



Strathmore
UNIVERSITY

The Impacts of Economic Activities on County Government Revenue in Kenya.

Oduk John Baptist
074802

**Submitted in partial fulfillment of the requirements for the Degree of
Bachelor of Business Science Financial Economics at Strathmore University**

**Strathmore Institute of Mathematical sciences
Strathmore University
Nairobi, Kenya**

December, 2017

DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the Research Proposal contains no material previously published or written by another person except where due reference is made in the Research Proposal itself.

© No part of this Research Proposal may be reproduced without the permission of the author and Strathmore University

..Oduk, John Baptist..... [Name of Candidate]

..... [Signature]

28/1/2018..... [Date]

This Research Proposal has been submitted for examination with my approval as the Supervisor.

Dr. Oluken..... [Name of Supervisor]

..... [Signature]

29/1/2018..... [Date]

Strathmore Institute of Mathematical Sciences
Strathmore University

ABSTRACT

The purpose of this study is to establish the relationship between economic activities within county governments and revenue amounts collected by the county governments and to forecast future revenue. In order to meet the objectives of the study, a simple linear regression model is used to establish the relationship between economic activities within counties and the county government revenue and from the regression a forecast on future revenue capacity is made. The dataset used in the study is of daily revenue collected in Kiambu County for the first half of the year 2017. The results show that there indeed exists a relationship between economic activities and county government revenue. The forecast shows a downward trend in revenue capacity as the year progresses.



Contents	
ABSTRACT	iii
CHAPTER ONE: INTRODUCTION	1
1.1 BACKGROUND.....	1
1.2 EVOLUTION OF COUNTY GOVERNMENTS	3
1.3 COUNTY GOVERNMENTS IN KENYA.....	4
1.4 PROBLEM STATEMENT.....	8
1.5 RESEARCH OBJECTIVES	9
1.6 RESEARCH QUESTIONS	9
CHAPTER TWO: LITERATURE REVIEW.....	10
2.1 THEORETICAL REVIEW	10
2.1.1 THEORY OF TAXATION AND PUBLIC FINANCE	10
2.2 EMPIRICAL REVIEW	11
2.2.1 TAXES AND ECONOMIC GROWTH.....	11
2.2.2 FISCAL IMPACT OF ECONOMIC GROWTH AND DEVELOPMENT.....	14
2.2.3 EXISTENCE OF FEDERAL WILDERNESS LANDS AND LOCAL GOVERNMENT TAX REVENUE.....	15
2.2 RESEARCH GAP	16
CHAPTER THREE: RESEARCH METHODOLOGY	17
3.1 RESEARCH DESIGN AND METHODOLOGY.....	17
3.2 THE POPULATION OF THE STUDY	17
3.3 TYPES OF DATA	17
3.4 DATA ANALYSIS	18
CHAPTER FOUR: RESULTS AND DISCUSSION OF FINDINGS	20
4.1 STATIONARITY TEST	20
4.2 RESULTS FROM THE REGRESSION	21
4.3 FORECASTING	23
CHAPTER FIVE: CONCLUSION.....	24
5.1 CONCLUSION.....	24
5.2 LIMITATIONS.....	25
5.3 RECOMMENDATIONS.....	26
References	27

List of Abbreviations

CBK - Central Bank of Kenya

GDP - Gross Domestic Product

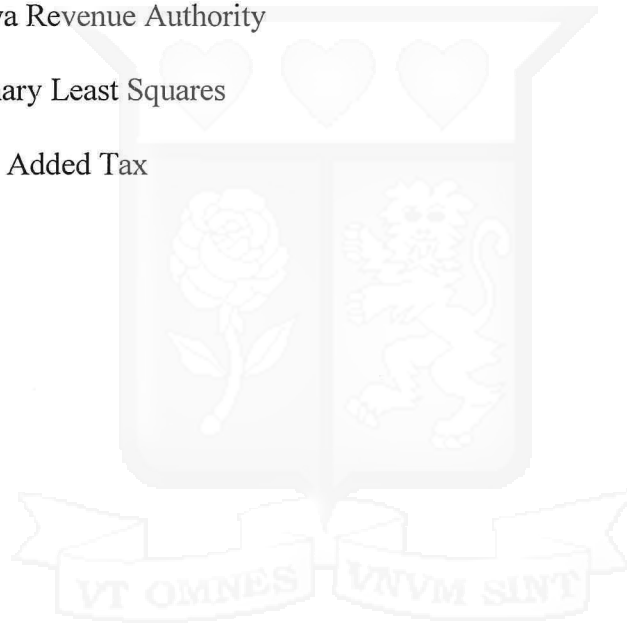
GNI - Gross National Income

KNBS – Kenya National Bureau of Statistics

KRA - Kenya Revenue Authority

OLS - Ordinary Least Squares

VAT- Value Added Tax



CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

According to (Muriithi, 2013), government revenue refers to the income that the government receives to finance its budgetary obligations. It is therefore an important fiscal policy tool as it facilitates spending. Governments are required to perform various functions in relation to social, political and economic activities in order to maximize the social as well as economic welfare. In order to effectively undertake these functions, the government requires large amounts of resources. These resources are generally referred to as public revenue.

