

**THE INFLUENCE OF FOREIGN AID ON PUBLIC
EXPENDITURE IN KENYA, 1970-2009**

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DECLARATION

This is my original work and has never been presented for any degree award in any other university.

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DEDICATION

This research is dedicated to my beloved Wife, Ms. Janet Jelagat and daughters, Reena Chepkoech “Cheche” and Sasha Chepchirchir “Chirrie” for their unconditional love and support throughout this tedious journey. You have been the apple of my eyes and it is my prayer you to continue beaming in good health for better things ahead.

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LIST OF ABBREVIATIONS AND ACRONYMS

ADF	Augmented Dickey-Fuller
AFD B	African Development Bank
A-in-A	Appropriation in Aid
ARCH	Autoregressive Conditional Heteroskedasticity
BRDP	Budget Outlook Paper
CBK	Central Bank of Kenya
CBOs	Community Based Organisations
CBS	Central Bureau of Statistics
CFS	Consolidated Fund Service
CDF	Constituency Development Fund
CG	Consultative Group
ECM	Error- Correction Method
ESAF	Enhanced Structural Adjustment Facility
EU	European Union
FDIs	Foreign Direct Investments
FPE	Free Primary Education
GDP	Gross Domestic Product
GOK	Government of Kenya
ICT	Information Communication and Technology
IDPs	Internally Displaced Persons
IFS	International Financial Statistics
IMF	International Monetary Fund

KDF	Kenya Defence Forces
KEPSA	Kenya Private Sector Alliance
KIA	Kenya Investment Authority
KJAS	Kenya Joint Assistance Strategy
KIPPRA	Kenya Institute of Public Policy Research and Analysis
KRA	Kenya Revenue Authority
LIBOR	London Inter Bank Offered Rate
MDAs	Ministries Departments and Agencies
MPER	Ministerial Public Expenditure Review
MTEF	Medium Term Expenditure Framework
NARC	National Rainbow Coalition
O& M	Operation and Maintenance
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
OLS	Ordinary Least Squares
PER	Public Expenditure Review
PEV	Post Election Violence
PPB	Programme Based Budgeting
SAPS	Structural Adjustment Programmes
SWGs	Sector Working Groups
UN	United Nations
UNDP	United Nations Development Programme
WB	World Bank

ABSTRACT

The growth of public expenditure in Kenya has gone up in the last four decades .The paper looks into the influence of foreign aid on public expenditure in Kenya. The data used for the analysis was gathered from various issues of economic surveys undertaken by Kenya National Bureau of Statistics and World Bank reports and the coverage is from 1970 to 2009. The study applied Heller's utility maximization model (1975), and Error- Correction methodology was used to prevent spurious regression results. The study reveals that the foreign aid plays a major role in the short run and long run in influencing development expenditure as opposed to recurrent expenditure in Kenya.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background information

Public expenditure trends in Kenya have been changing over the last four decades, such that it has expanded from slightly over Ksh 3 billion in 1970's to over Ksh 1 trillion currently. It is important to analyse the trends in the levels, composition, and utilization of government expenditures in order to assess the causes of change over time. Further, it is important to interrogate if policies pertaining to government expenditures as well as budgetary process are merited, as the country gears towards to implement Vision 2030 which is Kenya's long term economic development blue print and its overall objective of realizing higher and sustainable growth of the economy with an equitable environment as well as increasing employment opportunities. The implementation of the "flagships projects" as outlined in the Vision 2030 will require massive resources which call for additional resources if Kenya is to transform into a newly industrialize and middle-income country with high quality of life for all the citizens. This implies there is need for the policy makers to come up with sound economic policies in order to target the limited resources efficiently to the main sectors in order to stimulate economic activities and expansion of the economy as a whole.

Kenya as a developing country needs some external resources in order to supplement the domestic resources from its economy as a result of low domestic savings, low earnings from exports and low revenues because of narrow tax bases. The aid a country receives corrects the capital gap that arises from its development needs. It also acts as a precursor in the implementation of the national development programs. This is because it augments the government's efforts in eradicating poverty and reducing high rates of unemployment especially among the bulging youth population. The structure of the Kenya's population is youthful, where ages of 0-24 and 15-24 are 41% and 23% respectively out of the total population which is 38.6 million people (Kenya population and Housing Census, 2009). This population pyramid and its slow transition to lower fertility rates indicates that Kenyan economy will be burdened by rapid

population growth, which currently estimated at 2.67% per year (World Bank, 2012) for several decades ahead.

Kenya has been receiving foreign aid since its attainment of independence in 1963. The mean annual gross foreign aid inflows, as a percentage of Gross Domestic Product (GDP), increased from 5.8% in the 1970s to 9.9% in the 1980s, 10.7% in 1990s but declined to less than 5% in the early 2000s (Ryan and O'Brien 2001). This changing trend can be attributed to Kenya standoffs with the donor community which has in the past resulted to aid freezes due to human right violations and poor governance. The official development assistance (ODA) increased from US\$ 300 million in 2001 to about US\$ 650 million in 2004, due to confidence of donor community on the government's improved performance. The changes in political environment including tackling of corruption and human rights issues may also have influenced the aid flow to Kenya arising from donor community's perception of the government of the day. The aid freezes of 1990s in Kenya were due to political factors especially the lack of commitment for reforms, but this changed when a new government came into place in 2003. The flow of aid resumed immediately due to government's promise to fight corruption, end human rights violations and strong commitment to public sector reforms. Although these political factors are necessary for Kenya, the Paris declaration of 2005 on aid harmonization and alignment has not included them as vital to aid effectiveness.

Foreign Aid which is one of the sources of financing public expenditure in Kenya can be categorized as Bilateral or Multilateral. Even though, government may result to borrowing, the accumulated gross foreign debt might act as an impediment since large debts makes a country less creditworthy or shows non-compliance with loans conditionality which might lead to the risk of debt distress. The donor community tightened their purses as they pursue recipient countries to put in place good policies and manages their finances in a proper manner. As a result of these stringent measures by the donor community, African governments have been faced with freezing of donor funds in case they fail to conform to given conditionalities.

For the last four decades, Kenyan Government relied on external aid to finance some of its expenditures. A study by Njeru (2003) shows that, between 1970 and 2000, the flow of aid to Kenya averaged about 9% of GDP. This implies that, about 20% of the annual government

budget came from external financing which translates to about 80% of development expenditures. This is also informed by an average budget deficit as percentage of GDP of about 1.7% during the same period but the figure rose to 4% in the 2011/2012 financial year and is expected to rise to about 6.5% in the 2012/2013 financial year (Ministry of finance, budget estimates for 2012/2013). The reason why public expenditures have continued to be in excess of the revenue raised coupled with the tendency of government ministries to misdirect funds to unnecessary votes when coming up with budgetary estimates during the budgetary process.

1.2 Foreign aid in Kenya

Aid flows which come to Kenya are in two forms; grants which are recorded as revenue and loans which are recorded as expenditure. Further, donors also disbursed their funds as appropriations-in-aid (A-in-A) which categorized as revenue. In the case of A-in-A, donors control the funds directly as they liaise with those who are in charge of the projects in ministries and who also are involved in the procurement of goods and services. However, A-in-A form of disbursement may lead to overspending by the donors and makes it hard to estimate the amounts spent for public purposes. In some instances, projects may stall especially if people in power are involved in these dealings. In the revenue disbursement type, A-in-A goes to the Treasury directly from special accounts at the Central Bank of Kenya. This system may lead to misuse of funds because there are over ten thousands vote of accounts being managed by Treasury through ministries, which makes monitoring of funds difficult. However, donor agencies normally require proper documentation and improved accounting systems for release funds. These conditionalities have in the past led to accumulation of the funds in the said special accounts and in some circumstances time may lapse before all is channeled to the government's coffers. The outcome has been the delay of projects' implementation and stalling of projects which denies the public its targeted benefits.

Gross ODA inflows to the country increased from an annual average of US\$582 million in the 1970s to US\$673 million in the 1980s and to US\$857 million in the 1990s as shown in Figure 1 (page 7). However, aid flows reached a peak of US\$1.6 billion in 1990, generally declining thereafter to reach about US\$253 million in 2002 as the government changed its commitment to donors (Mule, Ndi and Opon (2002). The share of grants increased, rising from 47% in the

1970s to 51% in the 1980s and to more than 69% in the 1990s. The change in grant component can be attributed to the aid embargos of the 1990s which led to changes in the composition of donors from multilaterals to bilateral whose aid composition has a higher grant component. For example in 1991, external funding was frozen because of corruption, lack of financial discipline and weak commitment to implement public sector reforms as well as political reforms.

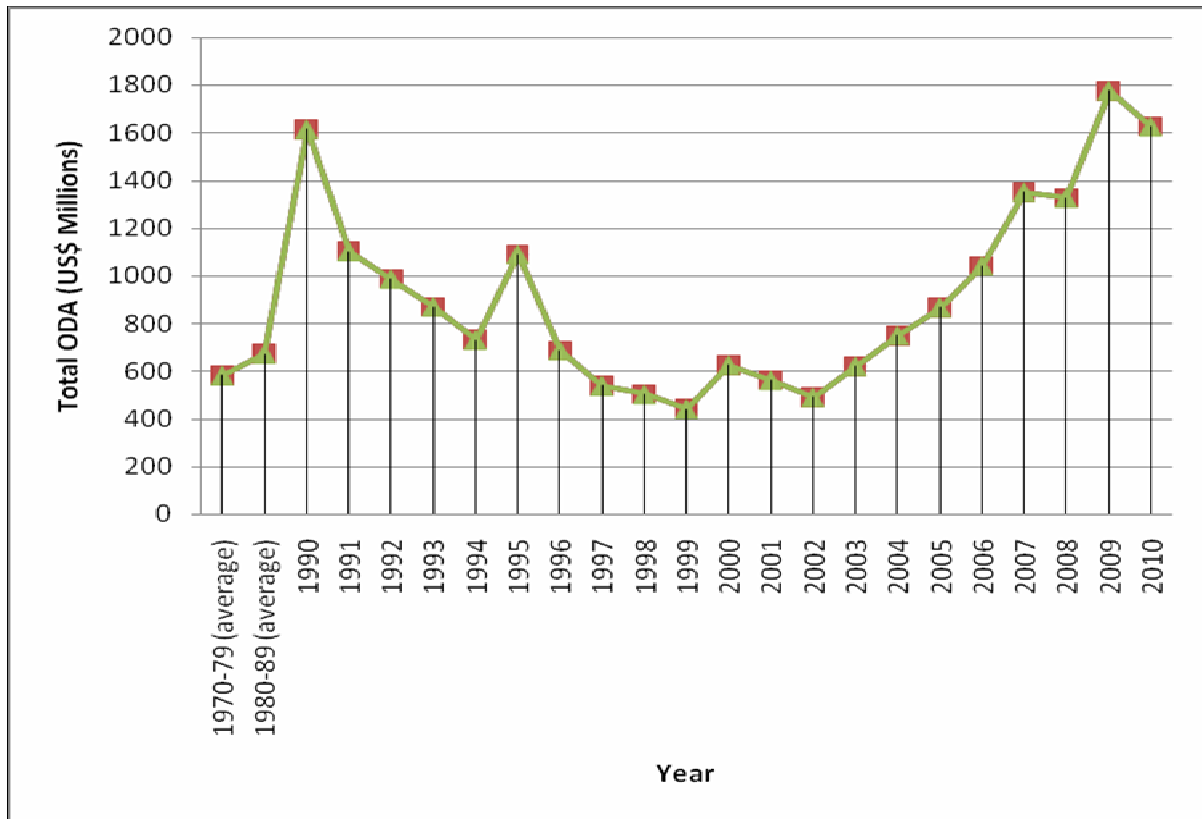
After the new National Rainbow Coalition (NARC) government came to power following the election of December 2002, the aid situation in Kenya started to improve reaching about US\$1.8 billion (at 2009 constant prices) in 2009 as shown in the same Figure 1. This can be attributed to the new government improved standings in the eyes of the donor community due to its renewed efforts in proper management of resources, political reforms, putting in place measures to fight corruption , increased government borrowing to finance development projects on infrastructure as well as increased inflows of grants to support government efforts in social sectors such as financing Free Primary Education(FPE),Constituency Development Fund(CDF) and humanitarian responses to droughts following successful Consultative Group (CG) meetings in 2003 and 2005 (UNDP, 2006). Humanitarian assistance also increased after the disputed elections in early 2008 which resulted in death and mass displacement of population thereby disrupting their economic activities and later on the process of resettling the internally displaced persons(IDPs).

However, when aid flows are measured in real terms (as a ratio of GDP); aid flows to Kenya in recent years have decreased to a level well below that of the middle and late 1980s, and even the real value of aid disbursement in 1980. Foreign aid declined from 7.3% of GDP in 1992-94 to 1.3% of GDP in 1998-2000 (Kenya and UNDP 2003). Also, another feature to note is the emerging trend of aid from china which is becoming more significant, more so in the sector of infrastructure assistance (McCormick et al., 2007). In the last two years, China had given loans to poor countries mainly in Africa, than the World Bank. The Heritage Foundation an American think tank estimated that in 2005-2010 periods about 14% of China's investment abroad found its way to Sub-Saharan Africa. The Data from Kenya Investment Authority (KIA) shows that, China pumped a total of investment of Kshs. 40.2 billion into Kenya in 2010 alone while developed economies among them Germany, Canada, Israel and Italy invested less than Kshs. 500 million .The loans and grants extended to Kenya from China became visible in 2002 after a

new government was elected as China's total aid approximated 0.08% of the total aid flow. From then, China's has been among crucial bilateral donors, before then it was being categorized in the league of other donors (Onjala, 2008). The share of China's external assistance to Kenya accounted for 2% in 2003, and the share jumped to 13% in 2005 (UNDP 2006). This can be witnessed in the several road projects dotting the country being financed by China such as the Nairobi's Northern and Eastern bypasses at a cost of Ksh 8.5 billion, Thika road which is Kenya's super highway among many others.

Kenya was able to receive a debt relief of an amount totaling US\$700 million between 1986 and 1992 and another, US\$26 million in 1997. Kenya in the past has also appeared in the Paris Club for debt servicing and debt relief in the years 1994, 2000 and 2004. In the year 2000, Kenya reschedules its debt amounting US \$ 298 million and US \$ 350 million in 2004. Currently, the country's total debt which is Ksh 1.5 trillion can be termed sustainable as it is approximately 45% of GDP. This implies every new born Kenyan finds a debt burden of about Ksh 38,000 in which approximately Ksh 18,000 is external debt. However, more measures should be put in place to reduce it by stimulating and expanding the macroeconomic activities in the country to improve the revenue base since the country currently does not qualify for a debt relief as it does not fall under the category Highly Indebted Poor Country (HIPC).

Figure 1: TOTAL FOREIGN AID INFLOW TO KENYA, US\$ MILLIONS



Source: Ryan and O'Brien 2001, Economic Surveys (Various issues), World Bank 2003, OECD-DAC database, IMF, IFS.

1.3 Composition of Foreign Aid in Kenya

Looking at the existing data, the evidence suggests that donor agencies do not favour multilateralism. From the OECD- DAC Database (2006 constant prices) , of the total ODA flow to Kenya between 1980 and 2009, 69% is from bilateral sources such as Australia,Belgium,Canada,Denmark,Finland,France,Germany,Italy,Japan,Netherlands,UK, USA and lately China among others. About 31% is from multilateral donor agencies such as the development banks like; IMF, World Bank, African Development Bank and other UN agencies.

The multiplicity of donor agencies has put a lot of pressure on Kenyan government in complying with different donor conditionalities and priorities which are specific in nature to each agency. Individual agencies comes with different accounting systems and mechanisms to identify, plan,

implement, monitor and evaluate their activities, and different reporting requirements coupled with a lot of paperwork that consumes time and resources from government officials. This is observed in the government-donor co-funded programmes which have resulted in low absorption of these funds. There is government -donor coordination referred to as Kenya Joint–Assistance Strategy (KJAS) which consists of 17 donors with the exception of China. This emanated from the 2003 Paris Declaration on Aid Effectiveness. However, the donor coordination structures in the country are still weak. This calls for harmonization of these aid agencies where they can sit together periodically for reviews.

