THE EFFECTS OF GOVERNANCE AND PUBLIC EXPENDITURE ON ECONOMIC GROWTH IN KENYA

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DECLARATION

This Research project is my original work and has not been submitted for examination in any other University.

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DEDICATION

This research paper is dedicated to four pillars in my life, namely mum, dear wife, and my two children; Bernice and Beryl. They have been inspirational and enduring in the entire study period. God bless you abundantly.

ACKNOWLEDGEMENT

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LIST OF ABBREVIATIONS AND ACRONYMS

ADF	Augmented Dickey Fuller
AGRI	Agriculture
CER	Ciri Empowerment Rights
CES	Constant Elasticity of Substitution
CIRI	Cingranelli-Richards
CPI	Corruption Perception Index
DEF	Defence
ECM	Error Correction Model
EDU	Education
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
GMM	Generalized Method of Moments
HLTH	Health
ICRG	International Country Risk Guide
IMF	International Monetary Fund
IP-ERS	Investment Programme for Economic Recovery Strategy
MDGs	Millennium development Goals
OLS	Ordinary Least Squares
PE	Public Expenditure
PIAS-DG	Pacific Institute of Advanced Studies in Development & Governance
SPRT	Social Protection
SUR	Seemingly Unrelated Regression Model
SSA	Sub-Saharan Africa
TRCOM	Transport and Communication
UNDP	United Nations Development Program
USAID	United States Agency for International Development
VECM	Vector Equilibrium Correction Model
WGI	Worldwide Governance Indicators
WWI	World War I
WWII	World War II

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ABSTRACT

In the recent past, the debate on the role of governance and public expenditure composition in fostering economic prosperity has been rife resulting to both theoretical and empirical studies proliferation. A large number of these studies have been cross country or panel data based. This study therefore sought to analyze the effects of governance quality and composition of public expenditure in Kenya using times series data. Using an OLS estimator, the two indicators of governance are found to positively and statistically significant impact on economic growth. The composition of public spending in six categories of the economy namely; defence, education, health, agriculture, transport and communication and social protection is also reviewed. The empirical findings indicate education, transport and communication and health positively impact on economic growth. The other outlays have negative impact on growth. The findings postulate itøs critical for developing countries like Kenya to seek the right mix of public spending levels and ensure quality governance if the desired development outcomes and economic growth is to be realised.

CHAPTER ONE

1.1 BACKGROUND

For close to three decades, the governance aspects have found significant place in the discourse of Africanøs development debate in particular and other developing nations in general. This has its genesis in World Bank and other development partners linking persistent poverty and many development challenges to poor governance, weak institutions and rampant corruption. The term good governance has broad meaning, however key principles suffice among them participation of the citizenry in running affairs of the state, regular and fair elections, adherence to democratic principles, transparency and accountability, observance of rule of law, control for corruption, respect for human rights, and effective and efficient public resources utilization with deliberate aim of improving living standards and attaining development. Thus while literature gives different definitions, there is general agreement about its dimensions with emphasis on how government is structured, the governing processes and the outcomes achieved.

Consequently, varied definitions emanates from various sources such as World Bank, UNDP, USAID, among other development partners and institutions which proves how broad the concept of governance is both theory and real application. Similarly, understanding how governance helps in fostering economic growth is complicated. It can be argued for instance, improved governance enhances development while poor and ineffective governance results to poor service delivery and hence low development. Further good governance and institutions augments other conventional sources of growth such as demographics, geographical and historical dimensions, and investment among others in achieving desirable outcomes this position is held by among others, Knack and Keefer (1995) and Kaufmann, Kraay and Zoido-Lobaton (1999).

Another aspect which interfaces closely with good governance is foreign direct investment and donor assistance with World Bank, IMF and other development partners pegging their financial assistance to improved democracy as well as economic and institutional reforms.

These external resources form fundament components of any meaningful development in third world countries in general and Kenya in particular. Thus for a country to achieve Millennium Development Goals (MDGs) and any long term development agenda aimed at mitigating the challenges of poverty and improving living standards of the society, good governance needs to be a vital ingredient in running the country's affairs.

An equally significant factor in explaining economic growth is the role of public expenditure especially how resources are distributed among the various sectors of the economy. This has been an area of interest for many decades with proponents arguing public expenditure is vital for economic growth while opponents view government as inefficient and advocate for minimal involvement mainly only to correct market imperfections. Consequently, many researchers have examined the effects of Public expenditure (PE) on economic growth and submit mixed results. Some have concluded it negatively influences economic growth, Landau (1983) while Ram (1986) in contrast finds positive relationship. Others such as Kormedi and Meguire (1985) observe no significant relationship between public spending and economic growth. It is however the recent studies on how public spending and governance interact to determine the pace of economic development that are of interest such as Arusha (2009) and Akpan and Effiong (2012) which conclusively link high levels of development to good governance and strong institutions.

1.1.1 Overview of Kenyan Macroeconomic Indicators

Fifty years after gaining independence, the economic performance of Kenya has been less than impressive and very erratic. In particular, the country at independence identified ignorance, poverty and diseases as key challenges and vowed to address them. These challenges continue to persistently affect a large number of the citizens and in some areas have worsened.

A look at key macroeconomic and development indicators in Kenya shows how the economy has performed over time. The Gross Domestic Product (GDP) grew at an annual average rate of 8.21% between 1963 and 1973 and at 4.66% in the year 1974 to 1982. The trend reversed in mid 70s and the average expansion of the economy dropped to 4.5% between 1973 and 1977 before peaking at 5.1% in subsequent quarter. The 80s and 90s saw substantial decline in growth at 4.2% and 2.2% respectively with worst year being 1992 at negative 0.8% before bouncing back in the year 2003 at 2.9% to sustain an upward improvement, KNBS Publications, Various (1960-2011).

This level and pace of development during review period can be attributed to several reasons ranging from poor governance, slow and reluctance in implementation of economic reforms, low investment, poor public services delivery, weak judiciary, high levels of corruption and underinvestment in infrastructure. As the table below shows, various macroeconomic indicators and development outcomes registered mixed performance in the country over time.

Table 1.1: Average Values for Key Macroeconomic Indicators between 1963 and 2012

Average Values for selected Indicators						
Year	1963-73	1974-82	1983-92	1993-02	2003-07	2008-12
GDP growth (annual %)	8.21	4.66	3.62	2.25	5.45	3.69
GDP Per Capita growth (annual %)	4.60	0.81	0.00	(0.51)	2.76	0.60
Inflation, consumer prices (annual %)	2.93	14.92	13.71	12.67	11.19	12.57
Life expectancy at birth, total (years)	51.11	56.64	59.31	54.31	53.13	55.48
Mortality rate, infant (per 1,000 live births)	98.04	74.12	63.90	69.99	61.44	56.23
Mortality rate, under-5 (per 1,000 live births)	160.42	116.88	98.71	112.25	97.40	87.00
Data Source: WDI						
Figure in bracket indicates negative : Computations by Author						

As seen from the table, the country registered strong performance during the first decade, followed by poor performance in the period between 1974 and 2002 in most of the key economic indicators. The situation was worse in the 90s with major reversal in the development outcomes from life expectancy to mortality rates and even GDP shrinking to a negative figure.

The situation improved after the 2002 when a new regime assumed power. This mixed performance has been due to various macroeconomic policies pursued in over the different periods. For instance in the late 1980s and 1990s, the World Bank and International Monetary Fund prescribed what is popularly known as Structural Adjustment Programme (SAP). The SAPs were argued to be necessary for donor assistance and entailed among other things restoring efficiency in all sectors of the economy through public sector rationalization. However, the implementation of SAPs seems not to have resulted to any desirable outcomes with the average GDP growth declining from 3.6 percent between 1983 -1992 to 2.3 percent for the period 1993-2002.

Similarly as seen from table 1.2 below, the average annual growth of four sectors that contribute to GDP growth significantly depict mixed fortunes. In the first decade, Industry and manufacturing registered 12.5% and 12.2% annual growth rates compared to service and agriculture which posted at 8.3% and 5.6% respectively.

Table 1.2: Average annual growth rates of key sectors of the economy

Year	Average - Annual % Growth					
	1963-73	1974-82	1983-92	1993-02	2003-07	2008-10
Agriculture	5.6	4.2	2.0	2.3	3.6	0.3
Industry	12.5	4.32	3.6	1.3	5.3	3.9
Manufacturing	12.2	5.72	4.7	0.9	5.5	3.2
Services	8.3	5.6	4.6	2.7	5.4	4.6
Data Source: KNBS Publications (Various)						

Between 1993 and 2002, three sectors that contribute significantly to the economy declined with manufacturing posting a decline of 82.5 percent, Industry 64.9 percent and Services declined by 41.9 percent and only agriculture registered improve performance. The decline is reversed after 2003 where all sectors performance improved, more notably in industry and manufacturing. After the 2007 elections, the country disintegrated into Post Election Violence (PEV) which saw the country suffer massively.

The economy was badly affected with GDP growth declining to 1.6% from 7.1% registered in 2007 before rebounding to 2.9% in 2008. Subsequently the Grand Coalition Government was formed in 2008 and embarked on implementing the first medium-term plan 2008-2012 of Vision 2030. As the table 1.3 below shows, the economy has since recovered and most of the indicators have substantially improved.

Table 1.3: Macroeconomic Performance between 2007 and 2011

Indicator	2007	2008	2009	2010	2011
GDP Growth Rate % Kenya	7.1	1.6	2.9	5.8	4.4
Inflation %	9.8	16.2	10.5	4.1	14.1
Revenue and Grants - KShs Mn	329486	498895	574135	665462	766,176
Total Expenditure -KShs Mn	658080	694165	789361	922563	1,024,700
Growth Rates of GDP by Sector					
Agriculture	2.4	-4.1	-2.6	6.4	1.5
Manufacturing	6.3	3.5	1.3	4.5	3.3
Wholesale and retail trade	11.3	4.8	3.9	8	7.3
Transport and communication	15.1	3	6.4	5.9	4.5
Education	4.2	5.9	2.7	4.5	4.9
Health	3.2	3.6	4.4	1.4	3.5
Data Source: KNBS Publications (Various)					

It is clear various macroeconomic indicators are heavily dependent and influenced by the political decisions and policies of the day which are rooted in public spending and governance issues pursued by the ruling regime.

1.1.2 Governance Trends in Kenya

Since independence, Kenya has held election every five years, the first being in the year 1964 where KANU won elections. On assuming power, the leadership weakened competitive politics and political parties were suppressed culminating to a consolidated single-party system through an amendment to the constitution in 1982. After the first president died in 1978, Daniel Arap Moi assumed presidency which was to last for twenty four years. This ushered in the presidency of Mwai Kibaki which lasted for ten years from 2002 under the National Alliance Rainbow Coalition and the Party of National Unity in 2007 elections. The governance scope can therefore be analysed in respect to three regimes, namely the government of Kenyatta, Moi and Kibaki which have reigned since independence.

Although the country inherited a myriad of challenges from the colonial regime, significant milestones have been achieved in fostering institutions and mainstreaming governance with the promulgation of the constitution in 2010 being the hall mark of reforms. Specifically over the last ten years, the institutional reforms and capacity enhancement in judiciary, decentralized government and increased public participation is manifest. Other key milestones are establishment of the Kenya Antió Corruption Commission, ombudsman office and independent Commissions, electoral and police reforms, existence of a robust civil society and increase in respect for basic human rights and freedoms, increased access to information and enhanced press freedom, the passage of Anti-Corruption and Economic Crimes Act 2003 and the Public Officer Ethics Act 2003 have significantly fostered governance and reduced rent seeking among public servants.

