4.5 Economic performance in the financial Year 2005/2006

The study sought to analyze the data for the financial year 2005/2006. Government expenditure increased slightly compared to that of previous year to stand at 390,894.17 million. Government income too increased to 313, 337.63. The government also engaged in some borrowing. Domestic borrowing reduced slightly from the previous year's borrowing to stand at 253,501 million while external borrowing too decreased to 434,453 million. The money supply in the year too decr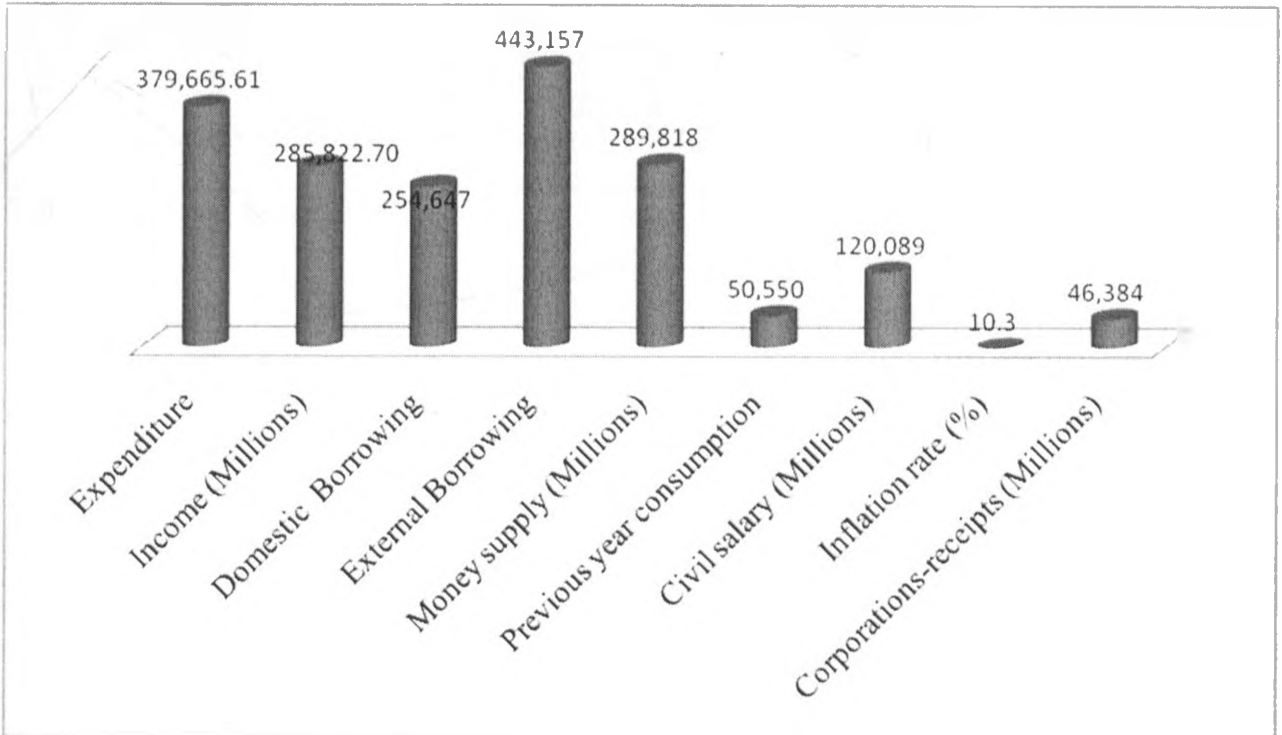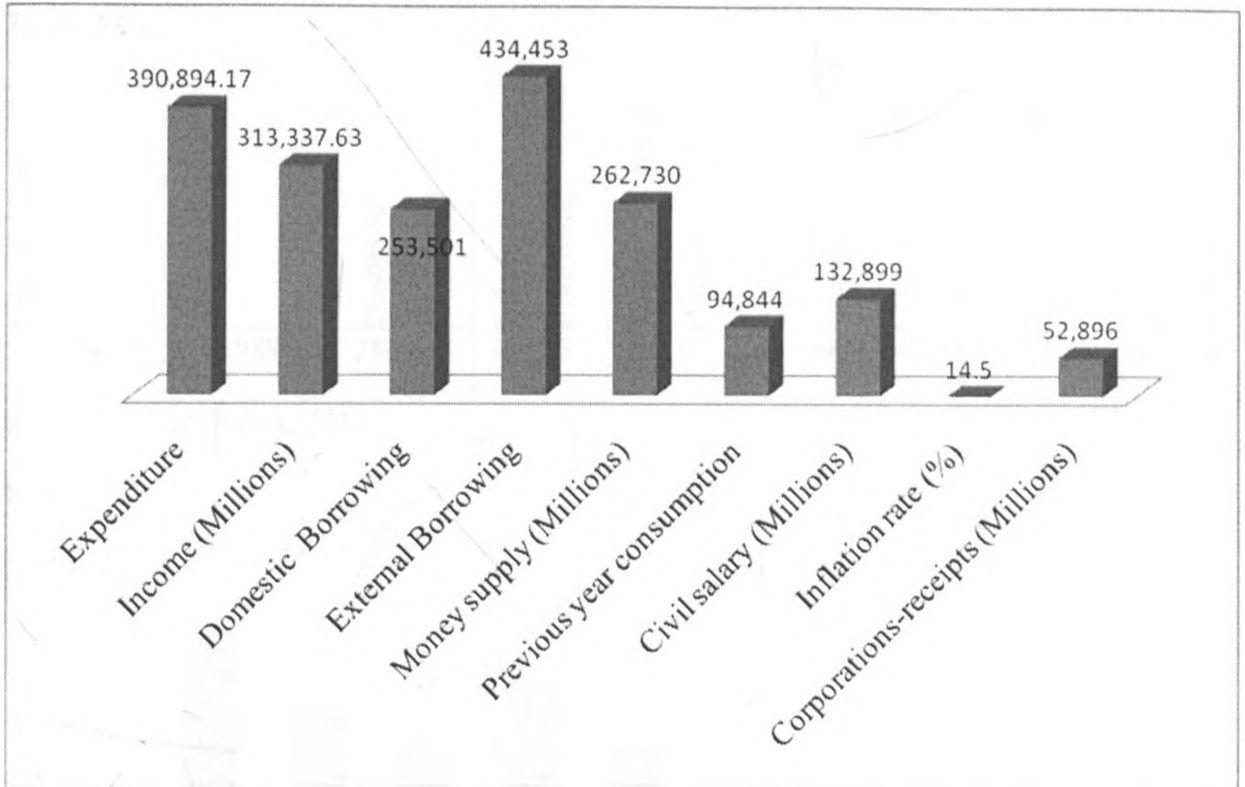eased to 262,730 million. Previous year's consumption was 94,844 million while expenditure on civil servants salaries increased to stand at 132, 899 million. In this year, the inflation rate increased significantly compared to the previous year to stand at 14.5%. In this year, receipts from corporations rose to stand at 52,896 million. These findings are well illustrated table 4.4 and figure 4.4 below.