As shown in the same analysis by O’Brien and Ryan (2001), Kenya received approximately 75% of its total aid from bilateral donors, with no distinct trend toward greater reliance on either multilateral or bilateral aid. The share of multilateral aid increased moderately in the 1980s, primarily due to the disbursement of the World Bank adjustment lending, but the bilateral share rose again in the 1990s with the decline in new adjustment lending after 1991. Bilateral aid has been mainly in the form of grants (72% of the total), with the share of grants increasing in recent years, whereas multilateral aid has mainly been in the form of loans (86%). The principal source of multilateral loans has been the World Bank group and IMF, accounting for almost 80% of total loans in the study period. Other multilateral donors which have been involved in external assistance to Kenya are; African Development Bank (AfDB), Inter American Development Bank (IDB), United Nations (UN) agencies, European Union (EU) et cetera.

The country also received a sizeable amount of programme aid since 1980 as a result of Structural Adjustment Programmes (SAPs) and in the later years, loan from IMF under the Enhanced Structural Adjustment Facility (ESAF). Most of this lending has come from the World Bank and the IMF, with smaller amounts from the AfDB and bilateral donors channeled through the World Bank in terms of adjustment programs. The total ODA loans plus IMF drawings were provided as balance of payments support. Further analysis using OECD-Database shows that, the number of bilateral donors to Kenya increased from 11 in 1980 to 21 in 2006, while multilateral donors increased from 4 in 1980 to 9 in 2003 but declined to 5 in 2006. This high number of donors might result in challenges in aid coordination and monitoring which might result in duplication projects, thereby lowering the cost effectiveness of aid.

1.4 Public Expenditure in Kenya

Generally Public expenditure refers to the expenses which a government incurs for its own maintenance, the society and the economy, and also helping other countries (Bhatia 2008). Expenditure is considered from the perspective of its different categories and the allocation between various levels of government such central or national, local authorities, municipalities, counties etc. The combined expenditure of all levels of government can then be consolidated to come up with aggregated spending of a country.

The total government expenditure in Kenya can be classified into three, namely; recurrent expenditure, development expenditure which are commonly referred as ministerial expenditure and payments for Consolidated Fund Services (CFS) and the recurrent expenditure by the Treasury. The recurrent expenditure basically has the expenditure items incurred by the MDAs in delivering daily economic and social services, wages and salaries, pension and operation and maintenance (O&M). The current expenditure (consumption) is currently estimated to be slightly over 70% of the total spending which calls for more austerity measures to reduce it so as to have more funds for development purposes. On the other hand, development expenditure consists of all the expenditures on development projects and programmes known as government investments undertaken by MDAs. This expenditure is estimated to accounts for about 30% of the total government expenditures and large proportion from the donor community as opposed to domestic revenue. However, there has been limited absorption rate of the development expenditure because of slow procurement process, slow and delayed disbursements from donors and GoK and inadequate information on project analysis and implementation.

Consolidated Fund Services (CFS) is type of government expenditures which include domestic and external debt payments, pensions, and payments for some constitutional office holders as well as payments to international bodies which the country is subscribed to. This category of the government expenditure has been rising due to increase in debt servicing which the country has entered into in the previous regime as a result of poor governance, embezzlement of public resources as well as graft in public offices.

Kenyan public expenditure has been expanding over the last four decades. In the early 1970 's ,government expenditure was about Kshs.3 billion but increased to slightly over Ksh. 20 billion

at the beginning of 1980's . By 1990's the figure had increased to about Ksh 150 billion and in 2010/2011 it stood at over Ksh. 817.1 billion. However, the average total government expenditure as a percentage of GDP was approximately 28% in the 1970's. The figure increased to 30.3% in 1980's but declined to reach 27.2% and 26.4% in the 1990's and 2000's respectively. Currently the expenditure as a percentage of GDP is about 33% with a larger portion of 70% going to public consumption or recurrent expenditure while revenue is only 23% of GDP. This therefore calls for steady government expenditures and more allocation given to the productive sectors which contribute to the growth of GDP¹ .

1.5 The Link between Public Expenditure and Economic Growth

The German Economist, Adolf Wagner (1883-1953) analyzed empirical results on public expenditure for several industrializing nations and observed that the share of the public sector in GDP had been increasing or expanded over time. He developed a model that linked public expenditures as an endogenous variable to economic development implying causality is from economic growth to public expenditure, where the growth of the economy leads to the expansion of public sector thereby increasing public expenditure at a faster rate (Wagner's law of increasing public sector expansion).

Keynes (1936) also came up with another contrary theory to that of Wagner, which states that public expenditure creates employment and improves capital utilization as causality is from public expenditure to economic growth. He postulated that expansionary fiscal policies are required to increase economic output and promote economic activities especially during the periods of recessions. Another theory is that of Wiseman and Peacock (1961) which explains that public expenditure increases as a result of rise in revenue collections of a country boosted by economic development. This increase of public spending occurs as citizens' demand for services such as education, health, housing, infrastructure etc. Their argument is that public expenditure

¹ Analysis based on various economic surveys, Public Expenditure Reviews and Budget speeches.

will expand further during the time of wars as government taxes citizens more to increase its revenue base.

This arguments has been further explained by recent studies such as Ramney (2009) which argues that unproductive public expenditure is likely to have a smaller multiplier effect in the economy and inefficient use of public resources possibly affect economic growth negatively. This was reinforced by Loto (2011) who carried out a study linking government expenditure on Education, Health, Security, Agriculture and Transport and Communication on economic growth in Nigeria using data from 1980-2008. The results of the study reveals that public spending on health sector, security, transport and communication positively affect economic growth but negatively related to agriculture in the short run. Spending on education was found to be negatively related to growth but insignificant due to brain drain.

Further, Mudaki and Masarivu (2012) investigated the impact of public spending on education, health, economic affairs, defense, agriculture transport, and communication on economic growth in Kenya using data from the year 1972 to 2008. The results show that public spending on education is positively and significantly related to economic growth. This is because a 1% increase in public expenditure on education increases real GDP by 0.95%. The expenditures on economic affairs, transport and communication, on the other hand, were also significant but weak. But, government expenditure on agriculture was found to be negatively related to economic growth as a 1% increase in spending in agriculture reduces real domestic growth by 0.08%. Expenditures on health and defense were found to insignificantly affect economic growth which did not conform to the hypothesis of the study. The study concluded that the unexpected results for some variables may be due to inadequacy of funds, the slow pace in adopting new technologies and lack of mechanization, corruption and embezzlement of public funds in the said sectors. We can therefore say that economic growth will be achieved if public spending is geared towards the sectors which are strong blocks in supporting the growth of the economy.

1.6 Statement of the Problem

The Budget process in Kenya is done such that tax revenue finances the recurrent expenditure but development expenditure is financed through domestic borrowing and foreign sources. For the first time since 2003, the budget estimates for the financial year 2012/2013 shows that the recurrent expenditure (consumption) of Ksh 1.2 trillion is more than targeted revenue of about Ksh 900 billion implying that the country will be spending beyond it means. The country has been receiving foreign aid both, bilateral and multilateral; however the level of economic development in Kenya is still fairly low. The importance of aid to Kenya emanates from it being the source of capital formation, as well as its impact on macroeconomic stability. Foreign aid can be considered as one of the source filling a budget deficit especially for development expenditure as well as correcting trade imbalance. To finance a budget deficit we can have adverse effect on the economy. The government has various ways of financing a deficit such as; discretionary tax measures, monetization of a debt where “new money” is created to stimulate the economy, offering the debt to the public, borrowing externally or use the foreign reserve in the short-term. These options may have ramifications when undertaken, for example increasing taxes is a burden to the citizens, borrowing from CBK can result in inflationary pressures in the economy, selling the debt to the public through securities and bonds can trigger sharp increases in other interest rates due to frequent rollovers therefore crowding out the private sector and borrowing externally can also be expensive especially if the external debt is large as it comes with conditionalities.

Budget deficit in Kenya is increasing, for instance in the financial year 2011/2012 the government had planned to borrow Ksh. 119.5 billion domestically in order to finance the budget. However, due to monetary tightening and volatility in the domestic markets, under subscription of Treasury bills and bonds in the auction market for government securities coupled with high domestic borrowing costs created a liquidity crunch which pushed domestic interests rates from 6.4% to 21.8%, the government was forced to borrow an external syndicated loan from a consortium of international banks amounting US\$ 600 million (estimated to be Ksh. 54 billion) at an interest rate of 4.75% per annum over London inter-bank offer rate (LIBOR) estimated to be about 2% to plug the fiscal gap (Ministry of Finance, May 2012). The funds will finance infrastructural projects as well as programs in the implementation of the new constitution. Even though the release of the loan has improved the CBK foreign exchange reserves position and provided a further cushioning against external shocks affecting the

exchange rate, the loan comes at a time when the public debt is rising. The current level of public debt is Ksh 1.5 trillion of which Ksh 686 billion is external debt and Ksh 830 billion of domestic debt (Ministry of Finance, 2012). This total debt is about 46% of GDP and may be seen to be sustainable but there is a worry that it may keep rising as it is projected to reach Ksh 2 trillion in the year 2014. The repayment of the loan will become a huge burden to the tax payers and if it continues to rise without any stimulation of the economic activities, it might lead to the risk of debt distress. The exports remains depressed at 23% of the GDP which translates to just over Ksh 500 billion per year. On the other hand, imports have doubled, at over Ksh 1.3 trillion implying keeping the Kenya shilling stable may become a huge task to the monetary authorities, unless the huge public spending is not contained in order bring down inflation which is currently estimated to average about 14% but is expected to ease below 6% as the world fuel prices is seen to be declining. This therefore calls for proper monitoring and managing of these finances in a manner that will stimulate and rake in more returns in the economy which will translates to improvement of the socio-economic status of the citizens.

Furthermore, there are indications that the implementation of the Medium Plan of the Vision 2030 will put more spending pressures on the government budget causing fiscal deficits and public debt to increase. As envisaged in the Vision 2030, the country expects new investments of over Kshs.500 billion with other costs implications of Kshs.3.5 billion every year (Republic of Kenya, Kenya Vision 2030, 2007). This can be seen in the huge budget of Ksh 1.45 trillion for the 2012/2013 financial year which requires substantial amount of resources from both domestic and external resources. Moreover, the public sector wage bill has increased at an annual average of 36 % over the last five years. The larger proportion of this increase is due to the hefty salaries of senior public servants, which has risen disproportionately in comparison to those in the lower and middle level of the public service. As shown in the economic survey 2012, Kenya's nominal wage bill rose to Ksh 878.8 billion in 2011, which is an 8.8% increase from the Ksh 807.9 billion of the financial year 2010 while the public sector wage bill went up by 11.7% compared to an increase of 7% in the previous financial year. The report also shows that average earnings person were higher in the public sector compared to the private sector. The contribution of the public sector to the total wage bill in the modern sector also increased from 32.3% in the fiscal year 2010 to 33.2% in year 2011. This is further complicated due to strikes by public officers such as teachers, lecturers, police and doctors demanding salary increases which will accelerate public

spending. Also the Kenya Defence Forces (KDF) is currently engaged in fighting the Al-Shaabab in Somalia and this will increase the budget on National Security by 56% in the 2012/2013 financial year. This increase in the public wage bill and security is likely to hurt spending on development projects such as infrastructure and social services such as health, education etc.

Moreover, ODA management is increasingly being affected by changes in the international aid evolution as well as global economic crisis such as taking place in the Euro- zone which is forcing developed countries to cut their budgetary allocations on external assistance to developing countries. Currently, bilateral and multilateral donors are changing priorities and orientation by placing greater emphasis on the quality of partner country systems, joint planning, and financing, transparency and accountability and quality of programs toward economic growth and poverty reduction. Kenya needs to come up with sound policies to manage the domestic resources in order to increase tax revenue and reduce fiscal budget deficits. However, this does not mean the country has been performing poorly in tax collection as compared to other countries with the same per capita incomes in the African continent. This is because tax revenue as a percentage of GDP is about 23% which is above that of other countries in Sub-Saharan Africa such as Uganda, Ghana, and Tanzania among others (Kenya Institute for Public Policy Research and Analysis, Kenya Economic Report 2009). This has been achieved as a result of tax reforms which begun in mid 1990's in terms of enhanced revenue administration and continuous modernization of tax collections. Over 70% of the total tax revenue comes from income tax (formal sector business and income from employment) and Value added tax (Economic survey, 2012). This illustrates that imposition of tax in Kenya is concentrated on the formal sector which shows that even though tax effort may be high ,total collection is still low which may imply a monotonous revenue structure . This therefore calls for broadening of the tax net to include such taxes on idle land, capital gains on fast growing sectors as in real estate and informal sector since the principle of taxation requires that there should equity in distribution of tax burden taking into account its composition structure.

With the above, developing countries such as Kenya are still faced with high incidence of poverty (Currently estimated to be about 46% - Economic survey, 2012), high unemployment, low economic growth which is estimated to be 4.4% and high external debt (Estimated to be Ksh. 686 billion- Economic survey, 2012) coupled with, low domestic savings (about 13% of GDP), low private capital inflows and low tax revenue (about 23% of GDP). As shown in the

economic survey of 2012, major sectors in the economy such as agriculture recorded a decline. This raises the question on how these donor funds have been utilized on the targeted projects. Therefore, given that Kenya has been receiving aid flows, from both Bilateral and Multilateral donor agencies, it is necessary to analyse the impact of these aid flows on the public expenditure in Kenya.

1.7 The Objectives of the Study

The effectiveness or productiveness of foreign aid depends on its utilization. The government efficiency in using any resources has an important role of improving the development of a country. Kenya like any other developing country seeks foreign aid whether in form of a loan or grant to fund various social sectors in the economy. The basic objective of the study is to assess how foreign aid influences the public expenditure in Kenya with the view that, public expenditure has a direct link with productivity and economic growth.

Therefore, the study will attempt to achieve the following specific objectives:

- i) To investigate the effect of foreign aid on public expenditure in Kenya.
- ii) To determine the effect of domestic tax revenue on public expenditure in Kenya.
- iii) To find out other determinants of public expenditure in Kenya
- iv) To draw up conclusions and policy recommendations.

1.8 The Hypotheses of the study

The following results are expected after estimation of our economic model;

- i) Total foreign aid is positively or negatively related to public expenditure
- ii) Domestic tax revenue is positively related to public expenditure in the presence of foreign aid

1.9 The Research Question

The study evaluates whether foreign aid affects the public expenditure in Kenya? But, specifically the study seeks to answer the following questions:

- i) What is the effect of foreign aid on public expenditure in Kenya?
- ii) What is the effect of revenue on public expenditure in Kenya?
- iii) What are the other determinants of public expenditure in Kenya?

So in a nut-shell, this paper will analyze how government expenditure responds to changes in the flows of aid in influencing the public expenditure in Kenya.

1.10 The Justification of the Study

The importance of this study rests on its attempt to unveil the influence of foreign aid in public expenditure. Foreign aid has been an important source of finance in Kenya since it supports the budgetary process thereby enhancing the overall development of the country. Public expenditure is the main channel through which aid flows spur economic development of a recipient country. This implies public expenditure has a direct link with some macroeconomic variables such as productivity and economic growth. While most of the literature has studied the impact of foreign aid on economic growth, few studies have systematically analysed the impact of foreign on public expenditure especially country specific studies.