A set of indicators sourced from the ICRG and CIRI shows the country has had deteriorating governance since the early 80s. In particular the ICRG shows the country has consistently performed dismally on three individual variables mean, namely; law and order, bureaucratic quality and corruption levels. The ICRG value in 1984 was 0.37 up to 1989 by about 72% then decreasing to 0.583 in the following four years. Subsequent years up to 1997 had stable levels averaging 0.612 before decreasing drastically 32.09% and further to 0.375 in 2002. The following years had erratic governance levels with worst being 2008 at 0.306 points, Cingranelli and Richards (2010).

The countryøs performance has been erratic on the CIRI indicators which measure the Empowerment Rights Index (CER). The CER is an indicator for additive index which considers respect for seven freedom and right indicators namely foreign movement, domestic movement, electoral self-determination, freedom of speech, religion, association and assembly and finally the workersø rights indicators. The measure ranges from 0 indicating (no government respect for these seven rights) to 14 indicating (full government respect for these seven rights). The countryøs highest attainment in the review period according to CIRI Data is a value of 8 and only in two years (1985 & 2006) while lowest is in 1995 at a value of two. The average score in the 80s is 6.3 and in the 90s declined to 4.8 on average before bouncing back at 5.3 in the years after exit of the KANU regime.

Despite the gains achieved in governance, the worldwide governance Indicators (WGI) still show the country has not reaped the benefits. As shown from figure 1.1 below, the governance trends indicate the performance has been consistently negative with political stability and absence of violence ranking badly since 1996. This can be attributed to violence that has been reoccurring every election year and which culminated to PEV in 2007. Corruption and rule of law also rank baldy and also depict least improvement over the review period.

Figure 1.1: Scatter Diagram for WGI & % GDP Growth for Kenya

——— GDP Growth Rate (%)	◆ Voice and Accountability
■ Political Stability and Absence of Violence	▲ Government Effectiveness
✕ Regulatory Quality	✳ Rule of Law
● Control of Corruption	

Data Source: World Bank Dataset
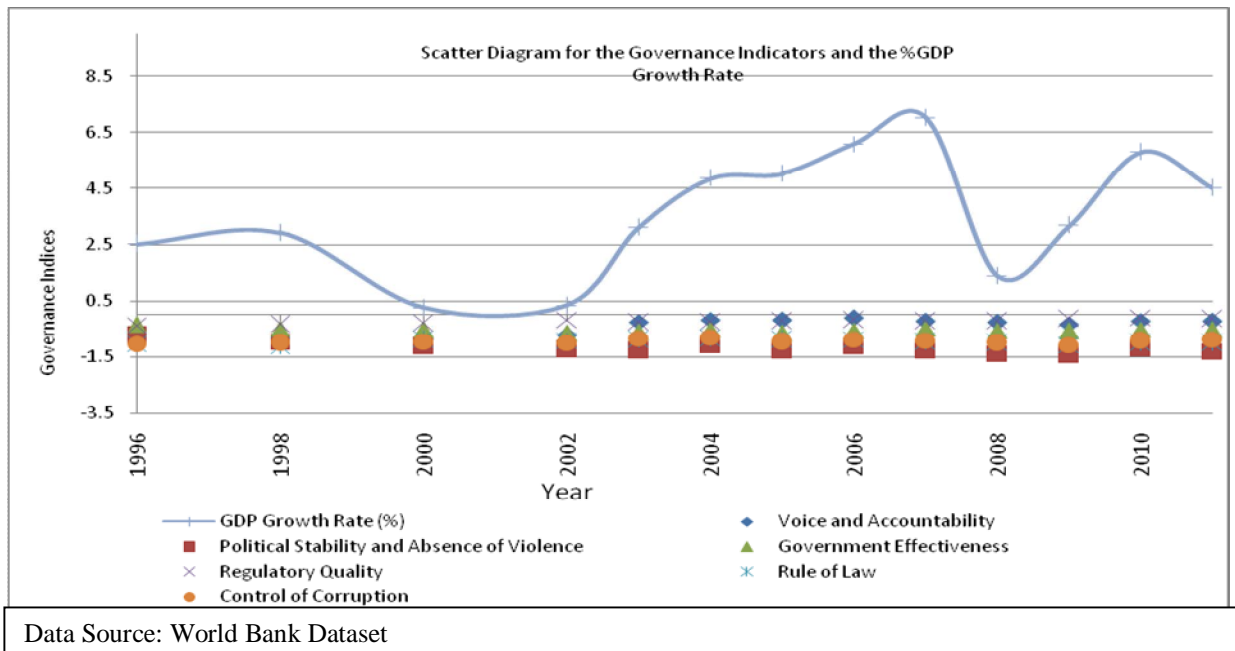
Of the indicators considered, the estimates in a range of approximately -2.5 (weak) to 2.5 (strong) show Kenya has performed dismally and only in few instances did the indicators have a positive value confirming the country has had a checkered governance history. Similar concerns can be observed from the Corruption Perception Index (CPI) which shows the country has consistently ranked among the most corrupt globally. The country ranked 139 in 2012 out of 174 economies while in 2011 it ranked 154 out of 183 economies surveyed.

1.1.3 Public Expenditure Overview

A review of the public expenditure (PE) in Kenya as a percentage of GDP depicts gradual increase and reflects the size of government in the economy and the changing functions. In 1975, the PE as percentage of GDP was a 33.6% and increased to 39.5 % in 1980 and further to 43.6% in 1983. This gradual increase is reversed in the late 80s with average PE to GDP being 36.2% and 36.04% in 1984 and 1985 respectively. The peak in government expenditure was attained in 1988 and stood at 58.8% before declining sharply to 30% in 2003. The average PE in the 90s is 45.36% compared to 34.23% in the period commencing 2000. The increase in PE can be attributed to rise in government expenditure mostly due to change in political and donor environment, inefficiency and corruption in public service impacting negatively on the economy. An analysis of current and development expenditure in the country further shows huge resources are expended on the latter. As figure 1.2 below shows, the trends on the capital expenditure and the current expenditure paint the picture of a consuming nation.

Figure 1.2: Trends of Capital and Current Expenditure (% of total PE) and GDP Annual Growth in Kenya
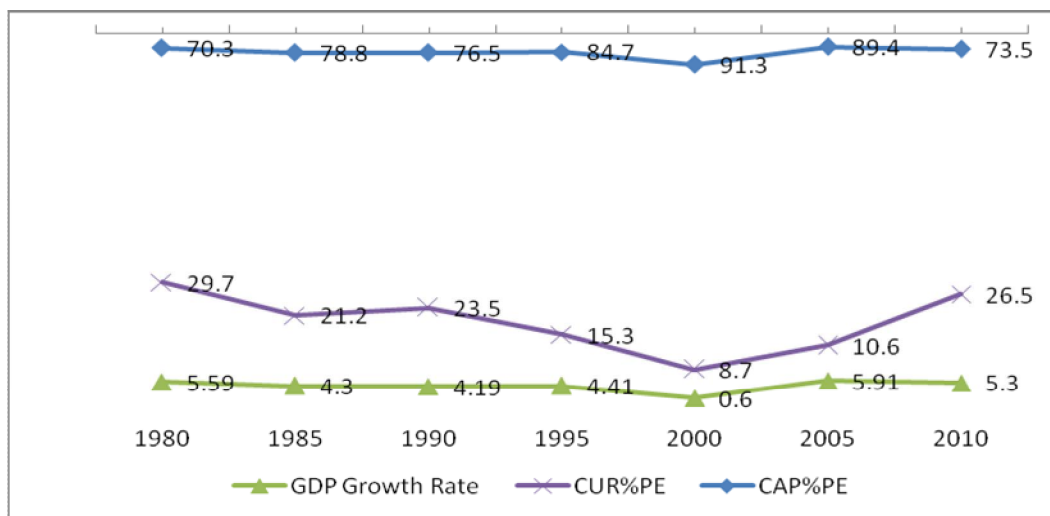
Source: Own graphing using Excel

A review of government expenditure over time shows the average recurrent to capital expenditure ratio has been increasing over the years from 70.3% to 29.7% in the 80s to reach staggering average levels of 89.4: 10.6 in the year 2005. Analysis of the trends show the economy spent on average over 20% on development in the 80s before declining significantly to a dismal 8.7% in 2000 before reversing to reach 26.5% in the year 2010. PE based on economic functions show economic activities benefited most in the late 70s followed by education, transport and communication and agriculture in that order. The transport and communication sector suffered massively during the 80s and 90s with expenditure dropping by over 85% from 12.94% to 1.88% before rebounding to 4.5% and 5.98% on average between 2004 and 2009 respectively. In the early 80s, the defence budget was increased to 11.7% from 7.4% of total Government expenditure, perhaps as a consequence of the military coup attempt of the 1982. Education expenditure has been most consistent oscillating between 14% and 20% in the review period while health funding is consistently low at between 3% and 7% government resources. The figure 1.3 below shows the average expenditure by the sectors between 1975 and 2009, KNBS Publications, Various (1963-2012).

Figure 1.3: Trends of Average Expenditure by sector in Kenya Between 1975 and 2009 (% of GDP)
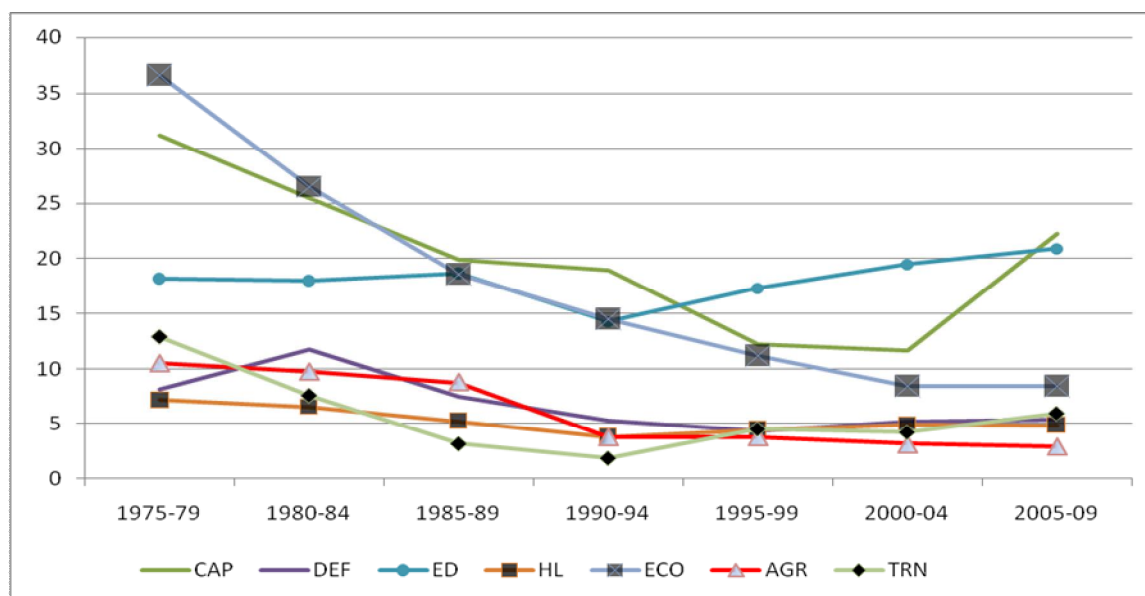
Source: Own graphing using Excel

From figure 1.3 above, it is manifest PE in most sectors have declined the worst affected being economic activities followed by transport and communication. For instance, the expenditure of agriculture was 10.5% of the total government expenditure in 1975 and remained stable for the better part of the 80s before drastically being reduced to 2.8% and 1.4% in 1989 and 1992 respectively. This is a major concern given that agriculture contributes significantly to the GDP, is the single largest employer and further contributes significantly to the foreign exchange earning of the country.

Despite the significance of infrastructure development in overall economic development process such as reducing the cost of doing business, increasing access to market and overall mobility, the sector received meager allocations 80s and 90s with average allocation dropping from 12% in late 70s to 1.8% in the period early 90s before rising to 4.5% in late 90s.