Table 4.4:

Expenditure	Income (Millions)	Domestic Borrowing	External Borrowing	Money supply (Millions)	Previous year consumption	Civil salary (Millions)	Inflation rate (%)	Corporations- receipts
390,894.17	313,337.63	253,501	434,453	262,730	94,844	132,899	14.5	52,896

Source: Research data, 2011

Figure 4.4:

Source: Research data, 2011

4.6   Economic performance in the financial Year 2006/2007

The study sought to analyze the data for the financial year 2006/2007. Government expenditure increased tremendously compared to that of previous year to stand at 506,174.16 million. Government income too increased to 371, 989.5 million. The government also engaged in some borrowing more than the previous year. Domestic borrowing increased to stand at 286,451 million while external borrowing too decreased to 431,237 million. The money supply in the year increased slightly to 266,673 million. Previous year's consumption was 64,944 million while expenditure on civil servants salaries increased to stand at 145,590 million. In this year, the inflation rate decreased tremendously by almost half compared to the previous year to stand at 7.3%. In this year, receipts from corporations rose to stand at 62,644 million. These findings are well illustrated table 4.5 and figure 4.5 below.

Table 4.5:

Expenditure	Income (Millions)	Domestic Borrowing	External Borrowing	Money supply (Millions)	Previous year consumption	Civil salary (Millions)	Inflation rate (%)	Corporations-receipts
506,174.16	371,989.50	286,451	431,237	266,673	64,966	145,590	7.3	62,644

Source: Research data, 2011

Figure 4.5:

Source: Research data, 2011

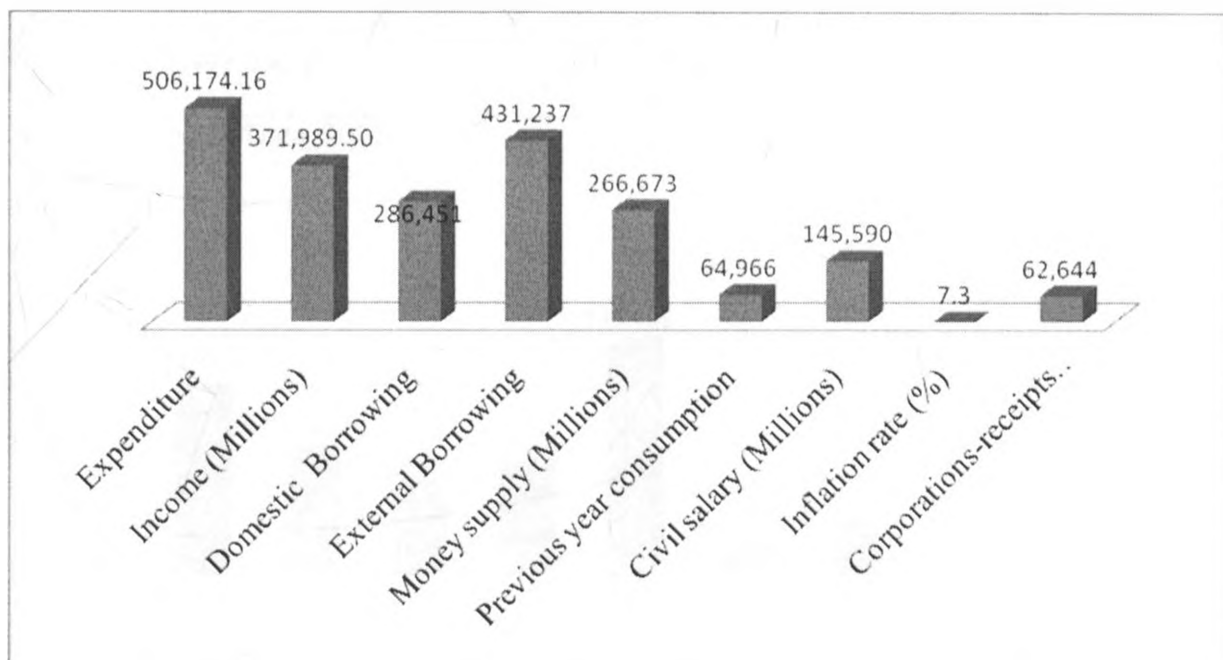## 4.7 Economic performance in the financial Year 2007/2008

The study sought to analyze the data for the financial year 2007/2008. Government expenditure increased tremendously compared to that of previous year to stand at 661,661.53 million. Government income too increased to 441,530.10 million. The government also engaged in some borrowing more than the previous year. Domestic borrowing increased to stand at 318,402 million while external borrowing too decreased

to 397,139 million. The money supply in the year increased almost three times compared to that of the previous year to 838,408 million. Previous year's consumption was 89,440 million while expenditure on civil servants salaries increased to stand at 167,746 million. In this year, the inflation rate decreased further from the previous year to stand at 5.6%. In this year, receipts from corporations rose to stand at 79,125 million. These findings are well illustrated table 4.6 and figure 4.6 below.

Table 4.6:

Expenditure	Income (Millions)	Domestic Borrowing	External Borrowing	Money supply (Millions)	Previous year consumption	Civil salary (Millions)	Inflation rate (%)	Corporations-receipts
661,661.53	441,530.10	318,402	397,139	838,408	89,440	167,746	5.6	79,125

Source: Research Data, 2011

Figure 4.6:

Source: Research data 2011

4.8 Economic performance in the financial Year 2008/2009

The study sought to analyze the data for the financial year 2008/2009. Government expenditure increased tremendously compared to that of previous year to stand at 690,355.64 million. Government income too increased significantly to 488,934.45 million. The government also engaged in some borrowing more than the previous year. Domestic borrowing increased to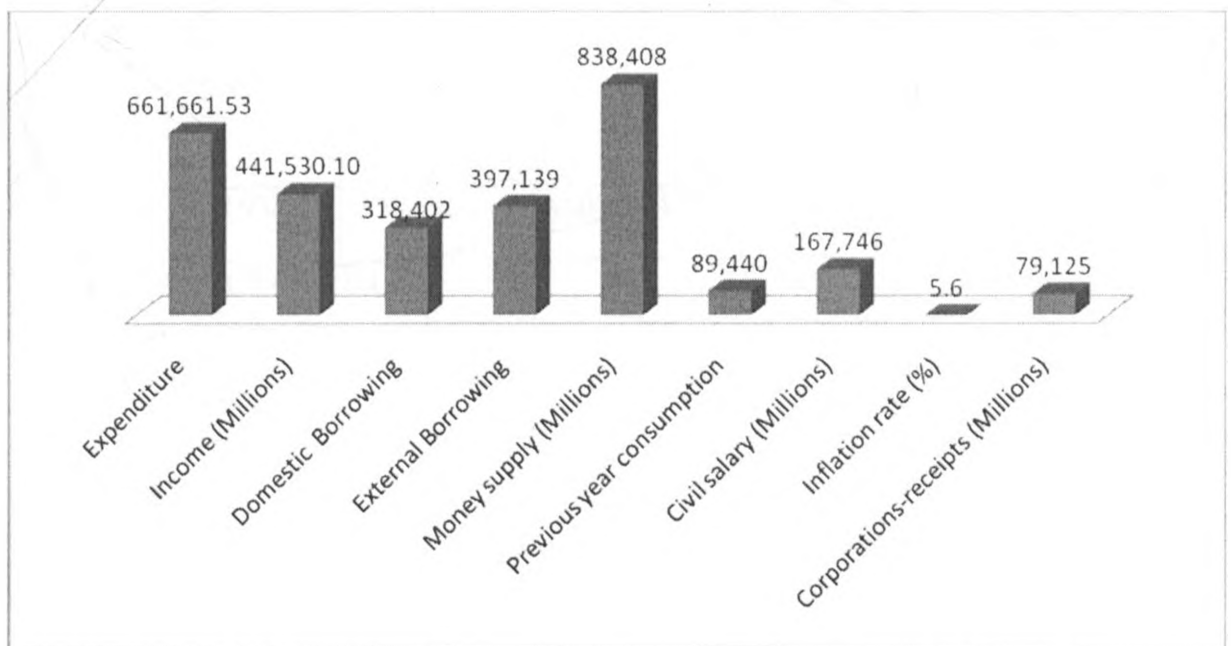 stand at 334,996 million while external borrowing decreased to 413,460 million. The money supply in the year increased more than three times compared to the previous year to 944,372 million. Previous year's consumption was 100,048 million while expenditure on civil servants salaries increased to stand at 182,455 million. In this year, the inflation rate increased tremendously by more than double compared to the previous year to stand at 17.8%. In this year, receipts from corporations rose to stand at 83,989 million. These findings are well illustrated table 4.7 and figure 4.7 below.