The Kenya's Vision 2030 aspires to improve prosperity of all the citizens and become a middle income country by achieving an average Gross Domestic Product (GDP) growth rate of 10% per annum by expanding levels of investment by 9.7% through which 3.9% will come from the public sector in the form of infrastructure developments such as roads, transport, Information Communication and Technology (ICT), science, technology, water and sanitation. The balance of 5.8% will come from financing by the private sector which includes foreign direct investments (FDIs). This implies growth is the key driver of poverty reduction in Kenya if resources both domestic and external, will be used in effective and efficient manner. The implementation of the "flagships projects" as outlined in the Vision 2030 will require massive resources which will call

for more resources if the country expects to be a middle-income with quality life for its citizens. This implies there is need for the policy makers to come up with sound economic policies in order to target the limited resources efficiently. Bilateral and multilateral aid flows can finance social programmes which directly benefit the poor in the society and can also have indirect effect by financing part of public expenditure which can benefit the poor. Past studies have shown aid reduces poverty and well being as it influences the pro-poor expenditures of developing countries, for example Mosley and Hudson(2001), Gomanee and Morrissey 2002 e.tc . Further, Roberts (2003) shows in his study that aid can improve development and growth if invested on the social sectors such as, education, health and infrastructure. Njeru (2003) using aggregated data averaging 10 years in Kenya from 1970 to 1999 found out that, the total foreign aid flows influences government expenditure but not all aid is spent for development purposes as it is fungible. On average an increase in foreign aid stimulates development spending by a higher proportion than does an increase in domestic resources. This study will however look at influence of foreign aid on both development and recurrent public expenditures in Kenya using disaggregated data from 1970 to 2009.

1.11 The Scope and Organization of the Study

This study explored the role of Foreign Aid in influencing public expenditure in Kenya. The study used disaggregated data to link foreign aid to public expenditure. Further, the paper estimated the influence of the aid flows on the public expenditure by analyzing data covering a period of 40 years that is 1970 to 2009. The duration is long enough for analysis taking into account the internal and economic shocks, such as that of OPEC oil crisis in 1973/1974, oil shock of 1979 ,coffee boom of 1977/78 and 1986, droughts in 1979/1980,1984 and 1997/1998, aid freezes of; 1982, 1990/91 and 1997 among many other economic shocks.

The paper will comprise of five chapters is organized as follows: Chapter one presents the introduction which shows motivation behind the study, background information touching on public expenditure, bilateral and multilateral aid where we discuss the general importance of foreign aid, composition of bilateral and multilateral aid, budgetary process and public expenditure in Kenya. We also have in the same chapter; statement of the problem, objectives of the study, justification of the study and research question. In chapter two we have a presentation of detailed literature review both theoretical and empirical which enables us to develop an

econometric model in chapter three. The descriptions of variables, data sources and measures as well as estimation method are also found in Chapter three. Chapter four presents analysis and interpretations of the results. These are descriptive statistics, results of stationarity test, cointegration test, long-run models, dynamic error-correction models and interpretation of specific models regression results. Lastly, Chapter five gives the summary of the findings, conclusions, policy recommendations and areas of further research.

CHAPTER TWO

2.0 LITERATURE REVIEW

This section reviews some of the theories explaining public expenditure as well as foreign aid inflows. We shall further review the available empirical literature from several past studies on public expenditure and foreign aid inflows.

2.1 Theoretical Literature

Fiscal response models: These models rely on a more normal modelling on how aid inflows may result in government that undermines the expected economic effects (McGillivray and Morrissey 1999b). Following the seminal paper by Heller (1975) a number of studies have emerged. In these models we have a government utility function in which targets are set for expenditure types such as recurrent and capital, revenue both tax and non-tax, as well as borrowing both domestic and foreign aid flows. From this, government tries to maximize the utility function in such a way to attain these targets subject to a budget constraint where aid flows is treated to be exogenous variable because it is supply determined. But other model specifications such as, Franco- Rodriquez et al. (1998) and McGillivray and Morrissey (1996b) have included aid as an endogenous variable. The model is estimated once a reduced form of each endogenous variable has been derived.

We can illustrate this model of fiscal public behaviour as proposed by Heller (1975) as below;
In any time period t, we assume the utility function of the policy maker or government is given as,

$$U = F(I_g, (Y-T), G_c, G_s, B, A_1, A_2) \dots \dots \dots 1$$

Where;

U= utility of the government

I_g = Public investment expenditure for development purposes i.e. gross capital formation such as buildings and construction, transport equipment and net loans to sectors of the economy.

$Y-T$ = Disposable income in the private sector i.e. Gross domestic product Y less tax revenue T which includes, direct and indirect property tax revenue (income taxes, customs, excise duties, export taxes, etc) and revenue from sales of government social services, licence fees, interest, dividends and profits of the government and miscellaneous revenues.

G_c = “civil” consumption in the public sector i.e. capital and current expenditures for government administration for the servicing of public debt, for diplomatic representation, for security etc.

G_s = socioeconomic consumption in the public sector i.e. current expenditure in public sector such as education, health, transport, agriculture etc.

- B = the flow of public borrowing from domestic sources
- A_1 = total foreign grants to the public sector
- A_2 = total foreign loans to the public sector from all sources

The variables are expressed as in time t and are in real terms.

A government of developing country can finance its budget from domestic or external resources as given below;

$$T + B + A_1 + A_2 = I_g + G_c + G_s \dots\dots\dots 2$$

We can maximize equation 1 with respect to the resource constraint equation 2, if the solutions exist and are interior maximums, we can generate a system of linear expenditure equations that will enable us to specify estimable equations linking foreign aid and government expenditures.

Two gap model: This is a normal model used in the proving the importance of aid and was developed by Chenery and Strout (1966). The first gap in the model is between the amounts of investment which is necessary to attain a targeted rate of growth and domestic saving (saving investment gap) given as;

$$I - S_d = FA \dots\dots\dots 1$$

Where I , is investment, S_d is domestic savings, FA is the external resources and $(I - S_d)$ is the saving gap which binds a country to depend on foreign aid inflow to fill the gap.

The second gap is between import requirements for a given level of production and foreign exchange earnings (foreign exchange gap) which is expressed as;

$X - M = FA$2

Where, X, M and FA are total exports, total imports and foreign aid respectively.

Equation (2) implies that, at any given time developing countries which have low exports mainly raw products compared to imports therefore require foreign aid to fill the gap.

The two gaps essentially are equal such that;

$FA = X - M = (I - S_d)$3

However, those who criticized this model have argued that, foreign aid substitutes domestic resources through declined savings, reduced government tax revenue and increased government consumption. But, there is still a debate on whether foreign aid complements or substitutes the available domestic resources of a country.

Flypaper Effect Theory: This theory was first developed by James Henderson (1968) and Edward Gramlich (1969) and sought to find out how local government tax is spent. They explained that resources come from incomes of the citizens and fiscal transfers given by the central government as grants-in-aid. The two economists specified and estimated demand equations where a representative citizen's utility is maximized subject to citizen's income as a constraint that is the sum of personal income and the citizen's share of government's unconstrained fiscal transfers. This implies, personal income and the citizen's share of fiscal transfers should impact spending the same way as all is money. From this theory, any additional resources through grants-in-aid stimulate greater public expenditure than an additional dollar in local resources. As stated by another economist Arthur Okun (1973) that this larger effect of lump-sum aid on public expenditure, "a flypaper effect" since he believed spending by government "sticks where it hits". So this implies, general lump sum grant paid to a local government impacts on exhaustive expenditure. General lump sum and specific lump sum grants have the same effects on grantee spending because they have only income effect while open ended matching grants have a greater stimulatory effect on guarantee spending than equivalent lump sum grants as they have both income and substitution effects. Furthermore, general lump sum grants have the same stimulatory effects on guarantee spending as an equivalent rise in income in the community which means the increase in spending by governments and their local citizens on goods and services will be reflected on the preferences and utility function of the said local citizens. Using the indifference curve theory, the preferences of an individual between two alternatives can be mapped. This mapping can give preference of decisions to be made in the

predictions of the effects of a grant (King 1984). As put forward by Scott (1952), the redistributive effects of a grant may result in the community indifference curves crossing and giving no clear indication of the desirability of contemplated changes but for this not happen it is normally assumed that there is no redistribution effects.

Median voter Hypothesis: This theory was developed to analyze political decision-making and it is associated with economists such as Hotteling (1929), Bowen (1943), Downs (1957), Black (1948, 1958) and Barr and Davis (1966). This hypothesis assumes that, the median voter has the median income of the country such that the government expenditure corresponds to the median voter's income. This is because the median voter is treated as the special voter because his/her preferences are taken to be equal to the mean of preferences, so his or her preference will be chosen under majority rule. But some economists have disagreed with this theory for example Arrow (1951, Niskanen (1975) and Romer and Rosenthal (1979a) by arguing that, a government has tendencies to monopolize power and due to bureaucracy or the problem of cyclical majorities, public expenditure may be greater than those preferred by the median voter. Also another argument is that, the identity of the median voter in an economy may actually change in a circumstance where a government of developing country receive foreign aid inflows either grants or loans.

Wagner's theory: German's Economist Adolf Wagner (1883-1953) analyzed data on public sector expenditure for several countries and showed that the share of the public sector in GDP had been increasing or expanded over time which is given as;

$$G/Y = T/Y \dots\dots\dots 1$$

Where G is the Public expenditure, Y is the National income and T is the distortionary tax revenue.

The content of Wagner's Law was an explanation of this trend and a prediction that it would continue. The basis for the theory consisted of three distinct components; firstly, the growth of the economy resulted in an increase in complexity. This required continuous introduction of new laws and development of the legal structure. These implied continuing increases in public sector expenditure; secondly, there was the process of urbanization and the increased externalities associated with it and thirdly; Goods supplied by the public sector (such as education, roads and

health care) has a high income elasticity of demand. Given this fact, economic growth which raised incomes would lead to an increase in demand for these products. In fact, the high elasticity would imply that public sector expenditure would rise as a proportion of income.

In many ways, Wagner's Law provides a good explanation of public sector expansion. Its main shortcomings may be of its concentration only on the demand for public sector services and not the supply of the same. The interaction between demand and supply determines the outcomes in a market of goods and services.

Bureaucracy Hypothesis: This theory was developed by Niskanen (1968) and it assumes that, bureaucrats have their own perquisites of office and want to maximize their welfare as they do not act passively. They pursue perks of office ,power, patronage such as red carpet, more security, own office secretaries etc thereby exaggerating the importance of their departments and understate the cost of running them resulting in too much government expenditure. Niskanen argues that the goal of the bureaucrats is to maximize budget so as to maximize their own utilities as opposed to that of the general citizenry.

2.2 Empirical Literature

Most of the existing works on the impact of bilateral as opposed to multilateral aid on recipient countries is not conclusive. This is because most of the studies have applied maximization of a loss function with variables given target values, but optimization becomes a problem when these targets are achieved.

Heller (1975) carried out a study by considering how different categories of aid such as grant and loan, bilateral and multilateral impacted on various categories of public expenditures such as, development expenditure, civil consumption and socio-economic consumption in the public sector. The study used pooled cross-sectional and time series data of eleven African countries from 1961 to 1971 which he categorised as either Francophone or Anglophone. The two-stage least squares(2SLS) estimation results of the study show that, foreign aid increases both government investment and consumption while on the other hand it reduces taxes and domestic borrowing. The increase in government expenditure is because the availability of aid inflows

gives the government more resources at its disposal to spend. Heller also, divided aid into loans and grants and examined their separate impacts on various expenditures where he found out that grant is used for consumption while loans is expended for investment purposes. This implies grant increases public consumption directly but on the other hand the reduction in taxes will translates indirectly to increase private consumption.

Gang and Khan (1991) undertook a study on the issue of aid fungibility in India by linking aggregate foreign and public investment during 1965-1980. Using non-linear three stage least squares (3SLS) estimation technique they found that, grants and loans to India are generally spent on development projects with no leakage into consumption or non-productive purposes. The results also confirmed Heller's earlier findings on the reduction of taxes due to foreign aid inflows but did not lead to increase in consumption expenditures. Also, the study shows that, bilateral aid to India during the period of the study was actually redirecting government's own resources from consumption to development projects. However, the study could have put into consideration the categories of capital stock such as the role of human and physical capital in public consumption. According to Barro (1991), public expenditure on education should not be regarded as pure consumption but public investment. The study also looked at the sectoral levels and found out that, aid was highly fungible in health, industry and agriculture. Further, aid to the energy, transport and communication sectors was not fully fungible, and that of education was the least fungible.

Otim (1996) undertook a study by examining the fiscal behaviour of India, Pakistan and Sri Lanka using Heller's model of 1975. The study revealed different magnitudes of the impact of bilateral and multilateral aid; 34.4% of grants and 18.7% of loans are used in financing non-development expenditures. Furthermore, the findings show that about one- third of bilateral aid is used to fund consumption expenditures in the sampled countries while a larger portion of multilateral aid is used for investment purposes. In retrospect the results indicates that aid flows increases a country's tax revenues because tax pulls resources out of consumption. The findings also show that multilateral aid is more productive as compared to bilateral aid contradicting earlier studies by Heller (1975) that there is no different between the two types of aid and Gang and Khan (1991,1999) who observed that bilateral aid is more productive than multilateral aid.

Feyzioglu et al. (1998) by analyzing the relationship between foreign aid and aggregate as well as sectoral public spending using data from 14 developing countries (1971-1990) found out that, aid is neither fungible in aggregate levels nor associated with tax relief. However, when they increased the number to 38 countries, they found that aid is fungible and part of the funds is used for tax reductions. By analyzing aid impact across sectors, they found that aid is fungible in some sectors. This is because aid earmarked concessional loans for agriculture, energy and education sectors are diverted while loans to transport to the transport and communication sector all fully spent on the earmarked projects. Further, they found out that government spending increases by full extent of ODA but 30% of ODA is used for capital expenditure and approximately 70% is spend in recurrent expenditures. Also about 20% goes to public investment but its impact on private investment does not crowd out or crowd in investment. Feyzioglu et al. compared their results with that of Boone and conclude that the difference might be because of samples' selection. This is because, while their study uses annual data, Boone used in his study data averaging ten years which might not have captured the impact of annual net disbursements of aid on the government expenditure during that period. In another study covering eighteen countries, "What does aid to Africa finance?" Devarajan et al. (1998) found out that, approximately 90% of aid boosted government spending but no evidence to show tax reduction. Also, 50% of the total aid was used to finance external debt, 25% goes to investments while the remaining 25% is used to offset current account deficit

Jha and Swaroop (1999) assessed how foreign aid affects government spending in India using annual time series data from 1970 to 1995. They found out that, there is no evidence that foreign aid which is measured as total annual disbursement of concessionary loans and grants from all bilateral and sources has led to a reduction in the tax of revenue of the central government. An increase in aid by one rupee does not have impact on development expenditure while a rupee increase in aid has impact on non-development expenditure by about 0.9 rupee. This shows that external assistance is not used for development purpose meaning it is being used to finance non-development activities such as repayment of debt both internal and external, defence, general service and administration in the country. However, the same findings shows that central government transfers on account of foreign aid are not truly additional as it does not benefit on account of externally –aided projects which implies that states which are able to procure aid end up getting less assistance from the central government.

Gang and Khan (1999) examined how different sources of aid impacts on government revenues and expenditures in India using asymmetric quadratic ratio utility-function approach. Just like the earlier results of their work, bilateral aid is used in financing investment compared to multilateral aid. They estimated loss function of eight different types of policy makers who differ on overshooting or undershooting domestic revenues(R), development expenditures (D) and non-development expenditures (N) based on Akaike's information criteria. Their findings were that ,“developmentalist” gives more weight to undershooting development expenditure target than overshooting, “Non-developmental” gives more weight to overshooting development expenditure target as opposed to undershooting. On the other hand “Fiscal Conservative” gives more weight to undershooting revenue target than overshooting while “Fiscal Liberal” gives more weight to overshooting revenue target as opposed to undershooting. Also, “Statist” gives more weight to undershooting non-development expenditure target than overshooting and “Non-statist” gives more weight to overshooting the same than undershooting. The results further show that for non-development policy maker, 40% of domestic revenue is used fund consumption purposes, 83% of bilateral aid and 91 % of multilateral is used in financing the same expenditures. This contradicts their earlier study where aid was used for public investment as it implies aid in India is used basically for non-development purposes. However, the findings agree with their earlier results that more bilateral aid is used to fund development projects compared to multilateral aid. In conclusion, their observation is that there is no possibility of bilateral aid shifting to multilateral aid in India since multilateral tends to finance consumption as opposed to development projects (investment).