1.2 Statement of Problem

Over the last three decades, there have been fundamental reforms aimed at improving governance and expanding the participation, transparency and accountability in public resource management. Major changes have been effected and institutions strengthened but at a substantial cost. Further the public sector has risen significantly as reflected in increase in budgetary allocations to all sectors of the economy. The recent promulgation of the new constitution has created a devolved system of government and key institutions aimed at enhancing governance. These new structures are expected to be adequately financed to be able to effectively check the excesses of the executive and thereby help the country to realize its development objectives. Another aspect that needs urgent investigation is how government resources are allocated in the various sectors of the economy. This is critical since the budgetary allocation has increased substantially from KShs 200 billion to over KShs 1.3 trillion in less than ten years but the bulk of which has been recurrent in nature.

The substantial increase in public expenditure and institutional reforms has unfortunately not translated to impressive economic performance or meaningful welfare improvement. The Governance indicators are dismal, corruption and rent seeking continue to thrive and the effort devoted to these institutions may as well not be achieving their desired intent. In light of above, it is aptly timely to conduct a research in order to identify if the clamour for reforms is misplaced and if the country is paying a higher cost for governance at the expense of other development activities. Given the abundance of resources spent by the government and the emphasis on institutions and governance discourse in the country, there is need to undertake an empirical investigation. The high cost of governance and the composition of public expenditure are pertinent issues therefore that require proper investigation if the desired economic outcomes are to be realized.

1.3 Research Questions to be Answered

This paper aims to elaborately address the question how governance and public spending composition impact on economic development in the Kenyan context. Thus, the key research questions that need to be answered include:

1. How does government spending affect economic growth and how should resources be allocated among different sectors such as defence, infrastructure, agriculture, health, and education to achieve the desired economic growth?

2. How does governance impact on economic growth?

3. What relevant policy recommendations can be made, in light of the empirical results on governance and public spending effects to enable the country achieve the long term development objectives?

1.4 Objectives of the Study

The primary objective of this study is to empirically analyze the impact of governance and public spending on overall improvement of the economic development in Kenya. More specifically the study intends to address the following objectives

a) Establish the relevance of governance as a key determinant of development in Kenya through review of governance indicators.

b) Map out the nexus between governance and public spending and establish how they impact on economic development by estimating a model and thereby infer the relative importance of the various variables in explaining the economic development.

c) Use the empirical finds to give policy recommendations aimed at mainstreaming good governance in public expenditure as a fundamental pre-condition for long-term economic growth and therefore inform the public expenditure and governance discourse by making appropriate recommendations.

1.5 Justification of the Study

First, while theoretical and empirical studies conclusively submit to the relevance of good governance as an impetus for economic progress, there is a clear deficiency in interrogating the nexus between quality of governance, public expenditure and economic development. Equally, many empirical studies undertaken to test the hypothesis of endogenous growth theories suggests governments can actively promote economic growth such as Barro (1991). Most of these studies are based on cross-country or panel data analysis and granted the diversity of countries in many aspects, the studies severely suffer from the heterogeneity of the data set used and therefore do not allow for a reliable estimation of country-specific effects. This leads to bias in the econometric estimation which can out do the merits of the cross-country and panel data sets. In light of this, it

would appear to be primarily apt for a case study for Kenya to adopt this practice since the prevailing factors clearly distinguishes Kenya from other countries.

Secondly, the effect of public spending on economic growth has been extensively researched but these studies have often proffered conflicting results. According to Ram (1986), public expenditure has positive and significant effect on economic growth. However, according to Landau (1983) and Barro (1990), this relationship is significantly negative while a study by Kormedi & Meguire (1985) concluded the relationship is insignificant. The need therefore to conduct further empirical analysis to bridge the existing gap and provide further insights is highly needed. Further given the obvious linkages between public spending policies and economic growth, there is need for more research to inform policy decision on resource allocation to sectors that have significant association with economic growth if the Kenya's long term development objective is to be realized.

1.6 Scope of the Study

The study examines economic development in Kenya for the period 1984 to 2010 and interrogates the place of governance and public spending composition in fostering economic growth and outcomes. This paper is organised as follows - in the following section, the nexus between governance, public spending and growth is interrogated through both theoretical and empirical literature review. Section three highlights the methodology for this analysis, reviews the expected relationship among the variables and the data used is described. In chapter four, the findings of the regressions analysis are submitted and the concluding remarks and policy recommendations are presented in the final section, section five.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviews theoretical and empirical literature on governance and public expenditure and how they affect economic growth. The section discusses theoretical foundation on the linkage between governance, public expenditure and economic growth and presents review of studies undertaken. The chapter is divided into three parts; the first section reviews theoretical studies in the field of governance and public expenditure and economic growth, the second part discusses the empirical works on impact of governance and public expenditure composition on economic growth while the final section gives a brief summary of the literature reviewed.

2.1 Theoretical Literature Review

Most analysts and scholars have widely accepted the notion good governance is a central factor in achieving faster economic growth and development. Further corruption and bad governance have been attributed as the principal barriers to economic development and social improvement in many countries across the globe. This has generated debate that good governance and quality public administration results to improved growth and development with governance aspects such as protection of property rights and rule of law being critical elements for influencing development by attracting flow of long-term foreign investments which augment economic growth, Kaufmann, Kraay and Massiomo (2009). Good governance enhances National Security, creates conducive environment for investors which promote employment and reduces dependency.

The importance of governance as a source of economic development is supported by economists who proffer relevance of institutions in fostering development. These have their backing in economists such as North (2005) who have attributed good governance to good institutions which foster economic growth. Institutional reforms and good capacity creates structures that protect the individual rights and this boosts the levels of investment which creates conducive environment of economic flourishing.

A similar position has been advanced by World Bank, IMF and other bilateral agencies which link the litany of development problems to governance crisis especially in Africa. The persistent under development is characterised by weak rule of law, tight control of information, low accountability and poor quality of institutions. It is further observed, these countries face fiscal distress and heavily rely on foreign aid to fund their budget, World Bank (1989).

Another theory explores the institution of ethnicity and how it affects quality of governance and ultimately to provision of non excludable goods and public services. For instance, Kimenyi (2006), postulates ethnic heterogeneity leads to poor provision of public goods which are non excludable and hence societies have high dependence for patronage resources. Ethnicity is therefore a critical ingredient in building viable institutions in highly ethnically fractionalised developing nations and therefore does influence public policy and overall level of governance.

Most theoretical literature holds good governance results to high levels of development, leads to more accountability and improved bureaucracy, efficient and transparent fiscal management and strong rule of law. These reinforce each other to spur growth by creates a conducive environment for foreign investment and aid which are vital for sustainable long-term development.

There are several theories that attempt to explain public expenditure and how it interfaces with economic growth among them the Wagner's law of increasing state activities, the Keynesian theory which postulates PE is relevant especially during recession times, and the Wiseman and Peacock's theory. Contrary views are advanced by theories supported majorly by the neo-classical growth models and the classical economists.

The Wagner theory argues growth in PE is a function of two fold increases namely, increase in industrialization and economic development. Specifically, during industrialization process, the share of PE in total expenditures increases as the real income per capita of a nation rises and this

causality runs from economic growth to PE. This relationship is affirmed by Muhlis and Hakan (2001) who conclude causality runs from the output growth to PE.

The theoretical strand of literature emanating from the works of Peacock and Wiseman suggested the growth in public spending occurs mainly due to political considerations which induce governments to increase expenditure as the demands for more social services increase while people resist increased taxation. They assert there may be contention on the desirable level of PE and taxation limits but these can be mitigated by massive disturbances, such as major wars. These result to displacement effect resulting to new public revenue and PE levels which provoke the government to increase taxation and devise new measures of generating revenue to minimize the shortfall gap. According to Peacock and Wiseman this period of displacement facilitates increase in PE and concentration and further reduces autonomy at local level resulting to increase in state activities.

A different theory attributed to Keynes argues expansion of government spending accelerates economic growth and therefore treats PE as an exogenous factor in growth. The Keynesian theory supports the increased intervention of government through increased PE especially during recession to create employment and spur growth.

The theoretical arguments opposing government intervention in the economy has its foundation in the works of Adam Smith who advocated much on the õlaissez-faireö economy with the profit motive driving economic growth. The proponents contend government intervention causes more harm than good to the economy and therefore most economic activities should be left to the private sector. They further note increased public spending crowds-out private investment which distorts the private sector response and thereby creating inefficiencies. This position is supported by recent studies by Landau (1983) and Kormedi and Meguire (1985) who support minimized role of government.

2.2 Empirical Literature

There is substantive empirical literature providing evidence that good governance is growth enhancing and affects other development conditions such as poverty and inequality reduction. The quality of governance as captured in most studies emphasis the quality of institutional mainly depicted by rule of law, political freedom and stability as well as civil liberties and human rights.

Among the studies conducted is one by Hall and Jones (1999) which attribute the huge differences in per worker output existing among nations in productivity as opposed to educational levels and capital intensity. They attribute differences in governance and institutions among countries to much of the differences in productivity hence output per worker. They use the ICRG indices and the Sachs - Warner index measuring trade openness to construct a social infrastructure variable and their findings indicate the social infrastructure variable is highly significant in each of the model specifications, resulting to conclusion governance and institutions do have a large effect on economic performance.

A study by Rowley (1999) finds high levels of rent seeking and rent extraction deeply rooted in the colonial structures sustained after independence. He asserts most to the policies practiced such as price controls and interest rates regulation, import licensing and selective taxation induces rent seeking. Using examples of Kenya, Ghana, Nigeria and the Democratic Republic of Congo he concludes the policies and structures and lack of constitutionally guaranteed property rights in these countries avail space for rent-extraction which results to misallocation of public resources. This alludes to the importance of governance in determining resource allocation with poor governance leading to resource allocation to corruption prone sectors.

The role of colonial powers historical ties in shaping Africa destiny is supported by Ndulu and OøConnell (1999) as possible determinants of Sub-Saharan Africaøs poor institutions and low development. By analysing the transition of countries from colonial to civilian and later

authoritarian regimes they attribute cold war as a possible explanation of the institutional development stage and consequently the economic performance of most countries. They also argue there is usually a conflict between the political rulers and the society and as such the institutions developed are the ones that grantee maximization of the welfare of the political elite at the expense of the society.

Governance relevance in development outcomes is supported by Kaufmann, et al. (1999) where they use six aggregated governance indicators to examine their effects on per capita income, infant mortality and adult literacy. Their conclusion points a one-standard rise one of the six indicators of governance results to between two-and-a-half to four point rise in each of the development indicator and hence concur governance is critical for growth.

A study by Chong and Calderon (2000) which examined the impact of political institutions on income inequality for One Hundred and twenty one countries (121) classified as both developing and industrial countries using the six indicators from the World governance Indicators data set and ICRG civil liberties and political rights indices as well as the country credit ratings being proxies for respective political institutions concluded poor institutions and income inequality reinforce each other irrespective of the political considerations and the political stability indicator hugely influences inequality aspects.

A study by Azfar and Gurgur (2005) which analysed corruption levels among communities in the Philippines provides valuable information on how corruption levels impact on development. The study found communities with higher levels of perceived corruption experienced worse health and education indicators. Specifically, they performed dismally in immunization and public health facilities access rates, school rankings and test scores, and parent satisfaction with schools. The study used the corruption level perceived by residents, officials, and administrators as measure of corruption to undertake the analysis.

A study by Kagundu and Martinez-Vazquez (2006), using a panel data set from 100 sample countries covering the period between 1971 and 2000, using governance indicators from ICRG and freedom house finds positive and statistically significantly effect of governance on growth. They further note good governance is associated with high PE in education and health sectors and low spending on defence and a smaller share of capital expenditures as share of total PE. The study uses a dynamic panel data estimator to tackle some of the problems associated with economic growth studies.