Public revenue can be categorized into two, that is, tax revenue and non-tax revenue, (Illyas, 2010). Taxes refer to compulsory financial charges or levies that are imposed on individuals or entities by a government or any other functional institution equivalent of a state without the individual expecting any form of direct benefits or returns. They are mostly utilized by governments to provide common benefits in the form of public welfare services.

Taxes, according to (Ndunda, Wanyoike, & Ngahu, 2015) are the main source of revenue to the government whether at national or county government level worldwide. They are classified as either direct or indirect taxes, (Chaudhry, 2010). Direct taxes take the form of wealth tax, personal income, corporate tax and capital gain tax. Indirect taxes on the other hand take the form of Value Added Tax (VAT), service tax, custom duty and central exercise duty. Non-tax revenue on the other hand refers to revenue collected through other sources apart from taxes. These sources include grants and donations, deficit financing, fines and penalties, fees, surplus from public enterprises among other sources.

Economic activities generally refer to activities relating to the production, distribution, exchange and consumption of goods and services that create economic or financial gain. According to (Fisher, 1993), economic activities can be classified into three sectors, that is, the primary sector that consists of agriculture and mining related activities, the secondary sector that is comprised of industries and the tertiary sector that consists of all those

activities not classified and the primary and secondary sectors. However, years later, the activities under the tertiary sector became known as 'services', (Clack, 1948). This sector comprises of activities such as trade, health, education, banking, research and development.

Economic activities play a big role in determining the state of the economy of a country which in turn determines the classification of the country's economy in the world. According to (Chiripanhura, 2010), the economic activity of a country is most commonly measured using Gross Domestic Product(GDP) approach.it is the measure of the value of final goods and services produced in a country less the value of imported goods and services. This approach however receives a lot of criticism since it excludes some welfare determinants outside the production of goods and services. As a result, other approaches such the use of Gross National Income (GNI) per capita have been developed. It is the measure of resources available to persons who reside in a given economy and it is as well a measure of the average well-being of a population. According to (The Data Blog: World Bank, 2016), world economies can be classified in terms of income groups. Income is measured in terms of GNI per capita of the previous year. There are four main groups; low-income, lower-middle-income, upper-middle-income and high-income categories. Low-income economies are defined as those with a GNI per capita, calculated in US dollars using World Bank Atlas Method, of \$ 1,045 or less, lower-middle-income economies have a GNI per capita more than \$1,045 but less than \$4,125. The upper-middle-income economies have a GNI per capita more than \$4,125 but less than \$12,736 whereas the high-income economies have a GNI per capita of \$12,736 or more. The paper goes ahead to state that GNI per capita estimates can also be a useful input to the World Bank's operational classification of economies that plays a big role in determining lending eligibility of different World Bank member countries. This therefore translates to the amount of revenue a country would generate in terms of borrowings from the World Bank to aid in meeting its budgetary obligations and thus it means that the effect that economic activities have on the GNI per capita of a particular country will in turn affect the revenue amounts generated by that country.

1.2 EVOLUTION OF COUNTY GOVERNMENTS

According to (Shah, 2006), county governments, also referred to as federal or local governments in some countries, are institutions or entities whose existence are provided for either by national constitutions, state constitutions or by a higher level of central government with an aim of delivering a range of services to relatively smaller geographical areas.

County government structures are believed to have been spread around the world as a result of colonization. According to (Counties, 2013), the system of counties was introduced in the first colonies of Pennsylvania, New York, Virginia and Massachusetts by the British where the basic unit of local government was the town during the earlier colonial times. The counties were established and mandated to perform those functions not carried out by smaller towns in regards to offering public services. With suburban development, population growth and government reform movements after the World War I, the role of the county governments were strengthened. A new era was then ushered in with the developments that followed after World War II in terms of changes in structure, rising revenues, greater autonomy from states and stronger political accountability. As a result the counties started providing a wide range of services with regards to social and economic welfare of the people.