Table 4.7:

Expenditure	Income (Millions)	Domestic Borrowing	External Borrowing	Money supply (Millions)	Previous year consumption	Civil salary (Millions)	Inflation rate (%)	Corporations-receipts (Millions)
690,355.64	488,934.45	334,996	413,460	944,372	100,048	182,455	17.8	83,989

Source: Research Data, 2011

Figure 4.7: Economic performance in the financial Years 2008/2009

Source: Research data 2011

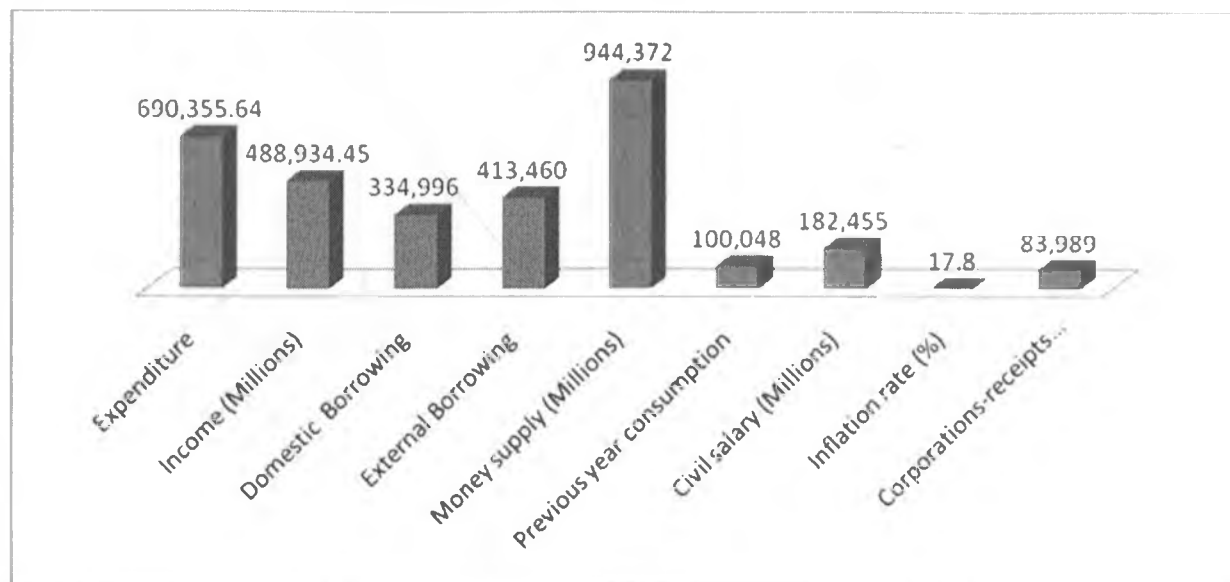## 4.9   Economic performance in the financial year 2009/2010

The study sought to analyze the data for the financial year 2009/2010. Government expenditure increased tremendously compared to that of previous year to stand at 802,096.44 million. Government income too increased significantly to 575,992.39 million. The government also engaged in some borrowing more than the previous year. Domestic borrowing increased to stand at 401,741 million while external borrowing decreased to 488,203 million. The money supply in the year decreased by almost 10 million compared to the previous year to 934,801 million. Previous year's consumption was 103,645 million while expenditure on civil servants salaries increased to stand at 209,651 million. In this year, the inflation rate reduced tremendously by more than half compared to the previous year to stand at 8%. In this year, receipts from corporations rose to stand at 105,140 million. These findings are well illustrated table 4.8 and figure 4.8 below.