Arusha, (2009) looks at the role of the government in economic growth by incorporate both the size and the quality dimensions of government. The study concludes increased PE and good governance foster economic growth outcomes. This study analyses cross section data from 71 economies and uses the Solow Augmented Mankiw-Romer-Weil (MRW) model. It employs PE as proxy for size of government and a governance indicator for quality of government. The findings affirmed improving the efficacy of public capital can result to improved growth and countries with good governance make more effective use of PE and further increased PE results to improved governance. These studies by and larger concur with studies by Prichett (1996) and Rajkumar and Swaroop (2002) hold a common position.

A study by Akpan and Effiong, (2012) which analysis panel data for 21 SSA countries for the period 1998 - 2007 on the association between governance and development using per capita income as the dependent. The study employs the use of the rule of law, regulatory quality as well as the political stability from WGI data set and concludes these is significant association with dependent variable.

Most of the empirical literature on PE asserts itøs an important ingredient for economic growth and development outcomes. A good strand of it is cross country and looks at the relationship between composition of public spending and economic growth by categorising expenditure as either

productive or unproductive. Public expenditure which enhances HH utility function is regarded as unproductive since it lowers investment by encouraging higher taxation. On the other hand, PE in sectors such as infrastructure development complements private sector activities and is perceived as productive. This position is supported by studies such as Easterly and Rebelo, (1993) and Kormendi and Meguire, (1985).

A study by Aschauer (1989) on the United States PE using data from 1949-1985 concluded core infrastructure expenditure and other public capital is significantly related with private sector productivity. These findings are affirmed by Gupta et.al (2002) who argues PE especially in the capital component enhances economic growth positively more so when budget deficit is kept low.

A study by Barro (1991) using the endogenous growth structure argues PE is positively associated with economic growth when the share of PE is low. However, this turns negative when PE is increased due to inefficiencies. This position is supported by study by Easterly and Rebelo (1993), Devarajan (1996) which conclude PE in transport and communication in developing countries is highly positively correlated with growth.

A Kenyan case undertaken by Mudaki and Masaviru (2012), analyses the composition of PE for the period between 1972 and 2008. The study employs OLS and concludes PE composition is fundamental in determining economic growth. Specifically the study finds PE in education is highly significant and positively related to economic growth while expenditure on transport and communication and economic affairs is weakly significant but positive while expenditure on agriculture is significant though negatively associated with economic growth. Further PE in health and defence was found to be insignificant related with economic growth. The findings contrast with a study by Olabisi and Funlayo (2012) which analyses Nigeria PE data from 1960 to 2008 using the VAR model which shows PE on education and water does not spur economic growth due to high rate of rent seeking and rising unemployment while PE in defence, transport and health is positively linked with economic growth.

The foregoing findings contrast with Akpan (2005) who analyze PE for Nigerian for the period 1970-2003 using Disaggregated Analysis. His conclusion is government total capital expenditure and recurrent expenditures and PE on education have negative effect on economic growth and are statistically significant. In contrast, PE on transport and communication and health enhance economic growth while expenditures on defence and agriculture are not significant in explaining economic growth.

2.3 Literature Summary

The theoretical and empirical literature on the importance of governance and public spending on economic growth and development outcomes remains inconclusive. Most of these studies are cross-country and panel data based and used different variables to proxy for governance and PE is analysed in aggregated form. On governance some studies have used aggregated indicators such as WGI dataset, others have used media access, mortality rates and literacy levels or civil societies participation in budgetary process as instruments for governance. The studies have largely alluded to the position good governance is vital for development and growth but have largely ignored the causality implications since good governance may be a product of development.

Pertaining to public spending, most studies have alluded to the role of government in fostering growth through composition of PE. Many of the studies have concluded spending in social sector enhances long-run growth especially spending in health and education while a good number have opposed this view and contented PE crowds out private sector contribution. Others have argued there is little impetus for spending in areas that promote growth and therefore PE retards growth. Similarly, there is growing strand of literature which finds little if any relationship between economic growth and public spending. Based on above inconclusive nature of the studies it would emerge the debate on the role of governance and PE in fostering economic growth and development outcomes is far from consensus and therefore further studies are aptly necessary.

CHAPTER THREE

METHODOLOGY

This chapter presents the model specification and methodology used to examine the relationship between governance, public expenditure composition and economic growth in Kenya. We present a theoretical framework outline followed by model specification and explanation of the variables used in econometric regression and the diagnostic tests employed to test the robustness of the results as well as the sources of data for estimation.

3.1 Theoretical Framework

A theoretical representative model as developed by Devarajan, et al. (1996) and modified by Kagundu and Martinez-Vazquez (2006) consequently is analysed. The agent model develops a link between the PE composition and economic growth, and defines both productive and unproductive PE based on their effects on economic productivity and growth rates in the long-run. PE categorized as productive if it enhances the per capita income in the long-run, and unproductive it deters growth in the long-run. A governance indicator as a growth enhancing variable is introduced in the model consequently.

A model which takes the Cobb - Douglas production form which exhibits CES with each person production (y) comprising of three arguments namely; capital (K) which is private, two types of PE (g_1 and g_2) and an efficiency enhancing factor (V) as expressed in equation 3.1 below is employed.

$$y = Vf(k,g_1,g_2) = Vk \ g_1^{ß}g_2 \quad í \ í \ í \ í \ í \ í \ í \ í \ í \ í \ í \ í \ í \ í \ í \ ..(3.1)$$

Where: ,ß, $\times$ 0 and +ß+ =1

Where V is defined as A , while A and are technology and quality of governance indexes respectively.

From Devarajan et al. (1996), we postulate PE is financed by levying a flat rate of income tax (τ) and government is financed from a balanced budget thus;

$$\tau y = g_1 + g_2 = g \qquad (3.2)$$

In equation 3.2 above, g is the total PE comprising of both productive (g_1) and unproductive (g_2) expenditure while other components are as defined earlier. We let   to be the proportion of g spent on g_1 assuming ($0 <$ <1) while assuming PE in any section lies between zero and one thus avoiding collapsing the entire function, therefore;

$$g_1 = \varphi g = \varphi \tau y \quad \text{and} \quad g_2 = (1-\varphi)g = (1-\varphi)\tau y \qquad (3.3)$$

A given representative individual aspires to maximize his lifetime utility given by the equation 3.4 below given the government's decision on PE and taxation and subject to constrain 3.5.

$$U = \int_0^\infty u(c)e^{-\rho t}\,dt \qquad \text{where } u' > 0, u'' < 0 \qquad (3.4)$$

Subject to

$$\dot{k} = (1 - \tau)y - c \qquad (3.5)$$

From equation 3.4, u (c) is the individual immediate utility, c is per person consumption and   is a time discount factor. Higher values indicates individual prefer more consumption now than in future and vice versa. Equation 3.5 is the budget constraint where individual uses disposable income (y) available between consumption and savings while. The rate of capital stock (k) change with time ($\dot{k}$) is the difference between disposable income (y) and current consumption (c). We therefore can substitute equations 3.1 and 3.3 into 3.5 and get a budget constraint presented as below.

$$\dot{k} = (1 - \tau) \ Vk \ \varphi g^{\beta}(1-\varphi)g \ – c \qquad (3.6)$$

By setting a Hamiltonian function and maximizing equation 3.1 subject to budget constrain given by equation 3.6 we get the consumption growth below;

$$\frac{\dot{c}}{c} = \mu = \frac{(1-\tau)V\alpha k^{(\alpha-1)}\varphi^\beta(1-\varphi)^\gamma g^{(\beta+\gamma)} - \rho}{\sigma} \tag{3.7}$$

We can trace the effects of governance on growth rate through the composition of PE assuming it is a function of the governance quality as presented below.

$$\mu = f(v, \varphi) \, and \, \varphi = \Psi\varphi \tag{3.8}$$

The governance effect on economic growth rate through efficiency enhancement or the composition of PE or mix of the two can thus be adduced as shown below.

$$\frac{\partial\mu}{\partial\Psi} = \frac{\partial\mu}{\partial v} \times \frac{\partial v}{\partial\Psi} + \frac{\partial\mu}{\partial\varphi} \times \frac{\partial\varphi}{\partial\Psi} \tag{3.9}$$

From equation 3.9 we derive the total impact of governance on the long term economic growth as presented below.

$$\frac{\partial\mu}{\partial\Psi} = \frac{A}{\sigma}(1-\tau)V\alpha k^{(\alpha-1)}\varphi^\beta(1-\varphi)^\gamma g^{(\beta+\gamma)}\left[(A\psi\Psi + A) + \Psi A\left(\frac{\beta}{\varphi} - \frac{\gamma}{1-\varphi}\right)\varphi\psi\right] \tag{3.10}$$

The term in bracket, (A   + A) determines the direction of the total impact and is assumed a priori to be positive since governance and technology factors are assumed to be affirmative. We take better institutions promote technology assimilation and hence changes in level of technology (A) resulting from better governance is positive. The second bracketed term from equation 3.10 has a positive and indeterminate component a priori since A and   and the second component given as $\left(\frac{\beta}{\varphi} - \frac{\gamma}{1-\varphi}\right)$ is positive only if the proportion of relative elasticities (ß,   ) is greater than g_1 and g_2 relative shares to the total PE. Thus the output of g_1 to the initial PE shares allocated to the both g_1 and g_2 determine the impact of ( ) on growth rate.

The link between governance and PE is given by ( ) which gives the governance quality effects on the PE composition. Following Kagundu and Martinez-Vazquez (2006), we postulate it øs influenced by type of PE, where one is prone to corruption (g_1) and the other (g_2) is not. From literature, defence and massive infrastructure outlays expenditure are prone while health, education and agricultural sectors are less susceptible.

Further, opportunity cost of improved governance and improved quality of institutions influences choice of PE outlays with more funding devoted to corruption prone sectors with weak institutions and where social welfare maximization is not a priority. In contrast, higher allocations are devoted to g_2 where strong institutions exist which reduces the impetus for rent seeking and the desire to improve the quality of life and social welfare is a primary responsibility. We assume the PE decisions are made to maximize utility of the average voter (given in equation 3.11 below), given certain levels of corruption and the budget constrain as earlier alluded.

$$V_{GOV} = \quad U^M + (1- \quad)R \qquad\qquad (3.11)$$

$$\text{Subject to: } \tau y = g + g = g \qquad\qquad (3.12)$$

From equation 3.11; we define U^M is the utility of the median voter, R as the rent extracted and other variables are as prior defined. Borrowing from Kagundu and Martinez-Vazquez (2006) we assume rents are only extracted from first category of PE (g_1) prone to corruption while consumer gets utility from second category (g_2). The governance quality ( ) is presumed to lie between zero and one and resources allocated for PE ventures. Equally, the rent extracted is a certain proportion of g_1 with some PE going into the utility of the average voter while at the same time g_2 is prone to rent extraction and hence some resources do not augment the utility function of the representative consumer as shown below.

$$R = \theta g_1 \text{ and } U^m = g_1^\alpha c^\beta \qquad\qquad (3.13)$$

Equation 3.13 can be substituted in 3.11 to get equation (3.14) which allows us to examine the two categories of PE subject to the budget constrain. This gives us equation 3.15 and 3.16 for g_1 and g_2 expenditures as given below.

$$V_{GOV} = \Psi U^M + (1 - \Psi)\theta g_1 \qquad (3.14)$$

$$g_1 = y\tau - \left[-\frac{\theta(\Psi-1)}{\alpha\Psi c^\delta}\right]^{1/(\alpha-1)} \qquad (3.15)$$

$$g_2 = \left[-\frac{\theta(\Psi-1)}{\alpha\Psi c^\delta}\right]^{1/(\alpha-1)} \qquad (3.16)$$

We measure the effect of governance quality on PE by taking the derivatives of g_1 and g_2 with respect to the governance quality ( ) as shown below;

$$\frac{\partial g_1}{\partial \Psi} = -\left[-\frac{\theta(\Psi-1)^{1/(\alpha-1)}}{\alpha\Psi c^\delta}\right] \times \frac{1}{(\alpha-1)(\Psi-1)\Psi} < 0 \qquad (3.17)$$

,

$$\frac{\partial g_2}{\partial \Psi} = \left[-\frac{\theta(\Psi-1)^{1/(\alpha-1)}}{\alpha\Psi c^\delta}\right] \times \frac{1}{(\alpha-1)(\Psi-1)\Psi} > 0 \qquad (3.18)$$

Equation 3.17 and 3.18 depicts a reduction in g_1 and increase in g_2 arising from improvement of governance quality. The theoretical presentation as presented proves both size and composition of PE as well as governance quality do affects the long run growth in the economy. The PE categories prone to rent seeking and thus likely to be implemented and supported further with inadequate governance structures and weak institutions are likely to negatively impact on long term development objectives.