In Nigeria, according to (Akpan & Ndebbio, 1998), local governments were introduced in the 1950s in the preparation for independence from the British to replace the various form of native government structures. The local government structures have since then had a varied history with the nature of reforms varied from one region to another. By August 1991, the number of local governments in Nigeria stood at 453 but by 1998, there were 589 local governments in the country. The creation of more local governments was politically motivated and most of them were rendered not viable as they did not have enough human and natural resources to survive on their own. They largely depended on statutory allocation. The local governments were assigned specific development roles by the constitution and for a federal state like Nigeria, where local governments are close to the people, they were deemed to effectively have an impact on the socioeconomic and political states within their jurisdictions.

Based on the 1976 local government reforms in Nigeria, the local governments raised revenue from internal sources in the form of rates, taxes, fines and fees as well as from miscellaneous sources such as rents on council estates, interests on investments, royalties and proceeds from commercial activities. They also received a statutory allocation of 25% of the federal account. The internal sources of revenue were a measure to minimize overdependence on state revenue.

1.3 COUNTY GOVERNMENTS IN KENYA

Since the promulgation of the new Kenyan Constitution in 2010, devolution of power from the national government was effected as per the stipulations of the new constitution. As a result there was a provision of two levels of government, that is the national government and the county government. As a result, Kenya was divided into 47 counties. This meant that each county government had the freedom to find means of generating its own revenue to run its activities at the county level. According to the New Constitution of Kenya, county governments generate their revenue from grants, borrowing, dividends and profits from trading activities, equitable shares of at least 15 percent of the National Government revenue, The Equalization Fund that provides extra funding to counties in marginalized areas and taxes, levies, rents, fines, forfeitures, rates (direct and indirect), business permits and licenses, parking fees and CESS.

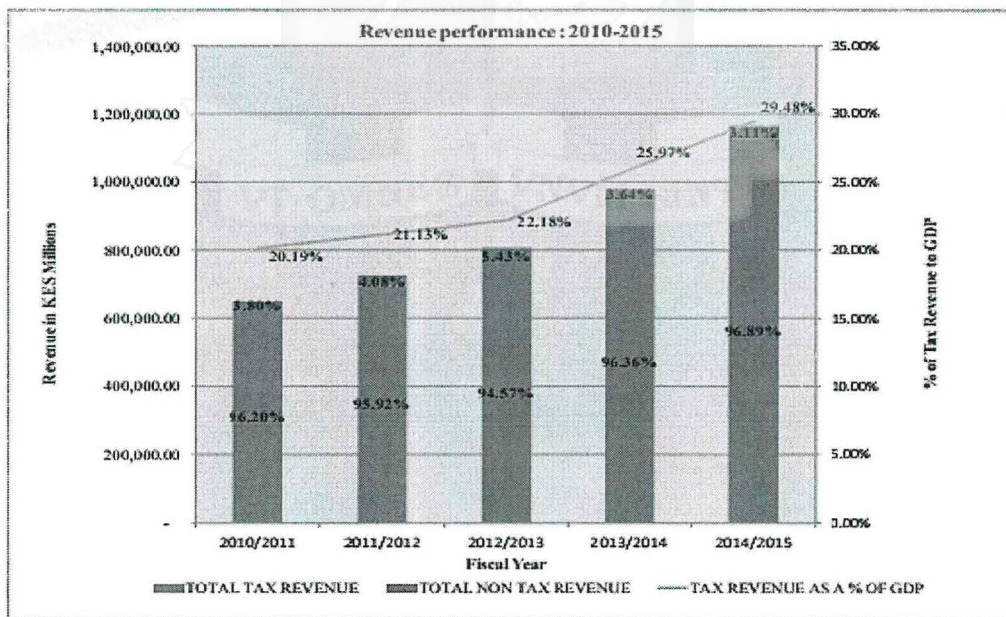
According to (Ataro, Muturi, & Wandera, 2016), revenue is very crucial to the county government and they must therefore ensure that proper care is taken when it comes to the handling of revenue. Proper revenue handling helps in the meeting of budgetary obligations and when revenue collection is successfully undertaken, it translates into the objectives of the organization being well defined. As earlier discussed in the study, taxes are the main source of revenue to governments (Ndunda, Wanyoike, & Ngahu, 2015). The Constitution of Kenya; section 209(1) stipulates that the authority over main tax sources namely VAT, custom duty, income tax and excise tax is given to the national government. Counties may, according to section 209(2) of The Constitution of Kenya, impose taxes such as entertainment taxes, property taxes and any other taxes allowed by an Act of Parliament. They may as well levy service or user charges.