Tarekegn (2002) studied the effect of aid on public spending with specifically concentrating on the case of aid fungibility in Ethiopia. The study categorised public sectors as development where we have agriculture, transport and communication, construction and education while defence, general service and debt servicing were classified as non-development. The analysis was undertaken using OLS estimation and disaggregated time series data from 1967 to 1996 by applying aid fungibility model as used by Swaroop and Jha (1999) and Pack and Pack (1993). The results of the study show that education and agriculture sector exhibits non-fungibility as aid spending on these sectors stimulates public spending. This is because 1% increases of aid bring about 1.23% rises in agricultural spending and on the other hand a 1% increase of aid stimulates

0.63% increase in education expenditure. The implication of this to the two sectors is that aid has a crowding in effect. The results Transport and communication and construction sectors show that there is aid fungibility which implies crowding out effect. For debt servicing the findings show aid significantly affects its expenditures while it insignificantly affects defence and general service expenditures.

Njeru (2003) undertook study on the fiscal response by the government in Kenya. Using time series of aggregate data of 1970 to 1999, the researcher found out that, foreign aid does not influence government spending patterns. On average, increases in foreign aid results in more increase in development spending as compared to domestic resources. On the disaggregating government expenditure, the study found out that ,ODA leads to increased in government expenditure for both categories i.e. recurrent and development. This may indicate aid fungibility, because not all aid is spent on development purposes yet all loans and grants are recorded on the development expenditure vote by the Kenya's Treasury.

Nyamwaya (2007) examined the effects of foreign aid on human development in Kenya by applying Ordinary Least Square technique with data which covered a period of 36 years. The results of the study showed that life expectancy rate and secondary school enrolment rate are significantly and positively related to official development assistance. This implies that foreign aid flows earmarked for education and health sectors was used in improving human development as well as poverty reduction in the country. Further, the results indicated that the positive impact of foreign aid on labour productivity could be eroded by a "Dutch disease" effect because these aid inflows makes the exchange rate to appreciate which leads to reduction in exports competitiveness. The study concluded that given unpredictability of ODA inflows the government should not entirely depend on aid to finance its development programs by putting in place sound fiscal and monetary policies to manage the limited public resources.

Lang'at (2009) investigated the determinants of fixed capital formation in Kenya using disaggregated data covering the period 1973 to 2007. The study employed two- stage multiple regression analysis by using OLS. The results of the study revealed that government expenditure was the most significant .Foreign inflows both multilateral and bilateral are used in the development expenditure thereby enhancing capital formation. This implies there is need to

encourage the flow of foreign direct investments to augment to the low domestic savings in a stable macroeconomic environment.

2.3 Overview of Literature

After examining the available existing theoretical literature on public expenditure and foreign aid flows, it is concluded that our study will adopt fiscal response model to link public expenditure to bilateral and multilateral aid in Kenya over the study period. On the other hand the analysis of empirical studies reveals that the impact of bilateral as opposed to multilateral aid on recipient countries is not conclusive since the results contradict one another. Further, most of the empirical studies have utilized cross-country data to analyse the fiscal behaviour in the presence of foreign aid flow. Some studies had uses macro data of ODA but it should be noted that there are different types of aid which forms part of the aggregate data, which may affect government expenditures differently. Also some of them used the same data but came up with conflicting results. This may be due to the generalization of aid flow's effectiveness in different countries. By doing this, the researchers may not have considered that each country has its own characteristics such as, system of governance, geographic location and adjustment policies. Therefore, undertaking country specific studies on the impact of bilateral and multilateral aid on the fiscal behaviour and other macroeconomic parameters may give us more insights on the issue.

Specific country studies such as, Njeru (2003) used aggregate data of foreign aid for a period of 10 years (1970-1990 to determine its fungibility on government expenditure. This study will however look at how foreign aid influences budgetary process in Kenya using disaggregated data for a period which may have not been considered in earlier studies with inclusion of more variables. This is because, even though Kenya has been receiving aid flows, both bilateral and multilateral aid, it may be interesting to note that not much development has taken place. The country is still experiencing high degree of unemployment especially among the youth, high poverty incidence, huge foreign debts as well unstable low economic performance which calls for an analysis to understand what really transpired in terms of policy formulation as pertains the effectiveness of these aid flows. Therefore, the purpose of this paper is to overcome the shortcomings in the fiscal response to aid literature by testing the foreign aid flows-public expenditure hypothesis using disaggregated data. Analysing the impact of the foreign aid on

public expenditure in Kenya may give us useful results given their conditionalities and the way government utilises them.

CHAPTER THREE

3.0 METHODOLOGY

This chapter outlines the methodological approach used to analyse the sources of public expenditure and how fiscal decisions are undertaken in the presence of aid flows to a recipient country.

3.1 Theoretical Framework

The analysis is based on fiscal response utility model as suggested by Heller (1975), which assumes that a recipient country intention is to maximize the social welfare of its citizens given prevailing budget constraint where it uses foreign aid to pursue the objective.

In these models we have a government utility function in which targets are set for expenditure types such as recurrent and capital, revenue both tax and non-tax, as well as borrowing both domestic and foreign aid. From this, government tries to maximize the utility function in such a way to attain these targets subject to a budget constraint where aid flows is treated to be exogenous variable because it is supply determined. But other model specifications such as, Franco- Rodriguez et al. (1998) and McGillivray and Morrissey 1996b have included aid as an endogenous variable. The model is estimated once a reduced form of each endogenous variable has been derived.

We can illustrate this model of fiscal public behaviour as proposed by Heller (1975) as below; In any time period t , we assume the utility function of the government as a decision maker is given as,

$$U = F(I_g, (Y-T), G_c, G_s, B, A_1, A_2) \dots \dots \dots 1$$

Where;

I_g = Public investment expenditure for development purposes i.e. gross capital formation such as buildings and construction, transport equipment and net loans to sectors of the economy

$Y-T$ = Disposable income in the private sector i.e. Gross domestic product Y less tax revenue T which includes, direct and indirect property tax revenue (income taxes, customs, excise

duties, export taxes, etc) and revenue from sales of government social services, licence fees, interest, dividends and profits of the government and miscellaneous revenues

G_c = “civil” consumption in the public sector i.e. capital and current expenditures for government administration for the servicing of public debt, for diplomatic representation, for security etc

G_s = socioeconomic consumption in the public sector i.e. current expenditure in public sector such as education, health, transport, agriculture, roads etc

B = the flow of public borrowing from domestic sources

A_1 = total foreign grants to the public sector

A_2 = total foreign loans to the public sector from all sources

The variables are expressed as in time t and are in real terms.

Given the government expenditure as;

$$G = I_g + G_c + G_s \dots\dots\dots 2$$

A government of developing country can finance its budget from domestic and external resources as given below;

$$GB = T + B + A_1 + A_2 \dots\dots\dots 3$$

Where; T is the tax revenue, B is the domestic borrowing, A_1 is the foreign grants and A_2 is the foreign loans.

Note: $G = GB$

We can maximize equation 3 with respect to the resource constraint equation 2, if the solutions exist and are interior maximums, we can generate a system of linear expenditure equations that will enable us to specify estimable equations linking foreign aid and government expenditures.

3.2 Econometric Model

The equation of public expenditure considered in this paper is adopted from Heller’s model (1975) taking into account the sources of public spending in Kenya and our main objective to determine the influence/impact of bilateral and multilateral aid on public expenditure in Kenya .

The model assumes that the Kenya’s government aims to maximise a utility function given as;

$$U = (G_1, G_2, NDR, DOB, BODA, MODA, POP, RGDP \text{ and } DI_t) \dots\dots\dots 1$$

Where, expenditures G_1 is government's recurrent expenditure, G_2 is development expenditure, NDR is the non-debt revenue (tax and non-taxes), DOB is the amount of funds borrowed domestically to fund these expenditures, BODA is the bilateral aid, MODA is the multilateral aid, PP is the population of ages 0-14, RGDP is the real gross domestic product and DI_t are economic shocks.

Following Franco-Rodriguez *et al.* (1998), we can assume the government is operating a balanced budget such that, total government expenditures equals to its total revenue i.e. balanced budget. This gives us the following expression;

$$G = R \dots\dots\dots 2$$

Where G is the total government spending and R is the total revenue

However, Kenya as a developing country might not meet the ideal equation (2) since it has been facing budget deficits. In this case the government may consider borrowing domestically, externally or seek a grant from either bilateral or multilateral donor sources. Given equation (1) we get the following expression;

$$G_1 + G_2 = NDR + DOB + BODA + MODA + PP + RGDP + DI_t \dots\dots\dots 3$$

Examining most of the studies on the fiscal behaviour of governments in the presence of foreign aid, domestic borrowing is assumed to bring disutility to the decision maker and is not included in most estimation models. This is because it is assumed; borrowing by government for consumption purposes might be costly in relative terms. However, we include the variable in the econometric model so that the estimation results will reveal if that is true for the Kenya's situation.

Now we can assume the government's objective is to maximize welfare utility function given a budget constraint. If we take the utility function to be of Cobb-Douglas type, then we get:

$$\text{Maximize } U = (g_1, g_2) = (g_1^a g_2^{1-a}) \dots\dots\dots 4$$

$$\text{Subject to: } NDR + DOB + MODA + BODA + PP + RGDP + DI_t = P_1 g_1 + P_2 g_2 \dots\dots\dots 5$$

Where, g_1 and g_2 are quantities of development and non-development goods and services provided by government to its citizens respectively, while a , and $1 - a$, are the elasticities of the two goods. P_1 and P_2 are prices of development and non-development goods and services respectively.

By Maximizing equation (4) with respect to the resource constraint equation (5) and making an assumption that, the aid flows will not affect the relative prices of goods and services the

government expend on and if the solutions exist and are interior maximums, then we are able to generate a system of estimable, linking bilateral aid, multilateral aid and the other specified variables with government expenditures. However, the unavailability of data on prices and quantities separately makes it difficult to estimate the econometric model. Therefore these data constraints will require us to come up with transformed econometric model with expenditure equation as opposed to development and non-development goods and services as follows:

$$G_{tj} = \alpha_0 + \alpha_1 NDR_t + \alpha_2 DOB_t + \alpha_3 MODA_t + \alpha_4 BODA_t + \alpha_5 PP_t + \alpha_6 RGDP_t + DI_t + \varepsilon_t \dots \dots \dots 6$$

But estimating equation (6) the way it is expressed may pose endogeneity problem since the multilateral aid and bilateral aid might be correlated in the Kenya's context. To solve this problem, we add the two categories of aid in equation (6) such that;

$$G_{tj} = \alpha_0 + \alpha_1 NDR_t + \alpha_2 DOB_t + \alpha_3 TODA_t + \alpha_4 PP_t + \alpha_5 RGDP_t + DI_t + \varepsilon_t \dots \dots \dots 7$$

Where;

G_{tj} (j = 1, 2) are the recurrent and development expenditures.

$TODA_t = MODA_t + BODA_t$ in which $TODA_t$ is the Total Foreign aid.

Equation (7) will be our estimable econometric model considering the direct and indirect sources of financing government's budget .The explanatory variables and their respective coefficients over the study period are; NDR_t which represents revenue from domestic taxes (tax and non-tax revenue), DOB_t represents funds borrowed domestically by the central government, $TODA_t$ is Total aid(sum of the multilateral aid and bilateral aid), PP_t is the population of ages 0-14, $RGDP$ is the real gross domestic product and ε_t is the error term. All the variables except the population of ages 0-14 in our econometric model have been deflated by GDP deflator using 2001 as the base year, to take care of inflation changes over the study period.

3.3 Description of variables

Government Expenditures (G_1 , G_2): These variables will take the form of various public expenditures spend by the Central government through ministries. They are recurrent expenditure and development expenditure respectively, both variables are expressed in millions Kenya shillings.

Non-debt Revenue (NDR_t): This comprises both tax revenue such as direct, indirect and property tax revenue and non-tax revenue which include sales and receipts from the provision of government social services, licence fees, interest, dividends and profits received by government and is expressed in millions Kenya shillings.

Domestic Borrowing (DOB_t): The variable is expressed in millions Kenya shillings. This comprises of government securities such as the sale of Treasury-bills, Treasury bonds and long-term stocks and advances from commercial banks to the Central Bank of Kenya (CBK).

Multilateral Aid ($MODA_t$): This is given by the gross official development assistance which comprises grants, loans and technical assistance extended to Kenya's government channelled through International Organizations such as the World Bank, International Monetary Fund (IMF), European Union and other UN agencies. The variable is expressed in million Kenya shillings.

Bilateral Aid ($BODA_t$): This is given by the gross official development assistance which comprises grants, loans and technical assistance extended to Kenya's government directly from individual OECD countries with the inclusion of China which is not a member of OECD. The variable is expressed in million Kenya shillings.

Total Foreign Aid ($TODA_t$): This is given by the total official development assistance both bilateral and multilateral; which comprises grants, loans and technical assistance extended to Kenya's government directly from individual OECD countries with the inclusion of China which is not a member of OECD and International Organizations such as the World Bank, International Monetary Fund (IMF), European Union and other UN agencies. The variable is expressed in million Kenya shillings.

Real Gross Domestic Product ($RGDP_t$): This is the sum of gross value added by all Kenyan residents in the domestic economy plus any product taxes and minus any subsidies not included in the value of the products measured in million Kenya shillings.

Population (PP_t): This is the population between the ages 0-14, which is the count of the residents regardless of legal status or citizenship, except for refugees not permanently settled in Kenya. The values used are midyear estimates measured in million numbers of people.

Economic shocks (D_t): This is a dummy variable to represent the Negative external or internal shocks on the Kenya's Economy. It takes a value of 1 for the presence of shocks and 0 when there was none.

Error Term (ε_t): The error term is introduced in the econometric model since we believe the dependent variable is not an exact linear combination of the independent variables (NDR_t , DOB_t , $TODA_t$, PP_t , $RGDP_t$, D_t). This is because the observed variables can be influenced by many other factors not captured in the model.

3.4 Data Sources and Measures

The study uses time series data for the period 1970 to 2009. The data on public expenditures and domestic borrowing was obtained from the Economic Surveys, annual recurrent and development expenditure estimates published by the central government for all ministries and annual budget reports. Data on bilateral aid and multilateral aid was collected from the Economic surveys and DAC annual reports. Data on population of ages 0-14 and Real Gross domestic product was obtained from World Bank Data Base. Since bilateral and multilateral aid are assumed to be positively related measures will be taken by combining the two categories of aid to get total foreign aid. The computed data used in the study is presented in appendix 7.

3.5 Estimation of the Models

Direct estimation of our econometric model as in equations (6) in section 3.2 is prone to spurious regression problems of ordinary least squares (OLS) technique because the variables are in levels. This implies differencing the variables until they are all stable. But it is known, establishing stationarity is not enough to avoid spurious regressions. Therefore it is important to ascertain the orders of integration of the variables after differencing. Checking if there is a linear long-run economic relationship between variables and presence of co integration will enable us to combine both long-run and short-run information in our model. Johansen test for cointegration was used to test whether the non-stationary series converge to equilibrium in the long-run

Moreover, our econometric model in equation (6) does not allow for an estimation of the effects of the past values of the explanatory variables on the current levels of the dependent variable. Thus we need to check the lag structure of the relationship to find out the time it may take for a change in the explanatory variables to have an impact on the dependent variable. The method to be employed is Error Correction Methodology (ECM). This process is done in stages starting by a more general form of the expenditure functions, testing down to a parsimonious (more specific) models by dropping the variables whose coefficients are statistically insignificant. This

process helps in reducing estimation of spurious relationships as well as retaining the long-run information included in the data.

The investigative approach of data was done in stages as follows:

- i) Augmented Dickey – Fuller (ADF) was used to determine the order of the integration of the time series through unit roots tests in order to eliminate spurious regressions and erroneous inferences if any. This is done by estimating the equation of a variable X specified as follows.

$$\Delta X_t = \delta_0 + \delta_1 X_{t-1} + \delta_t + \sum_{t-1}^m \beta_i \Delta X_{t-1} + \epsilon_t \dots\dots\dots (1)$$

Where δ_0 , δ_t are a constant and trend terms respectively .In this case if $\delta_1 = 0$, then X_t series contain a unit root. After estimating the above equation by OLS, the resulting ADF-statistics are compared with the critical value given. According to Enders (2004), Stationary test is a one-tailed test and skewed to the left. If the ADF-statistics computed are less than the critical values, then the series are stationary.