3.2 Model Specification

This study estimates an empirical model based on the neoclassical growth model. It incorporates various variables deemed as determinants of economic growth rate and the governance variable is introduced in the model through ICRG and CIRI Indicators. The model further analysis the role of government in influencing growth outcomes through infrastructure development, human capital growth through education and health spending and creating conducive environment for private sector and foreign direct investment and correcting market imperfection through various spending channels. Based on foregoing we estimate the model specified below.

$$RGDPGR_t = f(PE_t, INV_t, GOV_t,) \qquad (3.19)$$

Where PE_t is the disaggregated PE on education, defence, health, transport and communication agriculture and social protection sectors. On the other hand GOV_t denotes two distinct governance composite indexes while INV_t is the annual investment represented by gross fixed capital formation (gfcf).

The functional model to be estimated therefore is presented as:

$$rgdpgr_t = \beta_0 + \beta_1 edu_t + \beta_2 def_t + \beta_3 hlth_t + \beta_4 gri_t + \beta_5 trcom_t + \beta_6 sprt_t + \beta_7 gfcf + \beta_8 cer_t + \beta_9 icrg_{it} + \varepsilon_t .. \qquad \textbf{(3.10)}$$

Where rgdpgr is the annual growth rate in real GDP and gfcf is the total domestic investment which is introduced as a control variable. The other variables represent the disaggregated PE in various sectors namely; education, defence, health, agriculture, transport & communication and social protection respectively.

Two governance indicators are selected namely the Cingranelli-Richards (CIRI) Human Rights Dataset which contains quantitative information on government respect for 15 human rights which are internationally accepted. This will help to test the popular view that improved governance leads to increased respect for human rights, improved freedom and this in turn enhanced development.

Another governance indicator is sourced from ICRG and measures the mean value of Corruption, Law and Order and Bureaucracy Quality which are individual variables measured on a scale of zero to one. Corruption is measured within the political system and affects negatively foreign investment, distorts the economic and financial systems and furthers inefficiencies in government and business which impacts dismally on growth. Law and order looks at the strength and impartiality of the legal system by the judicial system and popular observance of the law in a country through crime rates assessment and how effective sanctions are in curbing high crime. The institutional and bureaucracy quality component grantees minimized revisions of policy when governments change. Strong institutions cushion countries from drastic changes in governance systems by ensuring autonomous civil service and this ensures countries are able to pursue policies with minimal disruption. Higher values indicate higher quality of government. The stochastic error term is given by   and is assumed have a mean of zero and constant variance while β_i are parameters to be estimated.

We expect PE in agriculture to be positively related to economic growth since it the mainstay of the economy, education and health to enhance human capital and therefore foster development, Transport and communication will affect growth positively since they improve private sector contribution in the economy by lowering cost of investment and doing business while gross fixed capital formation is a priori expected to positively influence growth based growth literature. In contrast we expect PE in the remaining sectors (defence, social protection) to deter growth. However, the a priori position may differ if the rent seeking is used as the yard stake since transport and communication can be taken to be prone to the vice and therefore retard development. Good governance is expected to be positively associated with high levels of growth.

3.3 Estimation Techniques and Econometric Tests

The model will be estimated using the OLS method and appropriate tests for robustness such as stationarity, endogeneity and multicolliniarity problems carried out. Consequently, appropriate solutions will be applied before regressing data. The Error Correction Model (ECM) is used to estimate the nexus between public expenditure composition, governance and growth in the short run.

3.4 Time Series Data Properties and Diagnostic Tests

Time series data is associated with several problems which require investigation to avoid spurious results upon application of the OLS method of estimation. Primarily, the OLS method assumes serial uncorrelation, correct model specification, homoscedastic error term and absence of correlation between the error terms and the regressors. If these assumptions are violated, the estimated parameters would not meet statistical threshold.

First, using ADF test we establish if variables are stationary. Secondly we apply the Engle-Granger cointegration test to establish if the non-stationary variables are co-integrated. The Engle-Granger cointegration test allows us to generate residuals from the long run relationship of the non-stationary variables and testing for stationarity using ADF test. Other tests to be applied include the Whiteøs General test to check for heteroscedastic errors, Jarque-Bera test to test for normality for residuals distribution. In addition, the Breusch- Godfrey test will be used to test for autocorrelation while Ramset RESET will be applied to test for the model specification error and lastly the Chow test to check for the structural and parameter stability in the model.

3.4.1 Testing for Stationarity

Non stationarity of variables is a major limitation of time series data and estimating such data gives spurious estimate which cannot be used for any meaningful inferences. The variables are therefore tested for unit root an in itsøpresence de-trending of the series or differencing is done to alleviate the problem. However this leads to loss of some fundamental long run information leading to biased solutions and this is corrected through Augmented Dickey Fuller Test. The ADF test analyses the presence of systematic linear relationship between past and present values of variables and this is achieved by running an OLS regression of the following general equations;

For levels;

$$\Delta y_t = \alpha + \beta_t + \gamma Y_{t-1} + \sum_{j=1}^{m} \rho \Delta y_{t-1} + \mu_t \tag{3.19}$$

For first differencing

$$\Delta \Delta y_t = \alpha + \beta_t + \gamma Y_{t-1} + \sum_{j=1}^{m} \rho \Delta \Delta y_{t-1} + \mu_t \tag{3.20}$$

Where α represents the drift, m is the number of lags and μ is the error term assumed to be independently and identically identified. The null hypothesis is tested against the alternative hypothesis as indicated below and if the null hypothesis is rejected, then the variable is stationary.

Null hypothesis: $H_0 (\alpha, \beta, \gamma) = (\alpha, 0, 1)$ (non-stationary)

Alternate Hypothesis: $H_0 (\alpha, \beta, \gamma) \neq (\alpha, 0, 1)$ (stationary)

3.4.2 Testing for Cointegration

It is assumed a linear combination of two or more variables may result to a stationary series and therefore employ the Engle - Granger Cointegration test to test for cointegration. This entails differencing of the variables to attain stationarity. The cointegrating equation which infers probable existence of long run relationship between dependent variable and the regressors is given by;

$X_t = {}_o + {}_1 Y_t + {}_t$

Where X_t is the dependent variable and Y_t represents all independent variables of the same integration order. The residual of the equation $_t = (X_t - _o - _1Y_t)$ is applied to establish the order of integration. A non stationary time series X_t is said to be integrated of order (z) or 1(z) if it reaches stationarity after z times differencing. With cointegration we ascertain existence of a linear combination that is stationary itself even in absence of stationary of the time series variables. This allows the use of OLS to estimate a variable to produce an estimator of ß which is consistent and efficient and which converges to the true ß as the sample size increases.

3.5 Date Type, Sources and Analysis

The study uses annual Kenyan data for the period 1984 ó 2010 for all the variables. The choice of duration is informed by data availability especially for the governance variable and the fundamental governance changes which has occurred within the study period. Data on public expenditure, investment and exports is sourced from government financial tables published annually in the statistical abstracts and economic surveys by the Kenya National Bureau of Statistics (KNBS) and the World Bank Indicators data base downloadable online. The governance indicator is sourced from Quality of Governance standards available online as well.

The specified model is estimated using statistical programme (STATA) to estimate the data and the study objects are investigated through systematic tests alluded t earlier and the findings presented in the next four.

CHAPTER FOUR

EMPIRICAL ESTIMATION AND RESULTS

4.1 Introduction

This paper intended to empirically test the nexus between good governance, public expenditure composition and economic growth in Kenya using annual data between 1984 and 2010. First the empirical results from the model are presented, followed by the normality test and graphical presentations of the data trend. Other descriptive statistics including unit root tests through ADF test, model estimation and pre-estimation and post estimation diagnostic tests are analyzed. The model regression results are discussion at the end of the chapter.

4.2.1 Descriptive Statistics

Most economic data exhibits definite and clear lower limits but the upper limits lack definite levels due to presence of outliers, consequently, it is critical we test for if the data exhibits normality and Skewness and kurtosis are the major tests. Skewness is the tilt in distribution of a series around the average while Kurtosis measures the level of peaking of the series distribution using the Jacque - Bera test. The sign for skewness shows whether the series is negatively or positively skewed and should lie between -2 and +2 while for the kurtosis statistic of should lie between -3 and +3 for normally distributed series.

Several statistics including the mean, media, standard deviations, minimum and maximum values are presented in the table below. Their implication is also highlighted in the preceding part as well as in the following part of the chapter.

The table below shows some of the descriptive statistics from the data series.

Table 4.1: Descriptive statistics

Variable	Mean	Median	Std. Dev.	Min	Max	Skewness	Kurtosis	Jacque Bera	Probability
rgdpg	3.432223	3.39	2.303476	-0.8	7.14	0.8392	0.0456	4.22	0.1214
def	6.081852	5.7	1.940571	3.2	11.3	0.0087	0.066	8.65	0.0133
edu	18.34444	18.4	2.763933	11.9	22.31	0.2545	0.6157	1.69	0.4306
hlth	4.658519	4.5	0.723351	3.6	5.9	0.376	0.0157	6.12	0.0469
agri	4.547407	3.6	2.758787	1.4	11.4	0.003	0.1579	8.99	0.0112
trcom	4.71	4.4	2.413363	0.8	8.88	0.8194	0.0488	4.14	0.1263
sprt	3.186667	3.19	1.583001	0.9	6.37	0.7292	0.1277	2.69	0.261
gfcf	18.32185	18.87	1.883454	15.39	22.25	0.8705	0.24	1.52	0.4667
cer	5.259259	5	1.58339	2	8	0.8074	0.6638	0.25	0.8832
icrg	0.487741	0.468	0.128986	0.306	0.639	0.9413	0	24.14	0.0
Source: Stata V. 12									

4.2.2 Test for Normality

The data analysis as presented above shows the condition for kurtosis has been met with all variables ranging values close to zero a for skewness test in particular ranging between 0.003 and 0.9413. The null hypothesis dictates if probability is greater than 0.05 data is not normally distributed. Four variables namely expenditure on defence, agriculture, health and icrg governance variable have a p-values of less than 0.05 thus we reject the null hypothesis of non-normality and accept the series are normally distributed. Since the p- value is less than the Jacque Bera chi-square at 5% significance level, we do not reject null hypothesis. All other variables have their median around the mean implying they are normally distributed. Distributions of most zero kurtosis are referred to as. Another noticeable characteristic of normal distribution is the distribution of near zero kurtosis and all series range from 0 and 0.7 implying normal distribution.

4.2.3 Graphical Analysis

A trend analysis was conducted to show the movement of the variables over time and to postulate the reason of the movements.