Table 4.8:

Expenditure	Income (Millions)	Domestic Borrowing	External Borrowing	Money supply (Millions)	Previous year consumption	Civil salary (Millions)	Inflation rate (%)	Corporations-receipts
802,096.44	575,992.39	401,741	488,203	934,801	103,645	209,651	8	105,140

Source: Research Data, 2011

Figure 4.8:

Source: Research data 2011

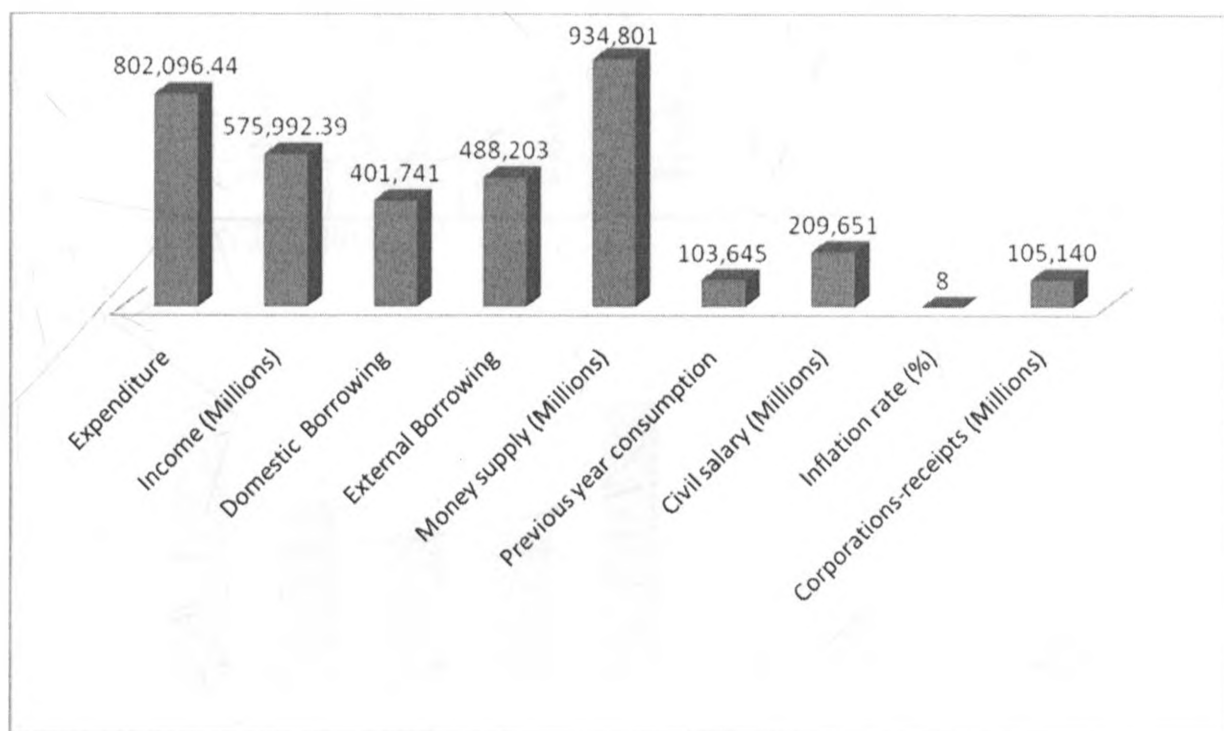## 4.10 Economic performance in the financial year 2010/2011

The study sought to analyze the data for the financial year 2009/2010. Government expenditure increased tremendously compared to that of previous year to stand at 996,274.10 million. Government income too increased significantly to 651,494.67 million. The government also engaged in borrowing more than the previous year.

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Domestic borrowing increased to stand at 534,529 million while external borrowing decreased to 528,928 million. The money supply in the year increased by more than 60,000 million compared to the previous year to 999,099 million. Previous year's consumption was 123,957 million while expenditure on civil servants salaries increased to stand at 241,602 million. In this year, the inflation rate reduced tremendously by almost half compared to the previous year to stand at 4.5%. In this year, receipts from corporations rose to stand at 122,310 million. These findings are well illustrated table 4.9 and figure 4.9 below.

Table 4.9:

	Income (Millions)	Domestic Borrowing	External Borrowing	Money supply (Millions)	Previous year consumption	Civil salary (Millions)	Inflation rate (%)	Corporations-receipts
	651,494.67	534,529	528,928	999,099	123,957	241,602	4.5	122,310