In order to raise optimal amounts of revenue, effective tax collections mechanisms must be put in place. However, according to (Ndunda, Wanyoike, & Ngahu, 2015), the efficiency of tax collection differs significantly between developed and developing countries. This comes about as a result of there being advanced and successful tax policies in developed countries which enhances the efficiency of revenue collection whereas in developing countries, the tax systems are inefficient thus curtailing tax collection efforts hence optimal revenue collection is not attained. The paper goes ahead to explain that the tax structures in the Sub-Saharan Africa have greatly improved in terms of tax types and rates in the recent past, however, there is insignificant improvement witnessed on the growth in local revenue mobilization as reflected by increased overall budget deficits in countries lying to the South of Sahara following the various reforms. (Andruskaite, Egidijus, & Emile, 2013) echoes this by stating that, despite there being reforms on taxes, they are complicated and long thus proving difficult for tax payers to understand forcing tax collecting bodies, for instance here in Kenya, Kenya Revenue Authority(KRA), to faces several hurdles in the collection of the much sort after tax revenue. Besides inefficient tax collection policies, other factors such as ineffective planning, inefficient monitoring system, ineffective contingency planning, inadequate senior management inappropriate organizational design, controlling misuse of resources on the revenue, inadequate management information systems, according to (Cleland, 2004), also play a big role in negating optimal revenue collection by county governments. This would adversely affect the operations of the county governments as projects and services offered to the public may stall or get derailed thus negatively the public as they would be short of vital services such health among others. This would in turn overburden the national government financially due to the demands of county governments and thus the national economy will be negated.

According to (The Data Blog: World Bank, 2016), Kenya is ranked as a Lower-Middle Income Country, meaning that it has a GNI per capita more than \$1,045 but less than \$4,125. According to the Economic Survey 2016, an annual publication by The Kenya National Bureau of Statistics (KNBS), the key sectors that drive the economy of Kenya are agriculture, forestry and fishing, manufacturing, transport and storage, information and communication, financial intermediation, electricity and water supply, construction

and accommodation and food services. These sectors play a big role in shaping the status of the economy and are spread countrywide in each of the 47 counties in the country. The levels of activities under these sectors do vary in each county mostly due to relief, regulations, culture, technology and the state of infrastructure. Some sectors are affected due to interdependence within the various sectors of the economy. For instance, the manufacturing sector's state can be attributed to the performance of sectors such as electricity and agriculture as they provide inputs to the manufacturing sector.

Taxation being the main source of revenue to county governments, these governments would therefore rely on taxation of economic activities within their jurisdictions to raise revenue to meet their respective budgetary obligations. According to (Kenya's Revenue Analysis 2010-2015: The Institute of Certified Public Accountants of Kenya, 2016), in explaining the historical perspective of the performance of revenue in Kenya, states that Kenya's tax allocation to the revenue portfolio between the years 2010-2015 averaged 96% while non-tax revenue accounted for the remaining 4%. The data also indicated an upward trend in the growth of tax revenue and a declining proportion of contribution to non-tax revenue in the same period.



Source: Figures from KNBS

Figure 1.1 Revenue performance: 2010-2015

However, according to (Saima, Tariq, Muhammad, Sofia, & Amir, 2014), taxation affects economic activities differently as taxes affect people's decision to make savings, firms' decisions to produce, create jobs, invest, innovations in human capital investment and labor supply. These effects could be positive or negative and thus affect the revenue amounts collected from them by the county governments.



1.4 PROBLEM STATEMENT

The main aim of the government, whether at national or county level, is to ensure that they raise revenue to meet their budgetary obligations that are aimed towards promoting social and economic welfare of the people within their jurisdiction. As a result, their focus is to raise optimal revenue amounts, which is mainly from taxes and fees and revenue from different economic activities. However, this is greatly affected by a number of factors mentioned earlier in the study such as inefficient tax collection policies, ineffective planning, inefficient monitoring system, ineffective contingency planning, inadequate senior management inappropriate organizational design, controlling misuse of resources on the revenue, inadequate management information systems.

In Kenya, the focus is mainly on the county government revenue obtained from external sources such as grants, donations and allocation by the national government. However, little attention is paid on revenue that county governments generate from the economic activities within their jurisdictions. Within the county governments, there are a lot of economic activities which when properly monitored can have a great contribution towards the total revenue collected by the county governments. This will in turn help reduce the overreliance on the national government resources to solve matters related to county governments thus leaving the national government with much resources at their disposal to be channeled towards matters of national development.