- ii) The order of cointegration was tested using Johansen (1988) Maximum Eigen value and Trace tests for cointegration. Checking if there is a linear long-run economic relationship between variables and presence of cointegration will enable us to combine both long-run and short-run information in our models. By doing this we shall be able address the loss of information which might prop up through differencing while attempting to solve the issue of non stationarity.
- iii) Diagnostic tests were carried out on the dynamic Error Correction models for both development and recurrent expenditures. These are serial correlation test, ARCH test, Ramsey RESET test and Normality test.

CHAPTER FOUR

4.0 ANALYSIS AND INTERPRETATION OF THE RESULTS

This chapter presents the results and interpretations of the study. These are descriptive statistics, results of stationarity test, cointegration test, long-run models, dynamic error-correction models, and interpretation of specific models regression results.

4.1 Descriptive Statistics

Table 1 below shows the characteristics of the distribution of the variables. For the variables; Recurrent expenditure (G_1), Non-debt revenue (NDR), Domestic borrowing (DOB), Population of ages 0-14 (PP_1), Real domestic product (RGDP) and Total foreign Aid(TODA), the null hypothesis of the normal distribution is not rejected at 5% significance level since the probability of the Jarque-Berra chi-square statistic is insignificant. This implies they are all normally distributed. For the Development expenditure (G_2) and Economic shocks, the null hypothesis of normal distribution is rejected at the same level of significance because the probability of the Jarque-Berra chi-square statistic is significant and therefore not normally distributed.

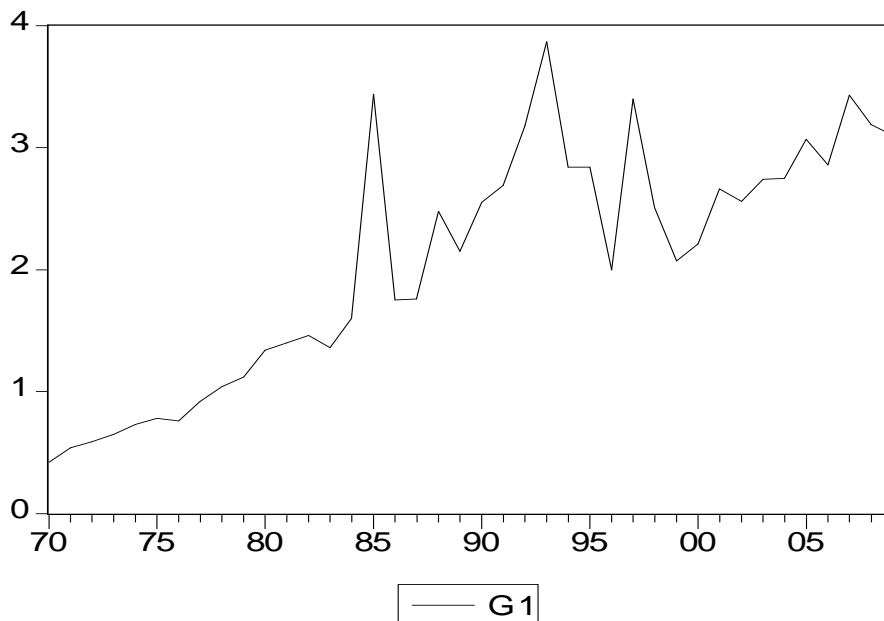
Recurrent expenditure (G_1), population of ages 0-14 (PP_1) and economic shocks (DI) have negative skewness which means their distribution is left-leaning which show that, most of the observations lie on the right hand side of the mean. Development expenditure (G_2) Non-debt revenue (NDR), Domestic borrowing (DOB), real domestic product (RGDP) and Total foreign Aid (TODA), are positively skewed implying their distributions are right- leaning as most of the observations lies on the left hand side of the mean.

Table 1: Descriptive Statistics outcomes of the variables

	G₁	G₂	NDR	DOB	PP₁	RGDP	TODA	DI
Mean	2.070250	0.385250	2.242750	0.219450	11.03750	7.700750	0.433000	0.625000
Median	2.180000	0.325000	2.260000	0.170000	11.25000	8.000000	0.365000	1.000000
Maximum	3.870000	1.100000	4.800000	0.680000	17.00000	13.39000	0.980000	1.000000
Minimum	0.420000	0.070000	0.630000	0.003000	5.500000	2.540000	0.130000	0.000000
Std. Dev.	0.982003	0.222330	0.982169	0.172255	3.392804	3.015521	0.229707	0.490290
Skewness	-0.135269	1.567569	0.628877	0.810188	-0.029631	0.218128	0.748250	-0.516398
Kurtosis	1.783778	5.359419	3.275932	2.915842	1.812032	2.127825	2.420848	1.266667
Jarque-Bera	2.587310	25.65992	2.763473	4.387831	2.357966	1.585016	4.291553	6.785185
Probability	0.274267	0.000003	0.251142	0.111479	0.307591	0.452708	0.116977	0.033621
Observations	40	40	40	40	40	40	40	40

Source: Computation from Eviews software

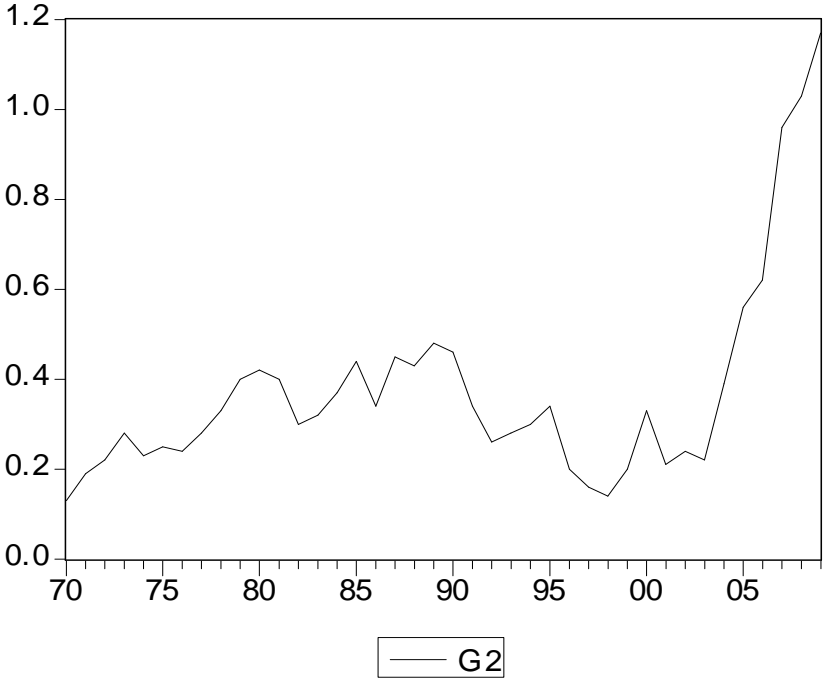
Figure 4.1: Deflated Recurrent expenditure for the period 1970-2009



From figure 4.1, the recurrent expenditure has been rising steadily since 1970 reaching a high in 1985/86. This is due to the coffee boom as well as good world tea prices which averaged about 460 USD per 100 kg at that particular period supported by sound fiscal stabilisation policies which improved government's revenues. The rise in recurrent in the financial year 1988/89 expenditure can be noted from the figure because of the general elections. During this period also Kenya was a favourite among several donors which resulted in inflow of foreign aid .In the early 1990's the government embarked on prudence fiscal reforms as a result of economic recession which resulted in decreased recurrent expenditures but increased in the year in 1992/93 due the first multiparty general elections. This is also the time when Goldenberg scandal reared its ugly head when public funds were siphoned from the public gofers .However the Kenyan Government devaluated its currency in the financial year 1993/94 by 81% which depicts higher value of recurrent expenditure in the figure. After 1994 the World Bank set conditions for the government to reduce its public wage bill which resulted in many civil servants being retrenched. The expenditure rose in financial year 1997/98 due to the general election. The recurrent expenditure began to rise again after the 2002 general elections which saw NARC government taking over power. After NARC took power, the hiring of more officers to the civil service commenced because the gaps which resulted from the earlier retrenchment needed to be filled. Also there were increased salaries for public service officers which lead to the public wage bill increasing.

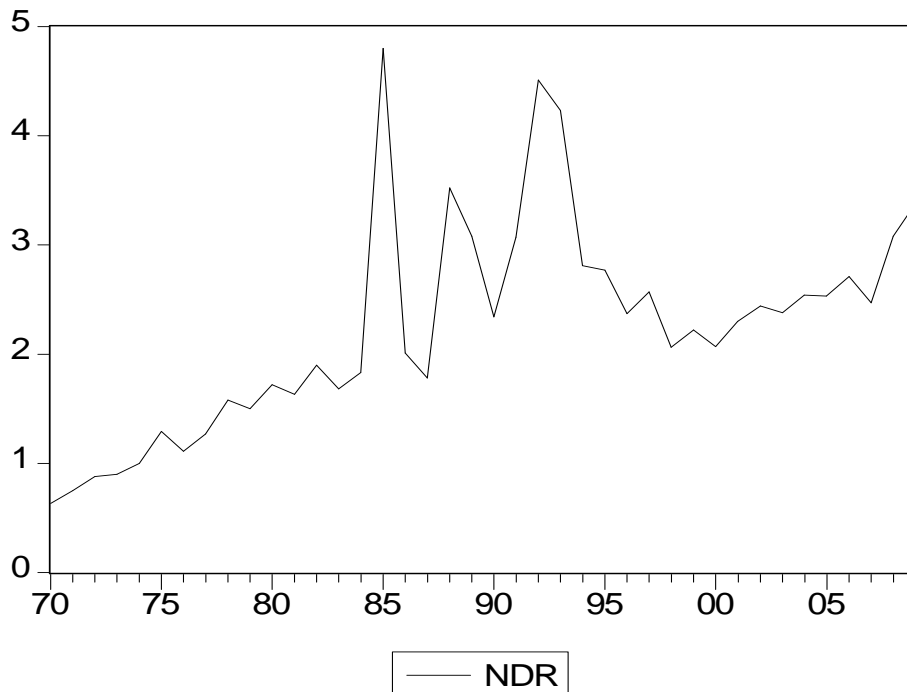
Since Kenya is a net importer of oil, inflationary pressures has also been experienced whenever there is upsurge of international oil prices .This also explains the rise and fall of government expenditures over the study period.

Figure 4.2: Deflated Development expenditure for the period 1970-2009



In figure 4.2, we can note that development expenditure has been rising from 1970's and 1980's due to a stable economic growth and Kenya's good image in the eyes of the donor community. However, in early 1990's the recession in the economy coupled with aid freezes led to the decline of the development expenditure. However, the change in political regime in 2002 which saw both economic and political reforms open doors for development partners to resume foreign aid to Kenya. The new government also embark on implementing the economic recovery strategy for wealth creation (2003-2007) which saw infrastructural projects being funded.

Figure 4.3: Deflated Non-debt revenue for the period 1970-2009



From figure 4.3, Non-debt revenue has been rising steadily since 1970 reaching a high in 1985/86. This is due to the coffee boom as well as good world tea prices which averaged about 460 USD per 100 kg at that particular period supported by sound fiscal stabilisation policies which improved government's revenues. The Kenyan Government devaluated its currency in 1993/94 by 81% coupled with some tax reforms in the mid 1990's which depicts higher value of Non-debt revenue as shown in the figure. After 1995 Non-domestic revenue started to decline due poor economic growth and the effects of corruption such as the Goldenberg scandal. After the general elections of 2002, a new government was elected and stringent tax reforms were put in place as well as instances of corruption reduced. This resulted in rise of non-debt revenue but there was a dip in the financial year 2007/2008 as a result of post election violence (PEV).

Figure 4.4: Deflated Domestic borrowing for the period 1970-2009

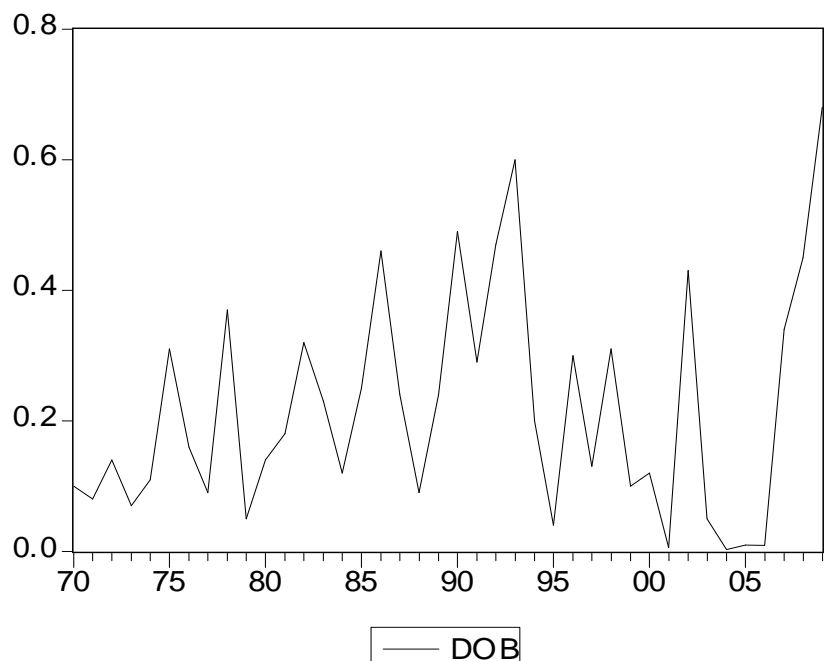


Figure 4.4 shows that domestic borrowing has been rising and declining between 1970's and 1980's due to the economic performance. In 1970's period, increased commodity exports provided foreign exchange earnings, which favoured investment in the domestic economy. This is the period where initial banking reforms was taking shape in Kenya and lending rates were fairly low as state-owned banks such as Agricultural Credit Corporation financed public investments. In late 1978 however saw the upward trend in lending rates as well as interest rate spreads. Domestic credit offered by the banking sector expanded where it reached a peak of 56% of GDP in 1992 as a result of the first multi party elections. The domestic savings also reached a low below 3% of GDP in 2000 which may have seen the domestic borrowing tumbling to low levels by end of 2001. In 1997 and 2002, the domestic borrowing increased due to the general elections as shown in the figure as government borrowed to finance these elections. However, after 2005 the value has been shooting up due to the increased public investments especially on the road, energy, water and housing sectors.

Figure 4.5: Population for the period 1970-2009

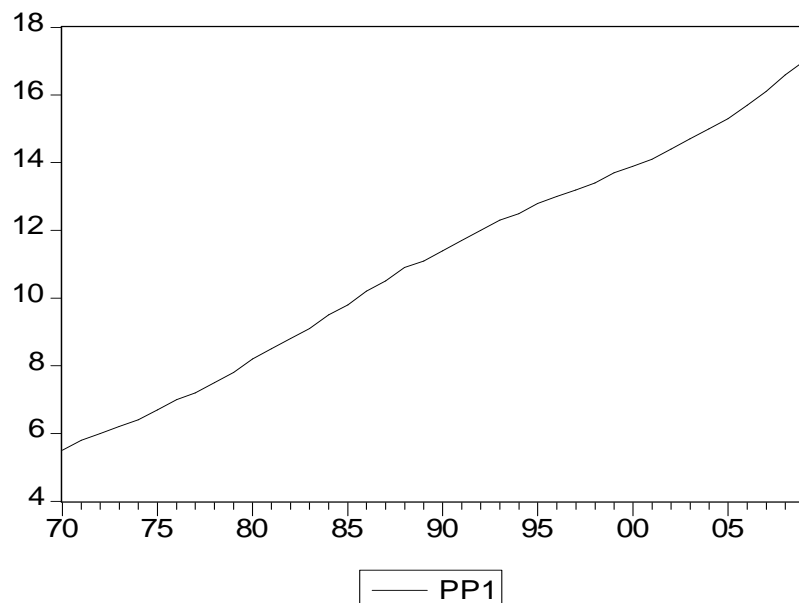


Figure 4.5 shows that population of ages 0-14 has been increasing steadily from about 5.5 million in 1970's to 17 million persons in 2009. The population growth rate ranges from 2.4 to about 3%. This rise in population has not been matched with the government resources in provision public goods.