Source: Research data, 2011

Figure 4.9:
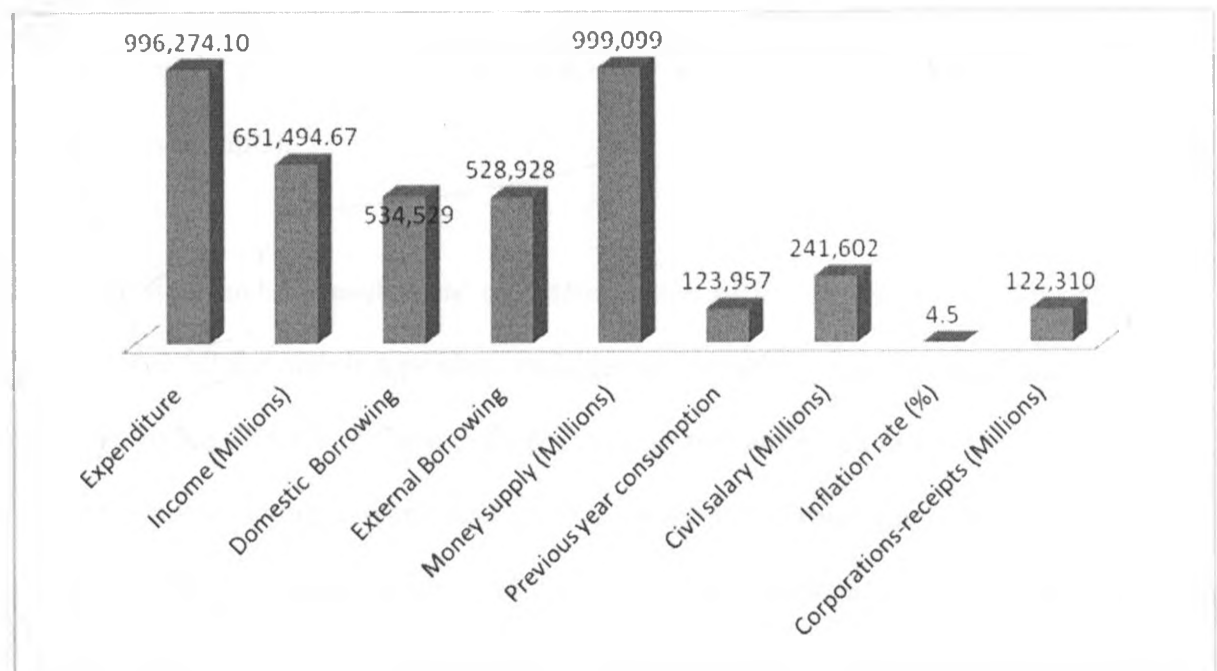
Source: Research data 2011

4.11 Regression Analysis

In order for the researcher to establish the relationship among the variables (independent), multiple regression analysis was conducted. The analysis applied the statistical package for social sciences (SPSS) to compute the measurements of the multiple regressions for the study. The findings were as shown in the table 4.10 below.

Table 4.10: Model Summary

Model	R	R^2	Adjusted R Square	Std. Error of the Estimate
1	.918[a]	0.843	0.299	0.6491

Source: Research data, 2011

Coefficient of determination explains the extent to which changes in the dependent variable (fiscal deficit) can be explained by the change in the independent variables or the percentage of variation in the dependent variable that is explained by all the nine independent variables (Expenditure, Income, Domestic borrowing, external borrowing, money supply, previous year's consumption, Civil salaries, Inflation rate, and corporations receipts).

The correlation and the coefficient of determination of the dependent variables (fiscal deficit) when all the nine independent variables are combined was measured and tested. From the findings 84.3% of fiscal deficits in Kenya was attributed to combination of the nine independent factors (Expenditure, Income, Domestic borrowing, external borrowing, money supply, previous year's consumption, Civil salaries, Inflation rate, and corporations receipts) investigated in this study. A further 15.7% of fiscal deficit is attributed to other factors not investigated in this study.

Table 4.11: Coefficient of determination

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.143	1.335		.817	.289
Expenditure	.635	.108	.145	2.386	.028
Income	.235	.152	.058	3.089	.038
Domestic Borrowing	.451	.209	.167	2.494	.036
External Borrowing	.825	.251	.415	3.129	.005
Money Supply	.354	.184	.089	2.432	0.047
Previous Years consumption	.118	.258	.077	2.384	0.054
Civil Salaries	.394	.154	.065	3.218	0.069
Inflation Rate	.794	.165	.058	2.659	0.085
Corporation Receipts	.198	.153	.487	2.356	0.053

Source: Research data, 2011

The researcher conducted a multiple regression analysis so as to determine the relationship between fiscal deficit and independent variables. As per the SPSS generated (table 4.11) the equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \beta_9X_9 + \varepsilon$) becomes:

$$Y = 1.143 + 0.635X_1 + 0.235X_2 + 0.451X_3 + 0.825X_4 + 0.354X_5 + 0.118X_6 + 0.394X_7 + 0.794X_8 + 0.198X_9 + \varepsilon$$

Where Y is the dependent variable (fiscal deficit), X_1 is government expenditure independent variable, X_2 is government income, X_3 is domestic borrowing, X_4 is external borrowing, X_5 is Money supply, X_6 Previous year's consumption, X_7 is civil servant

salaries, X_8 is inflation rate; and X_9 Corporate receipts. E represents error term but since the researcher used SPSS to analyze the data, the error term is zero.

According to the regression equation established, taking all factors into account (Expenditure, Income, Domestic borrowing, external borrowing, money supply, previous year's consumption, civil salaries, Inflation rate, and corporations' receipts) constant at zero, fiscal deficit will be 1.143. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in government expenditure will lead to a 0.635 increase in fiscal deficit. A unit increase in income will lead to a 0.235 increase in fiscal deficit; a unit increase in domestic borrowing will lead to a 0.451 increase in fiscal deficit; a unit increase in external borrowing will lead to a 0.825 increase in fiscal deficit. A unit increase in money supply will lead to a 0.354 increase in fiscal deficit; a unit increase in previous year consumption will lead to a 0.118 increase in fiscal deficit; a unit increase in civil salaries will lead to a 0.394 increase in fiscal deficit; A unit increase in inflation rate will lead to a 0.794 increase in fiscal deficit; and a unit increase in corporate receipts will lead to a 0.198 increase in fiscal deficit. This infers that external borrowing contribute more to the fiscal deficit followed by inflation rate and least by previous year consumption and corporate receipts.