Figure 4.3.1: Trends in Real GDP Growth Rate
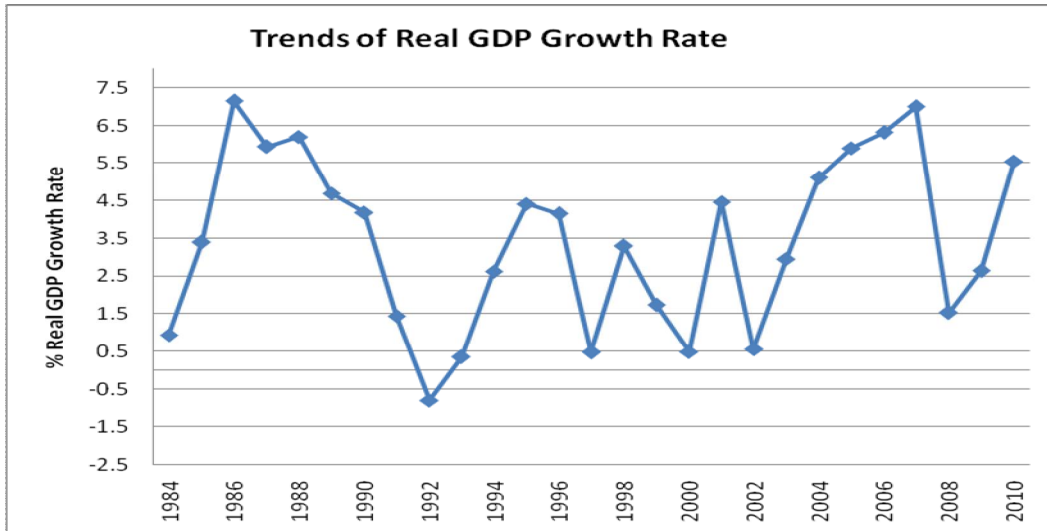
Source: *Own graphing using STATA*

Figure 4.3.1 shows the trend of real GDP growth. The GDP growth rate is indicative of the macroeconomic activities and shows the growth has been erratic over time.

Figure 4.3.2: Trends in ICRG Governance Index
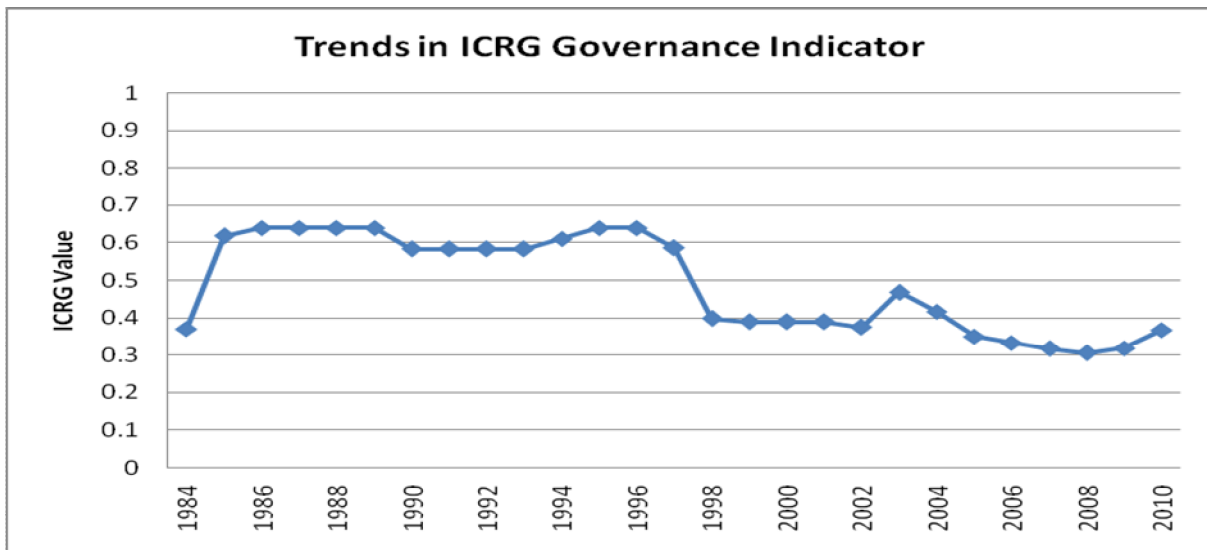
Source: *Own graphing using STATA*

Figure 4.3.2 shows the trend of icrg governance indicator. The icrg is a Political Risk Group rating at the scale of zero to one. The country has oscillated between 0.306 and 0.639 indicative of less than average performance. The performance was higher in the 80s before deteriorating in early 90s and later improving slightly. Between 1998 and 2002 the values are very low perhaps due to heightened political temperatures occasioned by regime change and ushering new of the government. Later years consistently have low values.

Figure 4.3.3: Trends in CIRI Empowerment Rights Indexes
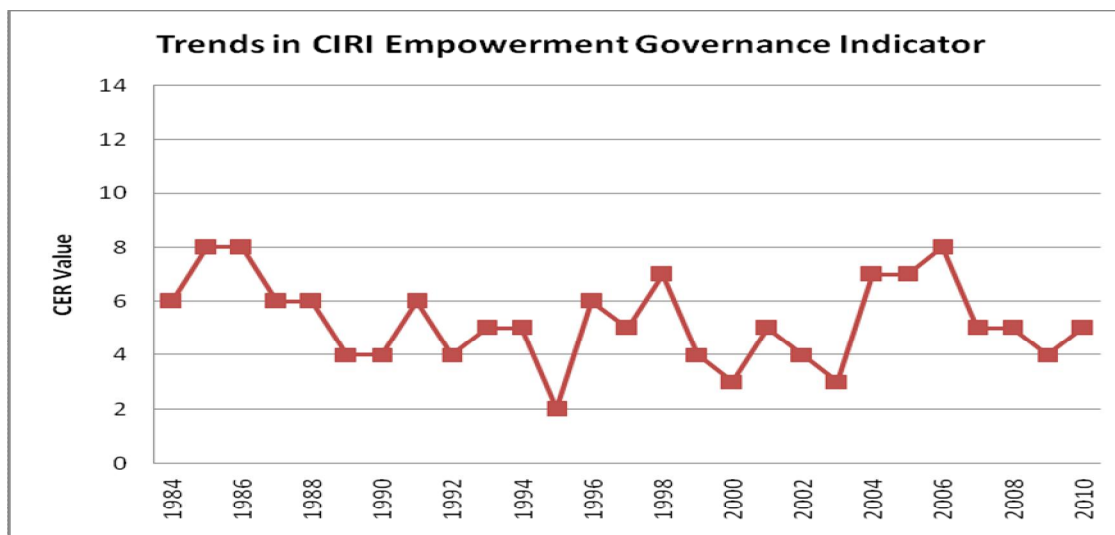
Source: *Own graphing using STATA*

Figure 4.3.3 shows the trend of ciri governance indicator. The rating at the scale of 0 and 10 measures freedoms and rights empowerments of the individuals and respects of these rights by the authority. The trend shows the performance has been erratic over time with systematic decline from 8 to 2 between 1985 and 1995 before rising to 7 in 1998. Subsequent years have seen the performance increase to reach 8 in 2006 then decreasing significantly to 5 in the following year, coincidentally an election year consistent with all other preceding election years.

Figure 4.3.4: Trends in Government Spending
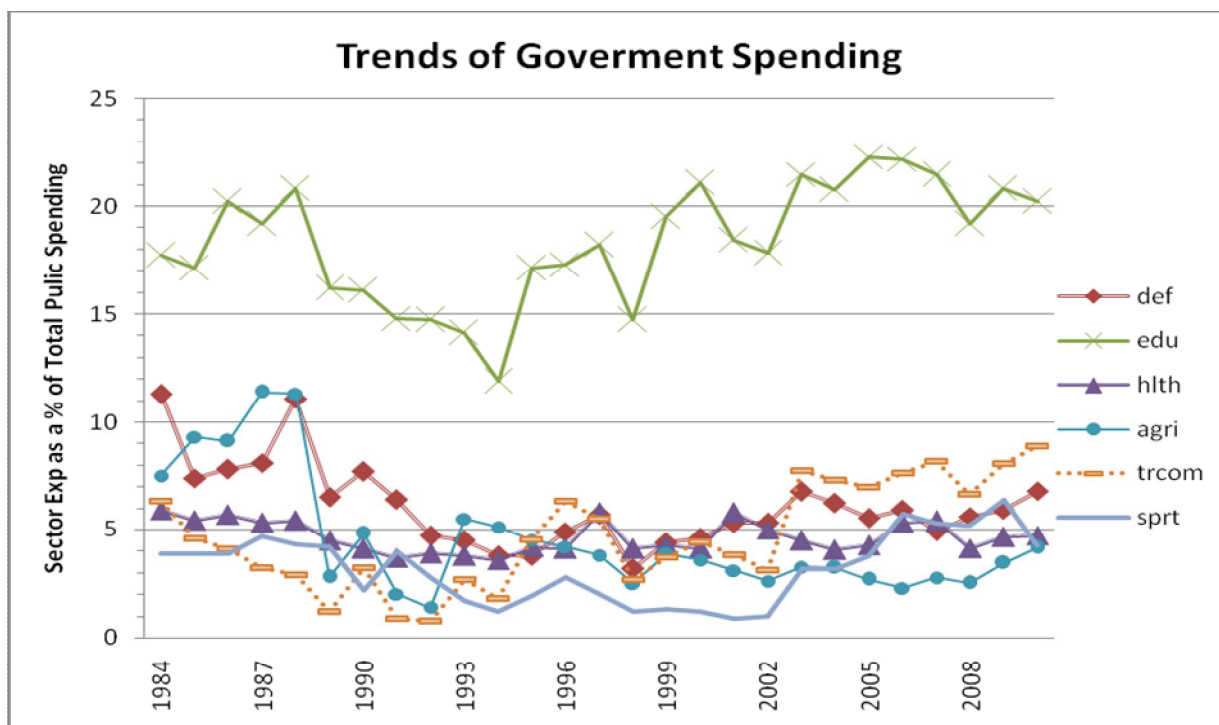
Source: *Own graphing using STATA*

Figure 4.3.4 shows the trend of government spending for selected categories of the economy. Education has been receiving higher allocation but has been sporadic. Agriculture and transport has been the most inconsistent and has overtime moved in different direction reflective of the changing realization of their respective importance in the economy. Heath has been most consistent while social protection has been the least financed.

Huge discrepancy in allocations is experienced in the 80s with education, defence and agriculture having the bulk of it. Transport and communication portfolio has benefited most in the NARC and PNU regimes reflective of the changing recognition and priority the government of the day. There seems to be a decline in education outlay years preceding election and a commensurate increase in the social protection which suggest attempts by a reigning government hoodwink the populace for political mileage.

4.3 Time Series Properties

A persistent problem with time series data is that of stationarity with non stationary data resulting to spurious regression which hold no economic inference. The data was subjected to stationarity test using the Augmented Dickey Fuller test and the results are presented in the tables below;

Table 4. 2: Stationarity Tests at Levels

Variable	Trend/ No Trend	ADF Test	Critical Values			Comment
			1%	5%	10%	
rgdpg	No Trend	-2.823	-3.75	-3	-2.63	Non Stationary
	With Trend	-2.758	-4.38	-3.6	-3.24	
icrcgov	No Trend	-1.332	-3.75	-3	-2.63	Non Stationary
	With Trend	-2.465	-4.38	-3.6	-3.24	
cergov	No Trend	-3.742	-3.743	-2.997	-2.629	Stationary at 5%
	With Trend	-3.733	-4.371	-3.596	-3.238	
def	No Trend	-1.95	-3.75	-3	-2.63	Non Stationary
	With Trend	-1.504	-4.38	-3.6	-3.24	
edu	No Trend	-1.583	-3.75	-3	-2.63	Non Stationary
	With Trend	-2.014	-4.38	-3.6	-3.24	
hlth	No Trend	-3.48	-3.743	-2.997	-2.629	Stationary 5%
	With Trend	-3.336	-4.371	-3.596	-3.238	Stationary 10%
agri	No Trend	-2.207	-3.75	-3	-2.63	Non Stationary
	With Trend	-2.268	-4.38	-3.6	-3.24	
trcom	No Trend	-0.92	-3.75	-3	-2.63	Non Stationary
	With Trend	-2.88	-4.38	-3.6	-3.24	
sprt	No Trend	-1.274	-3.75	-3	-2.63	Non Stationary
	With Trend	-1.314	-4.38	-3.6	-3.24	
gfcf	No Trend	-2.353	-3.75	-3	-2.63	Non Stationary
	With Trend	-2.296	-4.38	-3.6	-3.24	

All the non stationary variables were subjected to first differencing and attained stationarity as shown in table 4.3 below.