Figure 4.6: Deflated Real gross domestic product for the period 1970-2009

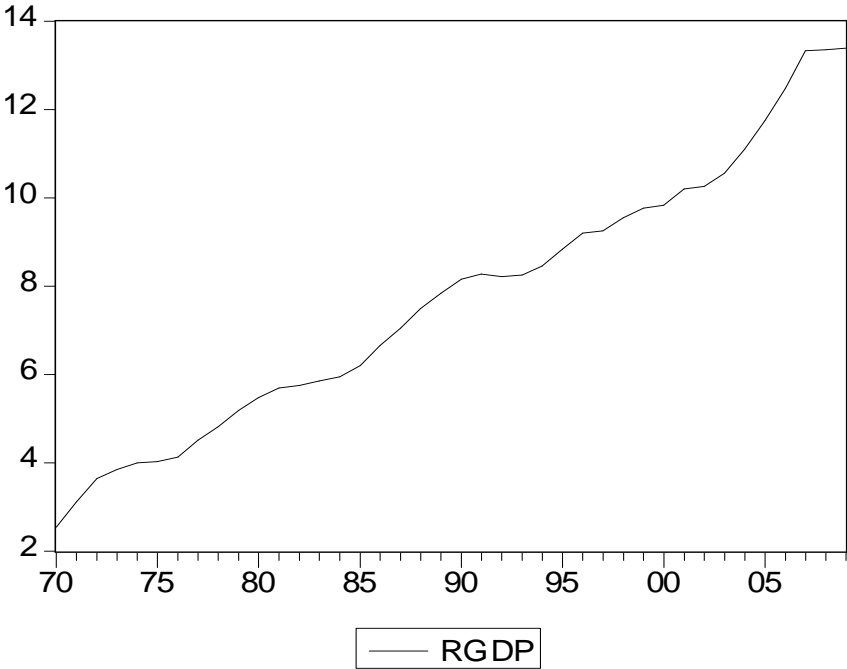
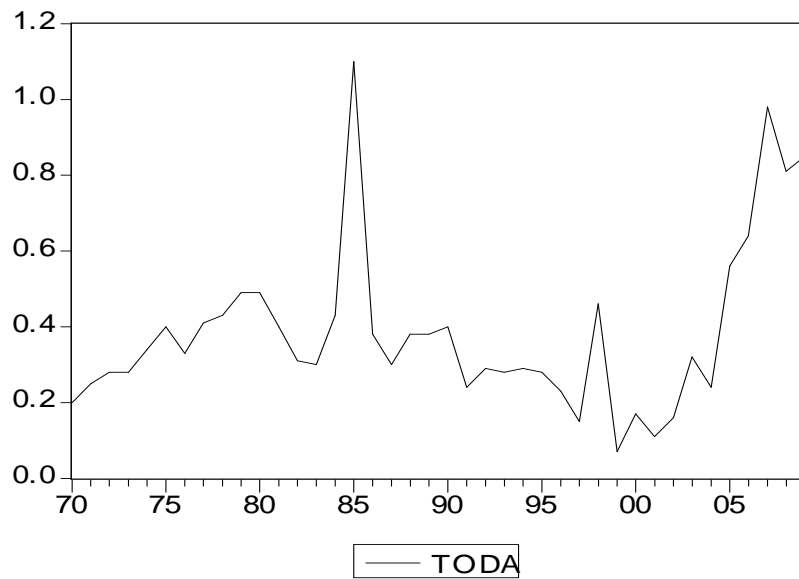


Figure 4.6 above shows that real product has been increasing in most of the periods since 1970.

Figure 4.7: Deflated Total Foreign Aid for the period 1970-2009



From figures 4.7 , Total foreign aid were at low levels in the early 1970's to mid 1970's before it started rising again up to 1980 as the government seek external agreements to accelerate development. In 1986 and 1988 the government entered agreements with donors on agricultural sector loans and industry sector loans respectively. ESAF agreements were approved by IMF and financial sector by World Bank in 1989, which boosted the flow of aid to Kenya. After 1990 the donor community suspended both bilateral and multilateral estimated at about \$ 350 million. In December of 1994 the international community resumed disbursing aid to Kenya. However, in the year 1995 the aid tap run dry again due to claims of corruption and mismanagement of donor funds. During the year 1996 the World Bank approved \$ 127 million to Kenya and the first tranche was released. Further suspension was witnessed in 1997 where IMF suspended \$ 220 million as a protest of tax reforms and a stop to corruption. The first tranche of the \$150 Economic and Public sector Reform Credit was released in August 2000 but the balance was withdrawn in 2001. After, 2002 elections where a new government took over reins of power, the aid tap begin to flow again because of government commitment to fight graft, willingness to usher in economic and political reforms. During this period also bilateral assistance from China increased reaching about 13% of the total aid in 2005.

4.2 Results of Stationarity Test

Since the study uses time series data, test for stationarity is carried out because using OLS technique incase series are non-stationary will lead to spurious results hence conclusions will not make sense.

Table 2 below presents the time series nature of the variables after employing ADF test on each variable. The results show that all the variables Recurrent expenditure (G_1), Development expenditure (G_2), Non-debt revenue (NDR), Domestic borrowing (DOB), Total foreign aid (TODA), Population of ages 0-14 (PP_1) and Real domestic product (RGDP) are non-stationary at levels since ADF statistic is greater than critical ADF t-critical at 1% level of significance.

Table 2: Augmented Dickey-Fuller (ADF) Unit Root Test Results

Variable	ADF Statistic	Critical Value (1%)	Nature
G1	-1.332930	-3.6289	Non-Stationary
G2	-0.288972	-3.6289	Non-Stationary
NDR	-1.781664	-3.6289	Non-Stationary
DOB	-2.416526	-3.6289	Non-Stationary
PP₁	1.400736	-3.6289	Non-Stationary
RGDP	0.824281	-3.6289	Non-Stationary
TODA	-1.010417	-3.6289	Non-stationary
DI	-1.529396	-3.6289	Non-stationary

Source: Computation from Eviews software

Since the variables are non-stationary at their levels, then we differenced them and carry out the same ADF test. The results after first differencing are shown in Table 3. All the variables are

stable after first differencing at 1% level of significance, since ADF statistic is less than ADF t-critical. This implies the variables in their levels are integrated of order one, I (1).

Table 3: Augmented Dickey-Fuller (ADF) Unit Root Test Results after First Differencing

Variable	ADF Statistic	Critical Value (1%)	Nature
DG1	-4.912466	-3.6422	Stationary
DG2	-3.813700	-3.6422	Stationary
DNDR	-4.167278	-3.6422	Stationary
DDOB	-4.581185	-3.6422	Stationary
DPP₁	-5.498599	-3.6422	Stationary
DRGDP	-4.786351	-3.6422	Stationary
DTODA	-4.970576	-3.6422	Stationary
DDI	-4.869753	-3.6422	Stationary

Source: Computation from Eviews software

4.3 Analysis on Cointegration of series for Econometric Models

For this study Johansen (1988) Maximum Eigen value and Trace tests for cointegration is used. Johansen's methodology is normally used where all the variables in the model are integrated of order one, I (1). It is preferred to two step Engle and Granger (1987) cointegration methodology, since it allows for more than one cointegrating relationship. The results for these tests are shown below.

Table 4: Results for Johansen Cointegration Test -Model 1

Eigenvalue	Likelihood Ratio (L.R)	5% Critical Value	1% Critical Value	Hypothesized number of Cointegration Equation(s)
0.833812	226.1432	124.24	133.57	None **
0.770017	157.9470	94.15	103.18	At most 1 **
0.587734	102.0965	68.52	76.07	At most 2 **
0.562494	68.42521	47.21	54.46	At most 3 **
0.401574	37.01191	29.68	35.65	At most 4 **
0.287746	17.50070	15.41	20.04	At most 5 *
0.114164	4.606509	3.76	6.65	At most 6 *

Notes: (i) *(**) denotes rejection of the hypothesis at 5 % (1%) significance level.

(ii) L.R. test indicates 7 cointegrating equation(s) at 5% significance level

Source: Computation from Eviews software

Table 5: Results for Johansen Cointegration Test -Model 2

Eigenvalue	Likelihood Ratio (L.R)	5% Critical Value	1% Critical Value	Hypothesized number of Cointegration Equation(s)
0.803447	199.1210	124.24	133.57	None **
0.674250	137.3017	94.15	103.18	At most 1 **
0.644240	94.67993	68.52	76.07	At most 2 **
0.514667	55.40693	47.21	54.46	At most 3 **
0.368779	27.93597	29.68	35.65	At most 4
0.236687	10.45219	15.41	20.04	At most 5
0.004958	0.188891	3.76	6.65	At most 6

Notes: (i) *(**) denotes rejection of the hypothesis at 5 %(1%) significance level.

(ii) L.R. test indicates 4 cointegrating equation(s) at 5% significance level.

Source: Computation from Eviews software

Table 5 above presents cointegrating test results for Econometric model 2 .The results show that the null hypothesis of no cointegration is rejected by the L.R test, but the null hypothesis of four cointegration equations is not rejected. From the results, we can conclude that there exist cointegration relationships among the development expenditure, non-debt revenue, domestic borrowing, total foreign aid, population of ages 0-14, and real gross domestic product and economic shocks; hence their stationarity of linear combination converges to long run equilibrium.

4.4 Diagnostics Tests

As presented in appendix 1, for the Breusch-Godfrey Correlation LM Test, the F-statistic of 0.531946 with a probability of value of 0.667284 shows that there is no serial correlation between the variables in model 1 at 5% significance level. Further, the results in appendix 2, for Ramsey RESET Test show the F-statistic is 1.640907 and a probability of 0.222137 indicates that model 1 is not misspecified. Also in appendix 3, the Autoregressive Conditional Heteroskedasticity (ARCH) Test show an F-statistic of 0.540515 and a corresponding probability of 0.658363 which implies the coefficients of model 1 are stable. We also carried out residuals normality test and the null hypothesis of normal distribution was not rejected since, the probability value of Jarque-Bera chi-square statistic was found to be 0.518403 which is insignificant at 5 % significance level, implying that the residuals are normally distributed.

The diagnostic tests for model 2 are shown in appendices 4 to 6. In appendix 4 the results for Breusch-Godfrey Correlation LM Test shows that the F-statistic is 0.340777 with a probability of value of 0.796165 which shows that there is no serial correlation between the variables in model 2 at 5% significance level. The Ramsey RESET Test in appendix 5 shows the F-statistic is 1.903082 and a probability of 0.169813 which indicates that model 2 is not misspecified. Further, the Autoregressive Conditional Heteroskedasticity (ARCH) Test in appendix 6 shows an F-statistic of 0.775582 and a corresponding probability of 0.517151 which implies the coefficients of model 2 are stable. Also the residuals of the model were subjected to a normality test where the null hypothesis of normal distribution was not rejected since the probability value of Jarque-Bera chi-square statistic is 0.557675 which is insignificant at 5% significance level. This implies that the standardized residuals are normally distributed.

4.5 The Long -Run Models

Now that we have established in section 4.3, that there exist cointegration relationships for the series in both our econometric models, the long run models are estimated and results are presented in Tables 6 and 7

Table 6: Results for the Long run model 1(Recurrent Expenditure model)

Dependent Variable: G1
 Method: Least Squares
 Date: 11/13/13 Time: 12:57
 Sample: 1970 2009
 Included observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.759996	0.217516	-3.493983	0.0014
NDR	0.556451	0.068912	8.074832	0.0000
DOB	-0.330914	0.352821	-0.937908	0.3551
TODA	0.516475	0.321697	1.605467	0.1179
RGDP	-0.168829	0.163754	-1.030989	0.3100
PP ₁	0.312764	0.056785	2.185799	0.0524
DI	-0.075665	0.130906	0.578016	0.5672
R-squared	0.933984	Mean dependent var	2.070250	
Adjusted R-squared	0.921981	S.D. dependent var	0.982003	
S.E. of regression	0.274291	Akaike info criterion	0.408377	
Sum squared resid	2.482782	Schwarz criterion	0.703931	
Log likelihood	-1.167543	F-statistic	77.81338	
Durbin-Watson stat	2.040728	Prob(F-statistic)	0.000000	

Source: Computation from Eviews software

We give the linear equation of the model as follows:

$$G_1 = -0.75 + 0.56NDR - 0.33DOB + 0.52TODA - 0.1RGDP + 0.1PP_1 - 0.08DI$$

$$(-3.493983)(8.074832)(-0.937908)(1.605467) (-1.030989) (2.185799) (0.578016)$$

Where, the figures in parenthesis are the t-statistics of the corresponding estimated coefficients.

Table 6 are results for our estimation long run model 1;

From the table, R-squared value shows about 93% of variations in the proportion of Recurrent expenditure in our regression model is explained by Non-debt revenue, Domestic borrowing,

Total foreign aid, real gross domestic product, Population of 0-14 ages and Economic shocks. The Durbin values of 2.040728 attest that there is no serial correlation in our regression model.

Non-debt revenue (NDR) in the model has a positive and statistically significant coefficient which demonstrates that recurrent expenditure in Kenya in the long run is responsive to Non-debt revenue? A 1% increase in Non-debt revenue leads to an increase of about 0.6% in recurrent expenditure. This clearly explains why budgetary process in Kenya is structured such that, fiscal revenues finances recurrent vote and public debt payments as opposed to development vote.

On the other hand, domestic borrowing(DOB) enters the model statistically insignificantly which shows that in the long run domestic borrowing does not influence public consumption expenditures in Kenya. This implies borrowing domestically by government to finance public consumption is not always a viable option as it creates disutility with no returns in the long run. Also it is partly due the vulnerability of the Kenya shilling to external shocks which sometimes make it unstable which forces the monetary authority to tightened monetary policy which results in high domestic borrowing costs. Also volatility in the domestic markets and under subscription of Treasury bills and bonds in the auction market for government securities may in some instances discourage the government to borrow domestically. The only option always available to government to bridge the budget deficit is to borrow externally which has led to increase in public external debt.

Total foreign aid (TODA) has a positive coefficient which is statistically insignificant. This shows that, recurrent expenditure in Kenya is not influenced by foreign aid in the long run. The finding agrees with the budgetary process because all foreign aid is normally recorded on the development vote.

Population of ages 0-14 (PP_1) in the long run has a positive coefficient that is statistically significant at 10% significance level. A 1% increase in population of ages 0-14 leads to about 0.3% rise in recurrent expenditure. This indicates that recurrent expenditure is influenced by population of 0-14 in the long run. The rapid rate of population in Kenya especially the young implies that increase in provision of social services such as education, health, housing, water to

the citizens. This includes employment of more doctors, teachers and other professionals in the civil service which pushes up recurrent expenditure.

Real gross domestic product (RGDP) and Economic shocks (DI) enter the model statistically insignificantly but has negative coefficients. This shows that recurrent expenditure in Kenya is not responsive to real gross domestic product and economic shocks in the long run. Economic shocks might not have being prolonged during the study period but as of short term in nature as not to affect recurrent expenditure in the Long run

Table 7: Results for the Long run model 2(Development Expenditure model)

Dependent Variable: G2
 Method: Least Squares
 Date: 11/12/13 Time: 16:21
 Sample: 1970 2009
 Included observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.181936	0.099465	1.829139	0.0764
NDR	-0.040561	0.029967	-1.353505	0.1851
DOB	0.191431	0.164451	2.374060	0.0241
TODA	0.426007	0.182503	2.334251	0.0258
RGDP	0.274943	0.076128	3.611587	0.0010
PP ₁	-0.081989	0.026153	-3.134991	0.0036
DI	-0.018000	0.062229	-0.289250	0.7742
R-squared	0.919935	Mean dependent var	0.383947	
Adjusted R-squared	0.894199	S.D. dependent var	0.226758	
S.E. of regression	0.073758	Akaike info criterion	-2.155131	
Sum squared resid	0.152325	Schwarz criterion	-1.724187	
Log likelihood	50.94749	F-statistic	35.74598	
Durbin-Watson stat	2.140610	Prob(F-statistic)	0.000000	

Source: Computation from Eviews software

The linear specification of the linear model is given as below:

$$G_2 = 0.18 - 0.04NDR + 0.19DOB + 0.42TODA + 0.27 RGDP - 0.08PP_1 - 0.018DI$$

(1.829139)(-1.353505)(1.64060) (2.334251) (3.611587) (-3.134991) (-0.289250)

The figures in parenthesis are the t-statistics of the respective estimated coefficients above them.