At 5% level of significance and 95% level of confidence, government expenditure had a 0.289 level of significance, income had a 0.028 level of significance, domestic borrowing showed a 0.036, external borrowing had 0.005, money supply had 0.047, civil salaries had 0.069; inflation rate had 0.085; and corporation receipts had 0.053. The t critical at 5% level of significance at k = 4 degrees of freedom is 2.245. Since all t calculated values were above 2.245 then all the variables were significant in explaining the fiscal deficit in Kenya

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings and conclusions

5.1.1 Summary of the findings

The objective of the study was to analyze the determinants of fiscal deficit in Kenya. Nine determinants were identified which included government; expenditure, income, domestic borrowing, external borrowing, money supply, previous year's consumption, civil servant salaries, inflation rate, and corporations' receipts. The study used a case study of the Kenya Government budget, covering a period of 9 years from the financial year 2002/2003 to 2010/2011. Secondary data was collected from documented sources. Total tax receipts, total government expenditure and public debt was obtained from the Ministry of Finance and Kenya National Bureau of statistics.

Panel data methodology was used in the analysis since cross-sectional and time series are combined between the financial years 2002/2003 to 2010/2011. The analysis shows that government expenditures increased during the period. Government income also increased from the financial year 2002/2003 to 2010/2011. Domestic borrowing by the government posted mixed reactions. From 2002/2003 financial year to 2004/2005, it increased. However, in the financial year 2004/2005 it dropped slightly only to pick up an increasing trend in the following year until the end of 2010/2011 financial year. Unlike domestic borrowing, external borrowings decreased from the first year of the analysis until 2007/2008 after which it increased.

Money supply in the economy started by increasing from the first year of the analysis. In the financial year 2005/2006, the money supply went down slightly. At this time, inflation rate had hit the highest since the first year of the analysis. Thereafter, the money supply increased to keep pace with the increasing government expenditure and government borrowing.

Previous year consumption kept an upward trend from the beginning of the analysis in the financial year 2002/2003. From 76,056 in the financial year 2002/2003, the previous year's consumption stood at 123,957 by the financial year 2010/2011 financial year. There was no financial year when the previous year's consumption reduced compared to the previous year of analysis.

Civil salaries started with a downward trend in the first year of analysis only to pick an upward trend thereafter until the final year of the analysis. The civil servant salaries increased from 116,541Million in the financial year 2003/2004 to stand at 241,602 million by the financial year 2010/2011. Inflation rate posted a mixed reaction during the period of the analysis. It started with a small increased from 9.8 to 14.5% in the financial years 2005/2006. Thereafter, the inflation rate went on a dropping trend to reach 7.3 and 5.6 in the financial years 2006/2007 and 2007/2008. In the financial year 2008/2009, the inflation rate hit the highest ever of 17.8% after which it dropped by more than half to stand at 8% in the financial year 2009/2010 and 4.5 in the final year of the analysis 2010/2011. An analysis of corporations' receipts posted an increase from year to year since the first year of the analysis until the final year of the analysis 2010/2011.

The regression analysis indicates that the nine factors (expenditure, income, domestic borrowing, external borrowing, money supply, previous year's consumption, Civil salaries, inflation rate, and corporations receipts) analyzed in this study affected fiscal deficit by up to 84.3%. Taking all factors into account at a constant at zero, fiscal deficit was 1.143 meaning that this is the bare minimum fiscal deficit that can exist in the Kenya's economy. Research findings also showed that taking all other independent variables at zero, a unit increase in government expenditure leads to a 0.635 increase in fiscal deficit. A unit increase in income leads to a 0.235 increase in fiscal deficit; a unit increase in domestic borrowing leads to a 0.451 increase in fiscal deficit; a unit increase in external borrowing leads to a 0.825 increase in fiscal deficit. A unit increase in money supply leads to a 0.354 increase in fiscal deficit; a unit increase in previous year consumption leads to a 0.118 increase in fiscal deficit; a unit increase in civil servant salaries will lead to a 0.394 increase in fiscal deficit; A unit increase in inflation rate leads to a 0.794 increase in fiscal deficit; and a unit increase in corporate receipts leads to

a 0.198 increase in fiscal deficit. This infers that external borrowing contribute more to the fiscal deficit followed by inflation rate and least by previous year consumption and corporate receipts.