Table 4.3: Stationarity Tests at First Differencing

Variable	Trend/ No Trend	ADF Test	Critical Values			Comment
			1%	5%	10%	
rgdpg	No Trend	-5.655	-3.75	-3	-2.63	Stationary
	With Trend	-5.493	-4.38	-3.6	-3.24	
icrg	No Trend	-6.006	-3.75	-3	-2.63	Stationary
	With Trend	-5.51	-4.38	-3.6	-3.24	
def	No Trend	-4.471	-3.75	-3	-2.63	Stationary
	With Trend	-4.633	-4.38	-3.6	-3.24	
edu	No Trend	-4.382	-3.75	-3	-2.63	Stationary
	With Trend	-4.347	-4.38	-3.6	-3.24	
Agri	No Trend	-6.157	-3.75	-3	-2.63	Stationary
	With Trend	-6.155	-4.38	-3.6	-3.24	
trcom	No Trend	-6.003	-3.75	-3	-2.63	Stationary
	With Trend	-6.162	-4.38	-3.6	-3.24	
Sprt	No Trend	-5.601	-3.75	-3	-2.63	Stationary
	With Trend	-5.632	-4.38	-3.6	-3.24	
gfcf	No Trend	-6.334	-3.75	-3	-2.63	Stationary
	With Trend	-6.175	-4.38	-3.6	-3.24	

All variables are stationary at 1% except education variable with trend which is stationary at 5% and 10%. And as can be seen all the variables are integrated of order one and lack trends in the series.

4.4 Test for Cointegration

The cointegration concept shows presence of long run relationship between two or more non-stationary variables and that deviations from the long run path are stationary. The Johansen Test is carried out to establish if cointegration exists among the variables bearing in mind it is the most fitting for a multivariate model and the results are presented in the table 4.5 below;

Table 4.4: Diagnostic Test Results for Cointegration

Maximum Rank	parms	eigen value	trace statistic	5% critical value
0	72	-	489.1066	156
1	87	0.99996	238.4172	124.24
2	100	0.97173	149.271	94.15
3	111	0.90932	89.2604	68.52
4	120	0.83316	44.4928*	47.21
5	127	0.63856	19.0516	29.68
6	132	0.42204	5.3452	15.41
7	135	0.18481	0.2367	3.76
8	136	0.00942		
*Represents the maximum ranks				

For cointegration to exist, the trace statistics should be greater the critical values at 5 %. The null hypothesis states that if there is no rank (r =0), there is no cointegration, however the above results indicate that r = 4, we therefore we reject the null hypothesis and conclude cointegration is present. The trace tests above shows there are 4 cointegrating equations and therefore a linear combination of all the eight series is cointegrated. Further, the eigen values are greater than zero which confirms the series is cointegrated.

4.5 The Empirical Model Results

The long run model regression results of the dependent variable (real GDP growth rate) and the independent variables (expenditure on education, health, defence, agriculture, transport and communication, social protection, the gross fixed capital formation and the governance variables cer and icrg) is presented below:

Table: 4.5 Estimated Long-run Regression Results

Dependent Variable: rgdpgr

Variable	Coefficient	Standard Error	t-statistic	p-value
Constant	-26.2397	5.41933	-4.84	0
edu	0.45648	0.17021	2.68	0.016
def	-0.21164	0.236116	-0.9	0.383
Hlth	0.186178	0.531916	0.35	0.731
agri	-0.06304	0.181826	-0.35	0.733
trcom	0.199438	0.197491	1.01	0.327
sprt	-0.37647	0.293818	-1.28	0.217
gfcf	0.810111	0.199117	4.07	0.001
icrg	7.243845	3.484617	2.08	0.053
Cer	0.7583	0.217677	3.48	0.003

Number of obs	27
F(9, 17)	5.62
Prob > F	0.0011
R-squared	0.7485
Adj R-squared	0.6154

From results presented in the table above, the following long-run regression model is derived which specifies the relationship between the dependent variables and the explanatory variables.

rgdpgr = -26.24 + 0.46edu – 0.21def + 0.19hlth -0.06agri + 0.20trcom - 0.06sprt + 0.81gfcf + 0.76 cer + 7.24 icrg

(-4.84) (2.68) (-0.9) (0.35) (-0.35) (1.01) (-1.28) (3.48) (4.07) (2.08)

The figures in bracket denote the t-statistic values for the respective variables.

The long run model shows that the real GDP growth rate is positively and significantly related to expenditure in education, the gross fixed capital formation and the two governance indicators (icrg and cer). On the other hand, expenditure in and transport and communication is positively but

weakly related to growth. These results are consistent with theory and empirical findings which proffer education and health boost human capital and therefore positively impact on the growth and development and are affirmed by studies such as Mudaki and Masaviru (2012). Defence and agriculture expenditure has negative but insignificant effect on real GDP growth while social protection expenditure is negative but weakly related to growth which is further consistent with expectation since defence expenditure is susceptible to corruption while expenditure in social protection fuels consumption at the expense of development initiatives. However, given that agriculture is the backbone of the economy, the expectation would be increased resource allocation in the sector promotes growth contrary to results, these are affirmed by Akpan (2005) and Kormendi and Meguire (1985) who submit theses expenditure outlays are unproductive.

The governance indicators employed in the regression shows enhanced governance promotes growth. The cer indicator is an additive index constructed from freedom of movement, religion, speech, workers rights and political participation and ranges between 0 (no respect for these rights) and 10 (full government respect for the five rights). A government that observes rule of law, respects freedoms of the citizenry and encourages participation is likely to attract investors and thereby positively impact on growth. The icrg index is a mean value of international country risk guide three variables namely; corruption, bureaucracy quality and law and order. The three variables are scaled on zero to one with higher values indicating higher quality of governance. It thus suffices that higher quality of governance are positively and significantly related to growth confirming the widely held view both theoretically and empirically consistent with studies such as Akpan and Effiong (2012), Rajkumar and Swaroop (2002 and Arusha (2009).

Itøs realisable education arguments human capital and foster economic growth in the long run. A unit rise of education expenditure (1% of total government expenditure) leads to a 0.46 units increase (0.46% rise in real GDP growth rate). Investment in education system has multiple benefits, first it makes people more responsible in decisions making, boosts chances of

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employment, reduces dependency and improves the level of participation by the people in the running of government which fosters accountability and transparency. Overall, increase in resources devoted to education has positive impact on the economy. Likewise, investment in health improves the human capital and ensures people are productively engaged. Though the sector has largely been receiving little attention, it still has positive albeit insignificant impact on growth.

Capital investment in the economy is associated with adoption of new technology, replacing obsolete production methods, increase efficiency and reduced cost of doing business. The gross fixed capita formation has highly significant impact on growth with increase of 1% of investment as a percentage of GDP leading to 0.81% rise in growth rate. The same argument can be adduced for transport and communication. However this sector has for a long time been neglected and allocations of resources has been erratic. It is thus not surprising the contribution is weak though positive.

Social protection and transfer programmes have a relatively strong negative impact on the economy with 1% increase in government spending channelled to the sector leading to 0.06% growth determent. This can be informed by the fact the social programmes are wrongly targeted or the fact they place to the households resources which increases current consumption which reduces resources devoted to investment vital for economic growth.

Defence has a negative effect on growth in Kenya as per the long run model as expected based on the rent seeking and low accountability and transparency manner the resources are used, the a priori position is not always certain. In particular, defence enhances the rule of law and protection of property which are gainful to the economy. It is however to be noted the resources are mainly targeted at the defence forces who have limited role compared to police forces. Defence expenditure has negative albeit insignificant association with growth in Kenya with 1% increase in share of defence expenditure resulting to 0.21% decrease of the real GDP growth rate.

As expected, both governance indicators have significantly positive association with economic growth consistent with the common view and supported by studies among them Kagundu and Martinez-Vazquez (2006). The CIRI empowerment rights which is an additive index of five rights is strongly related to economic development with one unit increase leading to 0.76 units rise in economic growth while the ICRG index significantly improves growth with one unit increase resulting to a massive 7.24 units increase in economic growth. It is paramount to note however, that the ICRG index ranges between zero and one while the CIRI index ranges from 0 to 14 and therefore the associated coefficients need to be analysed in that light.

It is manifest the coefficient for the constant is negative implying all other factors held constant in the model, there would be no real economic growth.

4.6 Error Correction Model

Economic agents normally take time to adjust to information flow and act accordingly. Granted, the short run relationships are vital and offer a potential problem of spurious correlation in the trends. This problem is resolved by making the variables stationary through differencing. This unfortunately leads to loss of data in the long-run and is corrected by adoption of a dynamic model known as ECM.

The ECM term captures the long-run relationship and majorly attempts to correct deviations from the long-run equilibrium. This coefficient represents the speed of adjustment or the disequilibrium amount transmitted to the growth rate each period. The lagged dependent variable introduced as an explanatory variable in the model to capture dynamics in the short run model and the regression results are presented in table 4.

The results of the ECM are shown in table 4.6 below;

Table 4.6: Estimated ECM Regression Results

Dependent Variable: D1rgdpgr				
Variable	Coefficient	Standard Error	t-statistic	p-value
Constant	-2.38013	2.204449	-1.08	0.299
D1edu	0.07154	0.193717	0.37	0.717
L1D1def	0.255115	0.247795	1.03	0.321
Hlth*	-0.55226	0.463421	-1.19	0.253
L4D1agri	-0.3059	0.179822	-1.7	0.111
D1trcom	1.121509	0.315569	3.55	0.003
D1sprt	-0.622	0.352174	-1.77	0.099
D1gfcf	0.771929	0.186292	4.14	0.001
D1icrggov	0.163921	7.419069	0.02	0.983
Cergov*	0.916252	0.275272	3.33	0.005
ECM(-1)	-1.17883	0.263148	-4.48	0.001

Number of obs	25
F(10, 14)	6.27
Prob > F	0.0011
R-squared	0.8175
Adj R-squared	0.6871

*The figure with * represents variables that were stationary without differencing*
Source: Stata 12 econometric software output (2012).

The variables with D1 mean they were differenced once before attaining stationary while L1 and L4 represent the optimal lags for defence and agriculture respectively. ECM (-1) is the lagged error correction term

In the model, expenditure on transport and communication, gross fixed capital formation and the governance indicator (cer) are positively and significantly related to real GDP growth. This implies that growth in GDP in the short run is highly influenced by these variables. The coefficients have the expected sign and the magnitude can be attributed to obvious gains that emanate from investment in the infrastructure, capital gains and the dividends the economy reaps from good governance through reduced rent seeking, increased efficiency and improved international relations that are vital for both bilateral and multilateral assistance as well as FDIs.

The coefficients for education and icrg have the expected sign but are insignificant in the ECM and indication that education and icrg spurs growth in the long-run. This can be attributed to the fact that education is critical in moulding human capital but the human resource does not enter into the economy instantly but takes time from the time people enter school to time exiting and later becoming productive in the economy. The icrg variable is also not significant in the short run and this can be attributed to the computation method of the individual variables compared to cer. In particular, icrg variable is inclined to Law and Order, Corruption and Bureaucracy Quality which may have greater impact on growth in the long run as opposed to the five categories of freedom which are considered in cer variable. Interestingly the defence coefficient is positive in the ECM regression and is weakly significant. This can be attributed to short term measures which are initiated and lead to improved in investorøs confidence while not being sustained in the long run.

The coefficients for remaining variables (health, social protection and agriculture) all have a negative sign, implying the deter growth in the short run. The variables significance is weak but greatly improved compared to their impact in the long run. The short run increase in resources in these sectors is therefore detrimental to economic growth.