Table 7 shows estimation results for our long run model 2.

The R-squared value shows about 92% of variations in the proportion of Development expenditure in our regression model is explained by Non-debt revenue, Domestic borrowing, Total foreign aid, real gross domestic product, Population of 0-14 ages and Economic shocks. The Durbin value of 2.140610 shows there is no serial correlation in our regression model.

Non-debt revenue (NDR) enters the model statistically insignificantly which shows that in the long run Non-debt revenue does not influence development expenditure in Kenya. This implies the fiscal revenues collected by government do not go to development but other uses and this can be attested by the slow development in the country over the past decades.

Domestic borrowing (DOB) in the model has a positive and statistically significant coefficient at 10% significance level, which demonstrates that development expenditure in Kenya in the long run is responsive to domestic borrowing. A 1% increase in domestic borrowing leads to an increase of about 0.2% in development expenditure. This explains that in Kenya part of the funds borrowed by government through Treasury bills, bonds or Central Bank of Kenya (CBK) is used for public investment or development but a larger portion might have been used to settle public debt.

Total foreign aid (TODA) has positive coefficient which is statistically significant. This shows that, development expenditure in Kenya is influenced by Total foreign aid in the long run. A 1% increase in Total foreign aid results in about 0.4% increase in development expenditure. This is the case because a larger proportion of about 80% of foreign aid inflows to Kenya over the study period was in form of grants. The finding also is in line with the budgetary process in Kenya, because a larger portion of foreign aid are normally recorded on the development vote of the government's budget.

Population of ages 0-14 (PP_1) in the long run has a negative coefficient that is statistically significant. A 1% increase in population of ages 0-14 leads to about 0.1% decline in development expenditure. This demonstrates that development expenditure is influenced by

population of ages 0-14 in the long run. The rapid rate of population in Kenya especially the young imply that increase in the burden of putting up infrastructures such as schools, health facilities and yet this young population are not part of the citizenry paying taxes.

Real gross domestic product (RGDP) enters the model statistically significantly with a positive coefficient. A 1% increase in real gross domestic product leads to about 0.3% increase in development expenditure. This shows that development expenditure in Kenya is responsive to real gross domestic product in the long run. This means growth of the economy translates to rise in public investment in Kenya as increase in real income leads to higher levels of taxation revenue.

Lastly, Economic shock (DI) has a negative coefficient which is statistically insignificant. This implies that economic shocks do not influence development expenditure in Kenya. These shocks might not have lasted for long enough during the study period to influence government spending on development.

4.6 Dynamic Error Correction Models (ECMs)-Short Run Models.

Since all the variables are non-stationary in levels, but cointegrated, their dynamic relationship has to be specified by an error correction methodology so that we can capture both the short- run and long-run relationships. Three lags and current levels for all the variables were used in estimating the model. The choice of the three lags was based on the estimated residuals of the ECM passing the normality and serial correlation tests. The procedure involves re-estimating the general ECMs by deleting the insignificant variables until we get the parsimonious ECMs.

The long run relationship for recurrent expenditure is expressed as:

$$G_1 = -0.75 + 0.56*NDR - 0.33*DOB + 0.52*TODA - 0.1*RGDP + 0.1*PP_1 - 0.08*DI$$

The error correction term (ECT) is given as:

$$RESID1 = G_1 + 0.75 - 0.56*NDR + 0.33*DOB + 0.52 *TODA + 0.1 *RGDP - 0.1*PP_1 + 0.08*DI$$

Table 8: General Error Correction Model 1(Recurrent Expenditure model)

Dependent Variable: DG1

Method: Least Squares

Date: 11/14/13 Time: 05:11

Sample(adjusted): 1974 2009

Included observations: 36 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.402607	0.705500	0.570669	0.5861
DG1_1	-0.830350	0.864248	-0.960777	0.3687
DG1_2	-0.947614	0.650305	-1.457184	0.1884
DG1_3	-0.570501	0.523937	-1.088872	0.3123
DNDR	0.838201	0.116396	7.201301	0.0002
DNDR_1	0.724740	0.571574	1.267973	0.2454
DNDR_2	0.693931	0.463431	1.497378	0.1780
DNDR_3	0.635021	0.395795	1.604419	0.1527
DDOB	-0.045847	0.783449	-0.058519	0.9550
DDOB_1	1.257398	1.178174	1.067243	0.3213
DDOB_2	0.261090	1.091122	0.239286	0.8177
DDOB_3	-0.398870	0.708495	-0.562981	0.5910
DTODA	-0.525052	1.001195	-0.524426	0.6162
DTODA_1	-2.561488	0.864889	-2.961639	0.0211
DTODA_2	-0.740813	1.008837	-0.734324	0.4866
DTODA_3	0.847225	1.070374	0.791522	0.4546
DRGDP	0.594495	0.627142	0.947943	0.3747
DRGDP_1	0.875576	0.799995	1.094477	0.3100
DRGDP_2	-0.434820	0.874519	-0.497210	0.6343
DRGDP_3	0.751414	0.779664	0.963767	0.3673
DPP1	-3.441316	1.788716	-1.923903	0.0958
DPP1_1	0.413151	1.651824	0.250118	0.8097
DPP1_2	2.505130	1.677513	1.493360	0.1790
DPP1_3	-0.501152	1.423261	-0.352115	0.7351
DDI	-0.395926	0.303928	-1.302697	0.2339
DDI_1	-0.517197	0.351094	-1.473104	0.1842
DDI_2	-0.244440	0.411413	-0.594147	0.5711
DDI_3	-0.027427	0.236930	-0.115759	0.9111
RESID1_1	-0.568680	0.875766	-0.649352	0.5368
R-squared	0.957092	Mean dependent var		0.068056
Adjusted R-squared	0.785462	S.D. dependent var		0.616232
S.E. of regression	0.285428	Akaike info criterion		0.303848
Sum squared resid	0.570284	Schwarz criterion		1.579461
Log likelihood	23.53073	F-statistic		5.576467
Durbin-Watson stat	2.676710	Prob(F-statistic)		0.012506

Source: Computation from Eviews software

Table 9: Specific Error Correction Model 1(Recurrent Expenditure model)

Dependent Variable: DG1

Method: Least Squares

Date: 11/14/13 Time: 10:03

Sample(adjusted): 1974 2009

Included observations: 36 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.459851	0.251961	1.825088	0.0846
DG1_2	-0.499381	0.216911	-2.302235	0.0335
DG1_3	-0.117298	0.153219	-0.765555	0.4539
DNDR	0.677181	0.074601	9.077362	0.0000
DNDR_1	0.105345	0.082409	1.278329	0.2174
DNDR_2	0.452907	0.143395	3.158449	0.0054
DNDR_3	0.287303	0.127610	2.251405	0.0371
DDOB_1	0.658434	0.265778	2.477388	0.0234
DDOB_3	0.014365	0.315199	0.045576	0.9642
DTODA_1	-1.758426	0.589018	-2.985354	0.0079
DPP	-1.746088	1.012132	-1.725158	0.1016
DPP_2	0.819234	0.881497	0.929367	0.3650
DDI	-0.209470	0.203474	-1.029467	0.3169
DDI_3	-0.048765	0.142542	-0.342109	0.7362
DRGDP	0.252880	0.344109	0.734882	0.4719
DRGDP_1	0.294620	0.433608	0.679461	0.5055
DRGDP_3	-0.034144	0.267999	-0.127403	0.9000
RESID_1	-1.260411	0.201508	-6.254890	0.0000
R-squared	0.918551	Mean dependent var		0.068056
Adjusted R-squared	0.841627	S.D. dependent var		0.616232
S.E. of regression	0.245236	Akaike info criterion		0.333661
Sum squared resid	1.082532	Schwarz criterion		1.125420
Log likelihood	11.99411	F-statistic		11.94106
Durbin-Watson stat	2.013274	Prob(F-statistic)		0.000002

Source: Computation from Eviews software

Table 10: General Error Correction Model 2(Development Expenditure model)

Dependent Variable: DG2

Method: Least Squares

Date: 11/14/13 Time: 05:34

Sample(adjusted): 1975 2009

Included observations: 35 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.025140	0.171119	0.146917	0.8880
DG2_1	0.381063	0.402786	0.946068	0.3806
DG2_2	0.085272	0.524447	0.162595	0.8762
DG2_3	0.061112	0.798763	0.076508	0.9415
DNDR	0.054156	0.049638	1.091027	0.3171
DNDR_1	0.038334	0.069997	0.547654	0.6037
DNDR_2	0.000987	0.081073	0.012179	0.9907
DNDR_3	-0.024025	0.040642	-0.591130	0.5760
DDOB	0.177784	0.309470	0.574479	0.5865
DDOB_1	0.243249	0.383795	0.633799	0.5496
DDOB_2	0.447074	0.362032	1.234904	0.2630
DDOB_3	0.003678	0.254961	0.014426	0.9890
DTODA	0.670090	0.374246	1.790507	0.1165
DTODA_1	-0.189132	0.279514	-0.676647	0.5238
DTODA_2	-0.202620	0.270560	-0.748892	0.4822
DTODA_3	-0.225381	0.242007	-0.931300	0.3876
DRGDP	0.073088	0.164028	0.445585	0.6715
DRGDP_1	0.306966	0.216853	1.415550	0.2067
DRGDP_2	-0.147884	0.396019	-0.373426	0.7217
DRGDP_3	0.051029	0.236985	0.215325	0.8366
DPP1	-1.234686	0.763073	-1.618044	0.1568
DPP1_1	0.428467	0.702906	0.609566	0.5645
DPP1_2	0.433250	0.738713	0.586493	0.5789
DPP1_3	0.299441	0.789396	0.379330	0.7175
DDI	-0.109680	0.119095	-0.920943	0.3926
DDI_1	-0.058895	0.116682	-0.504752	0.6317
DDI_2	-0.059637	0.119578	-0.498727	0.6357
DDI_3	0.023571	0.081922	0.287721	0.7832
RESID2_1	-0.259690	0.196341	-1.322648	0.2341
R-squared	0.846879	Mean dependent var	0.026857	
Adjusted R-squared	0.132312	S.D. dependent var	0.095602	
S.E. of regression	0.089053	Akaike info criterion	-2.105605	
Sum squared resid	0.047583	Schwarz criterion	-0.816888	
Log likelihood	65.84809	F-statistic	1.185164	
Durbin-Watson stat	2.088889	Prob(F-statistic)	0.452840	

Source: Computation from the Eviews software

The long run relationship for development expenditure is expressed as:

$$G_2 = 0.18 - 0.04*NDR + 0.19*DOB + 0.42*TODA + 0.27*RGDP - 0.08*PP_1 - 0.018*DI$$

The error correction term (ECT) is given as:

$$RESID2 = G_2 - 0.18 + 0.04*NDR - 0.19*DOB - 0.42*TODA - 0.27*RGDP + 0.08*PP_1 + 0.018*DI$$

Table 11: Specific Error Correction Model2 (Development Expenditure model)

Dependent Variable: DG2

Method: Least Squares

Date: 11/14/13 Time: 06:10

Sample(adjusted): 1975 2009

Included observations: 35 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.006743	0.070259	-0.095974	0.9247
DG2_1	0.436022	0.196287	2.221344	0.0411
DNDR	0.032201	0.017185	1.873803	0.0793
DNDR_1	0.014535	0.019687	0.738281	0.4710
DNDR_3	-0.019621	0.017533	-1.119129	0.2796
DOOB	0.166025	0.100296	1.655342	0.1173
DOOB_1	0.079906	0.096400	0.828904	0.4194
DOOB_2	0.307928	0.106789	2.883510	0.0108
DTODA	0.397874	0.108292	3.674101	0.0016
DTODA_1	-0.155020	0.142100	-1.090925	0.2915
DTODA_2	-0.148575	0.095458	-1.556435	0.1392
DTODA_3	-0.215978	0.105526	-2.046675	0.0575
DRGDP_1	0.236935	0.091386	2.592668	0.0196
DPP1	-1.064130	0.356242	-2.987101	0.0087
DPP1_1	0.786840	0.227282	3.461950	0.0032
DPP1_2	0.247839	0.283099	0.875450	0.3943
DDI	-0.124693	0.046271	-2.694811	0.0159
DDI_1	-0.040117	0.041286	-0.971679	0.3457
RESID2_1	-0.248764	0.092851	-2.679168	0.0165
R-squared	0.810764	Mean dependent var		0.026857
Adjusted R-squared	0.597873	S.D. dependent var		0.095602
S.E. of regression	0.060625	Akaike info criterion		-2.465268
Sum squared resid	0.058806	Schwarz criterion		-1.620937
Log likelihood	62.14220	F-statistic		3.808355
Durbin-Watson stat	1.937264	Prob(F-statistic)		0.004924

Source: Computation from the Eviews software

4.7 Interpretation of the Specific Error Correction Models(Short run) Regression Results

From the results in section 4.6, Table 9 for model 1(Recurrent expenditure model), the F-statistic of 11.94106 and the corresponding probability value of 0.000002 illustrates that the coefficients of the explanatory variables are statistically different from zero at 5% significance level.

The estimation results in Table 9, also shows that the Error correction term (RESID1_1) is negative and statistically significant which implies that there is long run adjustment mechanism in the recurrent expenditure model. The value of the coefficient is -1.260411 which indicates all the deviations of previous periods will be adjusted to equilibrium in the present period. The coefficient of the second lag of recurrent expenditure is statistically different from zero at 5 % level of significance. This illustrates that the recurrent expenditure in Kenya is influenced by the previous period recurrent expenditure in the short run. This is because budgetary process in Kenya is formulated such that the present budget is informed by the previous budgets. A 1% increase of the second lag of recurrent expenditure leads to a 0.5% decline in recurrent expenditure.

For Non-debt revenue, it is responsive to recurrent expenditure in the short-run just like in the long-run as a 1% increase in non-debt revenue leads to 0.7% increase in recurrent expenditure. This is informed by the fact that government budget in Kenya in all financial years over the study period was prepared such that recurrent expenditure is fully financed by the fiscal revenue. The coefficients of second and third lags of Non-debt revenue are both positive and statistically significant at 5% significance level. The net effect of second and third lags of Non-debt revenue on recurrent expenditure is an increase of about 0.8% due to an increase in 1% each. This implies the uncollected Non-debt revenue in the last two and three periods is recovered in the present period, will still be used to finance the recurrent expenditure. The tax reforms in Kenya began in the mid 1990's, which shows that, for most of the period under study the collection of fiscal revenues by the Kenya Revenue Authority (KRA) might not have been efficient.

Domestic borrowing in Kenya does not influence recurrent expenditure in the short run just like in the long run which contrasts that of McGillivray (2002) who used time series data for

Philippines (1960-1997) and reported that almost all domestic borrowing also spend on public consumption. However, the coefficient of first lag of domestic borrowing is positive and statistically significant at 5% significance level. The effect of first lag of domestic borrowing on recurrent expenditure is a increase of about 0.7% due to an increase of 1%.

Total foreign aid in Kenya does not influence recurrent expenditure in the short-run just like in the long-run scenario. This is because a larger portion of aid is in meant for development and goes to public investment. However, from the results we note that the coefficient of first lag of total foreign aid is negative and statistically significant at 5% significance level. A 1% increase in first lag of total foreign aid leads to a decline of about 1.7% in recurrent expenditure. This result support that of Heller(1975) using time data(1960-1970) of eleven African countries where he established that foreign aid has small negative impact on public consumption. However it contrast with that of Otim (1996) in a study of three Asian low income countries (India, Pakistan and Sri Lanka) report similar results where he found out 34.2% of foreign aid finances consumption expenditures. The result also compares well with that of Gang and Khan (1991) using time series for India (1961-1984) found out that foreign aid has no significant impact on government expenditure on consumption. But it contrast that of McGillivray (2002) who used time series data for Philippines (1960-1997) and reported that a larger proportion of foreign aid is used for government consumption expenditure as well as almost all domestic borrowing is also spend on public consumption.