At 5% level of significance and 95% level of confidence, government expenditure had a 0.289 level of significance, income had a 0.028 level of significance, domestic borrowing showed a 0.036, external borrowing had 0.005, money supply had 0.047, civil salaries had 0.069; inflation rate had 0.085; and corporation receipts had 0.053. The t critical at 5% level of significance at k = 4 degrees of freedom is 2.245. Since all t calculated values were above 2.245 then all the variables were significant in explaining the fiscal deficit in Kenya

5.1.2 Conclusions

The nine factors considered in this study (expenditure, income, domestic borrowing, external borrowing, money supply, previous year's consumption, civil salaries, inflation rate, and corporations' receipts) have an impact on the fiscal deficit in Kenya. However, the factors analyzed affect fiscal deficit at differing degrees. External borrowing had the greatest impact on the fiscal deficit of the country with 0.825 followed by inflation rate prevailing at 0.794. In the third position is government expenditure at 0.635.In the fourth and fifth positions is domestic borrowing at 0.451 and money supply in the country at 0.354, civil salaries came in sixth at 0.394 as income came in seventh at 0.235. In the eighth and ninth position were corporation receipts at 0.198 and previous years consumption at 0.118.

5.2 Policy Recommendations

From the findings of the study, the study recommends that the government should reduce on external borrowing. This is because external borrowing has the greatest impact on the fiscal deficit of the country. In addition, this will not only ease the fiscal deficit but also reduce on the government's expenditure as the external borrowings are settled in foreign currency which again is subject to fluctuating foreign exchange rates.

In addition to using more of domestic borrowing, the government needs to check on inflation rates to avoid the erosion of the purchasing power of the local currency. By doing this, the government will be able to spend within it budgets as the actual expenditure and budgets will tally and reduce the fiscal deficit. Checking on the inflation rate will also assist the country in managing the money supply in the country as this has a direct impact on the interest rates prevailing in the country.

The study also recommends that the government expands its income base by expanding the tax rules and regulations. A broad tax base will increase the government's income and thus reduce on the fiscal deficit of the country.

5.3   Limitations of the Study

The study is based on data that is historical. The findings of the study may not be fully applicable at the time of the study as the operating environment has changed dramatically making the findings not fully reliable. Some of the fundamental changes that have taken place that are likely to have a great impact on the different factors affecting the fiscal deficit of the country include the enactment of the new constitution with devolution. This has created a new platform for the government where the government expenditures are bound to expand within the same limited government income.

The second limitation of the study includes the broadened government expenditure as a result of the new constitution which has introduced the County governments. The new structure has broadened the government expenditure and thus the government expenditure is bound to continue increasing.

Third limitation of the study includes the highly volatile exchange rate market that has seen the exchange rate against the United States Dollar hit a historic low of Ksh. 104. With this exchange rate volatility, it is highly unpredictable that the same pattern witnessed in the period of the study will be repeated thus limiting the applicability of the study findings.

In addition, the inflation rate in Kenya had dramatically changed a lot of aspect and market dynamics in Kenya which has seen the Central Bank of Kenya through Monetary Policy to raise the Central bank Rate (CBR) to 11% as at the time of this analysis.

5.4 Suggestions for Further Research

The study recommends that another study be carried out after the full implementation of the new constitution to measure the changes in the weights of the different factors affecting the fiscal deficit of the country.

Further, the study recommends that another study targeting individual government agencies and ministries be conducted to analysis the deficits in each agency/government ministry so as to develop mechanisms on how such ministries can go about in reducing the deficit at ministry/agency levels.

In addition, this study recommends that another study be carried out on all African countries to establish the determinants of fiscal deficit among other African countries and the whole Africa as a continent.

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Choudhry's basic model for budget constraints.

Annexes

Analysis of fiscal deficit variables for period of 9 years

Expenditure Millions	Income Millions	Domestic borrowing	External borrowing	M3=DM Money supply	Previous year consumption	Civil salary	Inflation rate
F/Y 2002/03							
310,341.001	214,149.26	200,608	359,370	262,603	76,056	131,672	9.8
F/Y 2003/04							
376,176.69	254,696.22	245,630	353,264	268,059	56,229	116,541	11.6
F/Y 2004/05							
379,665.61	285,822.7	254,647	443,157	289,818	50,550	120,089	10.3
F/Y 2005/06							
390,894.17	313,337.63	253,501	434,453	262,730	94,844	132,899	14.5
F/Y 2006/07							
506,174.16	371,989.5	286,451	431,237	266,673	64,966	145,590	7.3
F/Y 2007/08							
661,661.53	441,530.1	318,402	397,139	838,408	89,440	167,746	5.6
F/Y 2008/09							
690,355.64	488,934.45	334,996	413,460	944,372	100,048	182,455	17.8

F/Y 2009/10							
802,096.44	575,992.39	401,741	488,203	934,801	103,645	209,651	8.0
F/Y 2010/11							
996,274.1	651,494.67	534,529	528,928	999,099	123,957	241,602	4.5

RIP =rc, rm	Corporations- receipts						
2002/03	35,740						
2003/04	35,782						
2004/05	46,384						
2005/06	52,896						
2006/07	62,644						
2007/08	79,125						
2008/09	83,989						
2009/10	105,140						
2010/11	122,310						