The coefficient for error correction term {ECM (-1)} is negative and is significant and the model is therefore useful in correcting errors in the short-run. The value for R^2 shows the explanatory variables in the model collectively account for 81.75% of the variations in GDP growth. The adjusted R^2 value is 68.71% and indicates the explanations of the variations after correcting for the degrees of freedom. The F-statistic p-value of 0.0011 indicates the estimated parameters are jointly significant and not different from zero.

4.7 Diagnostics Tests

The following tests are carried out as envisioned in chapter three and results are discussed below.

4.7.1 Ramsey RESET Test

The Ramsey RESET (Regression Specification Error Test) is used to determine if the functional specification for the model is appropriate. The null hypothesis states a model has no omitted variables when p Ö0.05. The p-value from the output is 0.9187 which confirms the model is well specified in its linear form since it is greater than critical P-value.

4.7.2 Breusch-Godfrey Test for Autocorrelation

The Breusch-Godfrey LM Test for autocorrelation is used to test for serial correlation among the error terms in the model, a violation of which would make emanating results have invalid statistical significance inferences. The null hypothesis states no serial correlation against the alternative hypothesis of serial correlation ($p<0.05$). The results indicate the p-value is 0.632 which is greater than the critical p-value (0.05) hence accept the null hypothesis of no serial correlation.

4.7.3 Durbin Watson Test for Autocorrelation

The Durbin Watson Test was also used to test for serial correlation. The statistic ranges between 1 and 4. A value of 2 indicates that there is no autocorrelation. Durbin-Watson d-statistic from the output is 2.126767 leading to the conclusion autocorrelation is not present.

4.8 Comparison of long-run and short-run regression results

The variables of interest in this study are the governance and public expenditure respectively. Both governance variables output exhibit a positive relationship with GDP growth and significant in the long-run while only cer is significant in the short-run. The coefficient for cer is 0.916 and 0.758 while that of icrg is 0.164 and 7.244 in the short run and long run respectively. It therefore suffices governance is a vital contributor to economic growth in Kenya from whichever dimension it is considered and majorly so when individual rights and freedoms are considered.

A review of public spending in various sectors paints a mixed scenario of its effects on economic growth. Education and transport and communication sectors have positive effects both in the short run and long run. However, the significance of education in the short run is immaterial while in the long run the output is 0.457 and highly significant. Transport has output values of 1.122 and 0.2 in the short and long terms respectively which are significant. This confirms widely held theoretical and empirical view that investing in infrastructure is beneficial to economic agents and as a result boosts economic growth. The infrastructure position is upheld by among other studies Aschauer (1989), Akpan (2005) and Kormendi and Meguire, (1985).

Agriculture and social protection maintain a negative sign both in short and long run with output values of -0.306 and -0.063 for agriculture and -0.622 and -0.376 for social protection in short run and long run respectively. Both variables are slightly significant in the short run compared with long run impacts on growth with the agriculture output improving significantly in the short run.

Interestingly, the coefficients of health and defence alternate from positive to negative in short and long run models. For defence, the output is 0.255 in the short run and slightly significant compared to the - 0.212 in the long run. To the contrary, the health coefficient is positive in the long run at 0.186 compared to - 0.552 in the short run and slightly significant in the short run and highly insignificant in the long run.

The output of investment is positive and significant both in the long run and short run periods with values of 0.81 and 0.772 respectively consistent with a study by Gupta et.al (2002). This shows that total domestic investment is an important factor in explain development in Kenya in both short and long run models. It is expected growth in capital makes production cheaper since it entails adoption of newer technologies which cut down on production cost and this is therefore consistent with the theoretical and empirical expectations.

CHAPTER FIVE

This chapter gives a brief summary of the study and highlights various lessons that can be adopted in policy formulation by suggesting appropriate measures that can be instigated to foster economic development. The chapter also highlights the limitations of the current study and suggests areas for further research.

5.1 Summary and Conclusion

In this study, the OLS model is used to estimate the effects of disaggregated public expenditure composition and governance trends on economic growth in Kenya using time series data set for the period 1984-2010. Two indicators of governance one sourced from the Political Risk Group (icrg) and the other from CIRI were used in determining the impact of governance on economic growth. Other explanatory variable include the disaggregated public spending specifically in defence, education, health social protection, transport and communication as well as agriculture portfolios. These were selected based on existing literature on growth that identifies their relevance in economic growth and more specifically their importance in the Kenyan context. The GFCF variable is also employed as a control variable while growth in GDP per capita is used as the dependent variable as a proxy for development outcomes.

The governance variables were found to be positive and significantly related to real growth in GDP. This reinforces the widely held position by institutional and development economists that improved governance quality spurs economic growth, reduces impetus for rent seeking and improves the investment environment leading to more growth. On public spending, the expenditure outlays in education, transport and communication and health were found to be positively related to growth while agriculture, social protection and defence are negatively related. This is highly in conformity with existing theory and empirical studies on PE. Education was highly significant while transport and communication has a relatively significant impact while

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health is weakly significant. Defence and agriculture expenditure are highly insignificant while social protection is relative significant though negative as alluded to earlier.

The GFCF has both long and short term relevance to economic growth in Kenya as shown by high magnitude of the coefficient and t-statistic. In particular, one percent increase in GFCF results to 0.81% in real growth in GDP.

Finally, the role of good governance and prudent resource utilisation, efficiency, accountability, transparency and enhanced public participation, firm and vital 21st century mantles for prosperity are affirmed by this study with proportionate emphasis.

5.2 Policy Recommendation

In summary, developing countries in general and Kenya in particular continue to experience a consistent expansion in government involvement in economic affairs as evidenced by the ever increasing resource envelope. Unfortunately the Public sector expansion has not in many instances resulted to improved welfare and economic growth obviously due to divergent causes. This study therefore desists from making policy recommendations based purely on the empirical findings but rather incorporates both theory and historical contexts.

First we recommend fundamental changes in governance sphere through institutional reforms and capacity building. The momentous we have experienced in Kenya in building national independent institutions, judicial reforms, devolution of governance and fostered freedom and human rights anchored the recently promulgated constitution needs to be propagated and cemented.

Secondly we postulate the available resources are finite while the need for government to intervene and respond to social economic areas of emerging economies like Kenya is substantive. It is therefore only prudent that available resources are utilized with maximum welfare gains of the society in mind. This can only be achieved if the PE is directed to areas that stimulate growth and this can only be achieved if the best available information is taken into account.

The study findings shows PE in education, transport and health is positive and this is vital for the long term development goal of the nation as articulated in the vision 2030. The education expenditure sector is highly significant while health is weakly significant. Though it would be desirable to recommend an increase in resources to this sector especially education, its notable the resources that are allocated to education are massive. Hence, based on the findings, itøs not sufficiently clear that we recommend increase in allocations to education sector. However, based on theory and empirical findings, and further supported by this study, we recommend increased allocation to transport and communication sector. Itøs very vivid that transport and communication sector is extremely helpful to economic agents both in the short and long run.

Concerning expenditure on defence, social protection and agriculture, the research findings shows they impact negatively on the economy. However, we falter to recommend reduced spending in these outlays. A sector cherished and sang widely as critical for economic growth is agriculture both for its GDP and employment contribution. Granted, the sector is critical for sustainable food security and therefore its impact on the economy may be facilitative. On the other hand, expenditure in defence is highly significant but impacts negatively on the economy. Though this is the find, provision of security remains a vital component of development. Both protection of property and lives is central to building the confidence of investors and thereby overall development. We therefore hold that increase in expenditure in this portfolio may be beneficial. Lastly social protection is central to improved welfare and enhancing equity among the people. Social protection ensures resources are devoted to improve the living standards of the very needy in the society. This is therefore justifiable that the expenditure in this outlay is negative since it increases current consumption. Even in light of this, the need to improve the living standards of the very needy should not be sacrificed at the altar of general economic growth.

In summary and from the results obtained from this study, we hold there is broad area that needs to be explored further on which outlays of government spending are supportive of growth given the competing needs and resource constrains the country faces.

5.3 Limitations of the Study and Areas of Further Research

This study was constrained majorly on two areas and therefore the results herein should be considered carefully when making inferences. First, the data on governance indicators is relative unavailable in composite form and is arguably highly subjective. In the current study, data from icrg available from 1984 for Kenya is used while data for CIRI on rights and freedoms is available from 1980. The first constrain therefore on data availability especially for developing countries coupled with the credibility of the same since it highly unverifiable.

The second challenge in this study is on convergence of data especially on the governance realm. There are thousands of indicators sourced from various sources available majorly online. The most credible source of governance indicators is the WGI but is only available from 1996. This makes time series studies hard to undertake. The availability of data and its credibility are the twin problems the study therefore had to contend with.

Borne of the above, it is prudent to suggest the governance impact studies at country specific level and targeting different aspects of development outcomes is hugely unexplored. The conclusive view is therefore further research on effects of governance is amply justifiable and timely.

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ANNEXES:

Data Used in Regression

year	rgdpgr	cer	icrg	def	edu	hlth	agri	trcom	sprt	gfcf
1984	0.94	6	0.4	11.3	17.7	5.9	7.5	6.3	3.9	17.15
1985	3.39	8	0.6	7.4	17.1	5.4	9.3	4.6	3.9	17.27
1986	7.14	8	0.6	7.8	20.2	5.7	9.1	4.1	3.9	19.64
1987	5.94	6	0.6	8.1	19.2	5.3	11.4	3.2	4.7	19.63
1988	6.20	6	0.6	11.1	20.8	5.4	11.3	2.9	4.3	20.45
1989	4.69	4	0.6	6.5	16.2	4.5	2.8	1.2	4.2	19.46
1990	4.19	4	0.6	7.7	16.1	4.1	4.8	3.2	2.2	20.65
1991	1.44	6	0.6	6.4	14.8	3.7	2.0	0.9	4.0	19.03
1992	-0.80	4	0.6	4.7	14.7	3.9	1.4	0.8	2.8	16.58
1993	0.35	5	0.6	4.5	14.1	3.8	5.5	2.7	1.7	16.94
1994	2.63	5	0.6	3.8	11.9	3.6	5.1	1.8	1.2	18.87
1995	4.41	2	0.6	3.8	17.1	4.2	4.5	4.5	1.9	21.39
1996	4.15	6	0.6	4.9	17.3	4.1	4.2	6.3	2.8	16.01
1997	0.48	5	0.6	5.7	18.2	5.8	3.8	5.5	2.0	15.39
1998	3.29	7	0.4	3.2	14.7	4.1	2.5	2.7	1.2	15.68
1999	1.74	4	0.4	4.4	19.5	4.3	3.9	3.7	1.3	15.59
2000	0.49	3	0.4	4.6	21.1	4.1	3.6	4.4	1.2	16.71
2001	4.46	5	0.4	5.3	18.4	5.8	3.1	3.8	0.9	18.15
2002	0.56	4	0.4	5.3	17.8	5.0	2.6	3.1	1.0	17.24
2003	2.95	3	0.5	6.8	21.5	4.5	3.3	7.8	3.2	15.84
2004	5.10	7	0.4	6.2	20.8	4.1	3.2	7.3	3.2	16.26
2005	5.90	7	0.3	5.5	22.3	4.3	2.7	7.0	3.8	18.70
2006	6.32	8	0.3	5.9	22.2	5.3	2.3	7.6	5.7	19.08
2007	6.99	5	0.3	4.9	21.5	5.4	2.8	8.2	5.3	19.42
2008	1.53	5	0.3	5.6	19.2	4.1	2.5	6.7	5.2	19.72
2009	2.64	4	0.3	5.9	20.8	4.6	3.4	8.1	6.4	20.09
2010	5.55	5	0.4	6.8	20.2	4.7	4.2	8.9	4.2	20.45

Data Source: KNBS Publications (various); WB data base (online) & The Quality of Governance Institute Dataset