Population of ages 0-14 ages in the long run has no influence on recurrent expenditure contrary to what we established under the long run situation since its coefficient is statistically insignificant. Like in the long-run, real gross domestic product and Economic shocks does not influence the recurrent expenditure in the short-run.

The results for the analysis of the specific model for our econometric mode2 (Development expenditure model) are presented in Section 4.6, Table 11. The F-statistic of 3.808355 and the corresponding probability value of 0.004924 indicate that the coefficients of the explanatory variables are all statistically different from zero.

The estimation results in Table 11, also shows that the Error correction term (RESID2_1) is negative and statistically significant at 5% significance level which show the development expenditure model has a long run relationship between its variables. The coefficient is a negative 0.248764 which implies that about 25% of past deviations from equilibrium are being corrected or adjusted in the current period. Hence for all the past deviations to be fully corrected or adjusted, it will take about 4(four) periods. The coefficient of the first lag of development expenditure is statistically different from zero at 5 % level of significance.

Non-debt revenue is responsive to development expenditure in the short-run just unlike in the long-run. A 1% increase in non-debt revenue results in an increase of about 0.03% in development expenditure. The government development budget in Kenya is financed through Non-debt revenue in the short run.

Domestic borrowing does influence development expenditure in the short run as we established under the long run. The coefficient is positive and statistically significant at 5% level of significance. A 1% increase in domestic borrowing leads to about 0.3% increase in development expenditure. This implies that the government of Kenya in short run have been financing public investment through domestic borrowing to bridge the budget deficit.

Total foreign aid in Kenya influences development expenditure in the short-run just like in the long-run. The coefficient is positive and statistically significant at 5% significance level. A 1% increase in Total foreign aid leads to an increase of about 0.4% in development expenditure. This is because a substantial portion of aid in Kenya is in meant for development and goes to public investment. This result support of that of Heller (1975) using time series data of eleven African countries with Anglophone sample in which the finding is that foreign aid lead to increase in public investment. The third lag of total foreign aid has a negative significant effect on development expenditure since a 1% increase results in a decrease of 0.2%.

The estimation results as presented in Table 11 also show that economic shocks in Kenya, in the short-run, do influence development expenditure unlike in the long run, since its coefficient is statistically significant. The development expenditure decreases by 0.1% when there are economics shocks as opposed to when there are none.

Population of ages 0-14 does influence development expenditure in the short run just like in the long run. A 1% increase in population of ages 0-14 leads to a decrease of about 1.1% in development expenditure. As per the results, real gross domestic product in the short run does not influence development expenditure. However, the third lag of real gross domestic product has effect on the development where its 1% increase results in an increase of 0.2%. This might be attributed to the reason that the growth in the economy in Kenya takes sometimes to percolates or trickle down to the rank and file in the economy. This implies, national growth may increase but increase in real personal and real purchasing power is too small. Since those who are in control of the major sectors of the economy are few as compared to the majority that are mostly poor.

CHAPTER FIVE

5.0 SUMMARY ,CONCLUSIONS AND POLICY RECOMMENDATIONS

This chapter presents summary conclusions, policy recommendations and areas of further research as per the findings.

5.1 Summary

This paper attempted to empirically determine the recurrent and development behaviour of the Kenyan government in the presence of foreign aid flows. Using Heller's (1975) welfare utility maximisation model, it is possible to link the aid flows to public expenditure and determine the impact on both recurrent and development expenditures. Other variables which were included in the model are Non-debt revenue, domestic borrowing, and population of ages 0-14, real gross domestic product and economic shocks as they were considered to influence public expenditure using time series data for the period 1970-2009. The values of the variables except population of ages 0-14 and economic shocks which is a dummy variable were deflated using GDP deflator index with the base year as 2001. Secondary data from various economic surveys and World Bank Database was used in estimating both static and dynamic models. Due to conflicting data on some variables, especially for foreign aid, averages were computed and used in the estimation. Since we have categorised public expenditures into recurrent and development, two econometric models were estimated.

The results for long run model for recurrent expenditure show that, Non-debt revenue and Population of ages 0-14 have both positive coefficients which are statistically significant at 5% and 10% significance levels respectively. Consequently, domestic borrowing, real gross domestic product, total foreign aid and economic shocks do not explain the changes in recurrent expenditure. In the short run for the same model, Non-debt revenue has influence on the recurrent expenditure. Also its second and third lags have effect on recurrent expenditure. A 1% increase in second and third lags of Non-debt revenue leads to 0.8% increase in recurrent expenditure. The effect of first lag of domestic borrowing on recurrent expenditure is an increase of about 0.7% due to an increase of 1%. Further from the estimation results, the coefficient of

first lag of total foreign aid is negative and statistically significant at 5% significance level. A 1% increase in first lag of total foreign aid leads to a decline of about 1.7% in recurrent expenditure.

On the other hand, the long run model for development expenditure, estimation results show that total foreign aid, domestic borrowing and real gross domestic product in the model have positive coefficients which are statistically significant at 5% significance level. Population of ages 0-14 ages also influences development expenditure but has a negative coefficient that is statistically significant at 5% significance level. In the short run, non-debt revenue, total foreign aid and domestic borrowing influences development expenditure positively. However, population of ages 0-14 and economic shocks influences development expenditure negatively. On the hand, real gross domestic product does not explain the changes in development expenditure; however its third lag has a positive effect on the development expenditure. Further, the estimation results reveal that the coefficients of the first lag of development expenditure are statistically different from zero at 5 % level of significance.

5.2 Conclusions

The basic objective of the study was to assess how foreign aid influences the public expenditure in Kenya. Estimation results have shown that, foreign aid has no influence on the recurrent expenditure both in the long- run and short-run. But interestingly its first lag does influence recurrent expenditure in the short-run. This implies that in Kenya recurrent expenditure is financed by other sources other than foreign aid. Even though, in the short-period, the government might turn to the previous periods' amounts of the foreign aid flows to finance its budget. Moreover, the results also reveal that foreign aid influences development expenditure both in the long-run and short-run situation. The implication of this is that foreign aid in Kenya is used in financing development expenditure or public investment projects.

The paper also had set out to determine the effect of non-debt revenue on public expenditure in Kenya. According to the estimation results, non-debt revenue does influence recurrent expenditure both in the short-run and long- run. Also, its second and third lags have effect on recurrent expenditure in the short-run. It also noted that, the net effect of the current domestic tax revenue, second and third lags of domestic tax revenue is positive. Contrarily, non-debt revenue

does not influence development expenditure in the long run as it does in the short run .The implication of this is that, domestic tax revenue is the main source of financing recurrent expenditure in Kenya and the opposite might be true for development expenditure.

The other specific objective sought to investigate the effect of domestic borrowing on public expenditure. The estimation results showed that domestic borrowing does not influence recurrent expenditure both the short-run and long-run. However, its first lag does influence recurrent expenditure in the short-run. Consequently, domestic borrowing is an important factor in explaining the changes in development expenditure. This implies that domestic borrowing influences development expenditure in Kenya as oppose to recurrent expenditure. Although another implication is that, the government might finance its recurrent budget from domestic borrowings of some previous periods.

5.3 Policy Recommendations

From the findings of the study, we can draw some policy recommendations. The policy makers should pursue those public sectors that can attract more foreign aid in both the short-run and long-run to spur economic development. This is because foreign aid does influences development expenditure in a positive way, especially if it is in grants form. This will definitely lead to the reduction of the current plummeting public debt to avoid debt crisis in the future. But the amount of development spending of foreign aid was found to be less than what has been actually received; it begs the question on its utilisation and components.

However, the absorption of these foreign funds from donors was found to be low at less than 50%. This may be partly due to the donors having complex accounting system with many votes of accounts. In Kenya there over ten thousand budget vote accounts which makes the issue of monitoring and evaluation as well as accountability by public officers difficult. So, there is need to streamline the accounting systems and procurement procedures to improve this low absorption capacity

Non-debt revenue does not significantly impacts on development expenditure in the long run. This should be a wakeup call for the policy makers to adopt a budgetary process which reduces

the unnecessary recurrent expenditures such as domestic and foreign trips large contingent of public officers. There also many workshops being held by ministries which may not be adding value to the country's progress. The huge public wage bill which currently stands at about 13% of the GDP should be reduced significantly so that more revenue goes to development purposes. Also the disparity of public wages should be harmonised and reduced, as there are some public officers in top level earning higher salaries compared to other staff which has caused a lot of friction leading to strikes by a section of the public service. The political upheavals after every general election should be put to an end as tribal clashes displace people from their residential places resulting in high government recurrent expenditures. The implementation of the new constitution has opened some avenues which might see the staggering of public consumption spending and care must be taken by policy makers not to end up in more fiscal deficits in the budget. This will leave enough domestic resources to be allocated to development projects which will spur economic development in the long-run. Policy makers also should streamline the budgetary process such an envelope of resources should be given to government ministries and freedom given to them to define recurrent and development expenditures. This will see more money being allocated for development as the current line budget votes do not conform to the functions of most MDAs leading to unnecessary conspicuous public consumption. For instance, Operation and maintenance which is included in the recurrent expenditure yet this constitutes public investment.

Domestic borrowing by government to finance public investment should be encouraged by the economic policy makers. Policies geared towards development of a strong financial and non-financial should be adopted. The public-private partnership should be implored especially on those areas where there are returns in public investment in the long-run. This will help in financial intermediation which will make investment available to the public. Also, the issue of volatility in the financial domestic market should be scrutinised and appropriate monetary policies being put in place. Also, inflationary pressures should be put under control as high inflation pushes up government expenditures denying money some other areas of public investment.

The population growth rate should be reduced as this encourages public consumption as opposed to public investment .Policy makers should come up with plans to sensitize the public on birth control methods and its demerits. Measures should also put in place to tackle economic shocks

wherever they arise. Finally sound economic policies which can be sustained should be put in place to encourage economic expansion of the driving sectors in the economy. This is because increase in economic growth will translate to more revenue for government to be used in capital investment.

5.4 Limitations of the Study and Suggestion for areas of Further Research

Data from different institutions with conflicting figures, made it difficult to get ideal information leading to the use of averages in some instances. This may affect the inference and reliability of the estimation results. Some development partners operate under different financial years from that of the Kenyan government, making it difficult in some periods to determine how much of the different categories of aid received in a particular budget year. The study may not have captured the true situation of the foreign on public expenditures since foreign aid includes technical cooperation and assistance which may not have been spent in Kenya as they are under the control of the donor and government may not have been fully informed. Further, the study may not have included other variables which could influence public expenditure such as public savings, private savings, foreign direct investment and other population age structures due to inadequacy of data on these variables over the study period. As a result of these shortcomings, the conclusions and policy recommendations may have suffered from the same inferences. Therefore, further research is needed which will include the variables omitted as well as further disaggregation of the foreign aid flows to Kenya into grants, technical assistance, food aid, tied and untied loans to investigate their impact on public expenditure. The public expenditure can also be classified into different economic sectors to see how the two categories of the aid flows influence each of them.

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APPENDICES

Appendix 1: Breusch-Godfrey Serial Correlation LM Test Results for Model 1

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.531946	Probability	0.667284
Obs*R-squared	3.461723	Probability	0.325761

Test Equation:
Dependent Variable: RESID

Source: Computation from Eviews software

Appendix 2: Ramsey RESET Test Results for Model 1

Ramsey RESET Test:

F-statistic	1.640907	Probability	0.222137
Log likelihood ratio	10.21719	Probability	0.016807

Test Equation:
Dependent Variable: DG1

Source: Computation from Eviews software

Appendix 3: ARCH Test Results for model 1

ARCH Test:

F-statistic	0.540515	Probability	0.658363
Obs*R-squared	1.747496	Probability	0.626426

Test Equation:
Dependent Variable: RESID^2

Source: Computation from Eviews software

Appendix4: Breusch-Godfrey Serial Correlation LM Test Results for Model 2

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.340777	Probability	0.796165
Obs*R-squared	2.162096	Probability	0.539453

Test Equation:
Dependent Variable: RESID

Source: Computation from Eviews software

Appendix 5: Ramsey RESET Test Results for Model 2

Ramsey RESET Test:

F-statistic	1.903082	Probability	0.169813
Log likelihood ratio	10.98538	Probability	0.011805

Test Equation:
Dependent Variable: DG2

Source: Computation from Eviews software

Appendix 6: ARCH Test Results for model 2

ARCH Test:

F-statistic	0.775582	Probability	0.517151
Obs*R-squared	2.451024	Probability	0.484207

Test Equation:
Dependent Variable: RESID^2

Source: Computation from Eviews software

Appendix 7: Data used in the study

year	g1	g2	ndr	dob	toda	pp1	rgdp
1970	0.42	0.13	0.63	0.1	0.13	5.5	2.54
1971	0.54	0.19	0.75	0.08	0.15	5.8	3.11
1972	0.59	0.22	0.88	0.14	0.33	6	3.64
1973	0.65	0.28	0.9	0.07	0.15	6.2	3.85
1974	0.73	0.23	1	0.11	0.16	6.4	4
1975	0.78	0.25	1.29	0.31	0.21	6.7	4.03
1976	0.76	0.24	1.11	0.16	0.22	7	4.13
1977	0.92	0.28	1.27	0.09	0.2	7.2	4.51
1978	1.04	0.33	1.58	0.37	0.25	7.5	4.82
1979	1.12	0.4	1.5	0.05	0.33	7.8	5.19
1980	1.34	0.42	1.72	0.14	0.33	8.2	5.48
1981	1.4	0.4	1.63	0.18	0.42	8.5	5.69
1982	1.46	0.3	1.9	0.32	0.36	8.8	5.75
1983	1.36	0.32	1.68	0.23	0.37	9.1	5.85
1984	1.6	0.37	1.83	0.12	0.44	9.5	5.95
1985	3.44	0.44	4.8	0.25	0.34	9.8	6.2
1986	1.75	0.34	2.01	0.46	0.37	10.2	6.66
1987	1.76	0.45	1.78	0.24	0.77	10.5	7.05
1988	2.48	0.43	3.52	0.09	0.68	10.9	7.49
1989	2.15	0.48	3.08	0.24	0.75	11.1	7.84
1990	2.55	0.46	2.34	0.49	0.98	11.4	8.16
1991	2.69	0.34	3.07	0.29	0.71	11.7	8.28
1992	3.18	0.26	4.51	0.47	0.65	12	8.22
1993	3.87	0.28	4.23	0.6	0.88	12.3	8.25
1994	2.84	0.3	2.81	0.2	0.59	12.5	8.46
1995	2.84	0.34	2.77	0.04	0.8	12.8	8.84
1996	2	0.2	2.37	0.3	0.38	13	9.2
1997	3.4	0.16	2.57	0.13	0.29	13.2	9.25
1998	2.51	0.14	2.06	0.31	0.25	13.4	9.55
1999	2.07	0.2	2.22	0.1	0.25	13.7	9.77
2000	2.21	0.33	2.07	0.12	0.38	13.9	9.83
2001	2.66	0.21	2.3	0.006	0.29	14.1	10.2
2002	2.56	0.24	2.44	0.43	0.27	14.4	10.26
2003	2.74	0.22	2.38	0.05	0.3	14.7	10.56
2004	2.75	0.39	2.54	0.003	0.33	15	11.1
2005	3.07	0.56	2.53	0.01	0.38	15.3	11.75
2006	2.86	0.62	2.71	0.009	0.5	15.7	12.49
2007	3.43	0.96	2.47	0.34	0.7	16.1	13.33
2008	3.19	1.03	3.08	0.45	0.59	16.6	13.36
2009	3.1	1.17	3.38	0.68	0.84	17	13.39

Source: Economic Surveys (Various issues) and World Bank Data Base