1.5 RESEARCH OBJECTIVES

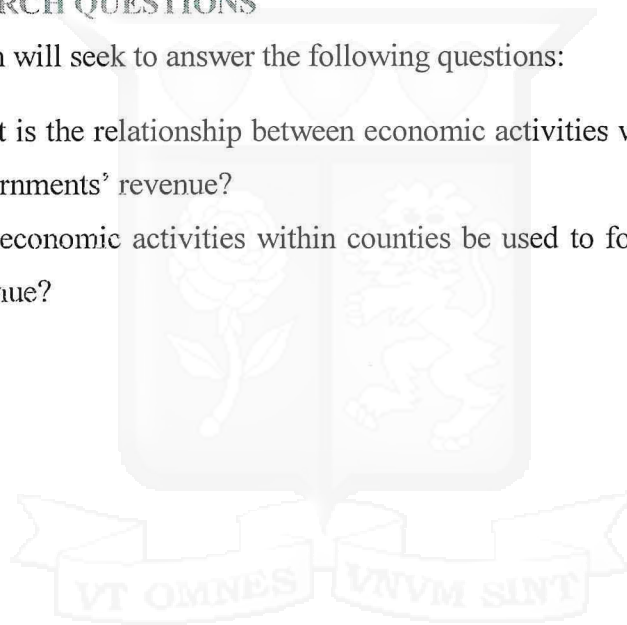
The aim of the research was to fulfill the following objectives:

- (a) To determine the relationship between economic activities within county governments and county government revenue.
- (b) To determine how the economic activities within the counties can be used to forecast county government revenue.

1.6 RESEARCH QUESTIONS

The research will seek to answer the following questions:

- (a) What is the relationship between economic activities within counties and county governments' revenue?
- (b) Can economic activities within counties be used to forecast county government revenue?



CHAPTER TWO: LITERATURE REVIEW

There is a wide range of opinions that been put across regarding the impact that economic activities have on county government revenue.

2.1 THEORETICAL REVIEW

2.1.1 THEORY OF TAXATION AND PUBLIC FINANCE

The theory of public finance according to (Cheyo, 2015), basically applies to policy problem packages that involve the use of tax and expenditure measures. It involves the study of public sector economics in relation to revenue, expenditure and debt operations of the government and the impact these measures have on the society. It is thus all about the fiscal institutions, that is, the tax systems, budget procedures and expenditure programs, debt issues, level of government, stabilization instruments among others. The concept of public finance is therefore important from a government point of view in order to curb market failures during the implementation of resource allocation, incomes distribution and economic stabilization functions by the government.

To perform the aforementioned functions, the government must have sufficient resources to finance the related activities involved. The government raises a huge chunk of its finance through taxation which is the most preferred source of government revenue worldwide. It ensures a constant and uninterrupted flow of revenue to the government as well as serving other fiscal policy objectives. Tax is a compulsory and mandatory contribution to the government by its subjects since there exists a legal document giving the government the mandate to collect such contribution. This is imposed by a public authority irrespective of the exact amount of services rendered to the tax payer in return and not impose as a penalty for any legal offence.

Imposition of tax creates a tax liability upon those liable to pay the imposed tax. The tax liability is expressed in monetary terms, creating monetary liability thus creating a burden upon the taxpayer. Thus it would be worth noting that imposition of taxes creates a tax burden on the taxpayers and should be equitably distributed across the population forming the tax base. To understand the concept of tax base, there is need to classify tax into direct and indirect taxes. According to (Muriithi, 2013), Direct taxes comprises of corporate tax; personal income tax, capital gain tax and wealth tax, whereas indirect taxes include custom duty, central excise duty, Value Added Tax (VAT) and service tax. Apart from

taxation, the government also raises revenue from non-tax sources such as fees, fines and penalties, surplus from public enterprises, special assessment of betterment levy, grants and gifts and deficit financing.

2.2 EMPIRICAL REVIEW

2.2.1 TAXES AND ECONOMIC GROWTH

(Marsden, 1983), in studying the Links between Taxes and Economic Growth, 20 countries were chosen spanning all spectrums of world incomes. The countries included Brazil, Cameroon, Chile, Jamaica, Japan, Korea, Liberia, Malawi, Mauritius, New Zealand, Paraguay, Peru, Singapore, Spain, Sweden, Thailand, United Kingdom, Uruguay, Zaire and Zambia. Half of these countries had tax/GDP ratios above their average income groups in the 1970s while the other half had tax/GDP ratios below. Choosing these countries faced a number of constraints, that is, data availability and the exclusion of OPEC countries and other countries that did not utilize non-tax instruments such as state marketing boards extensively for revenue purposes. These countries imposed different levels of tax burdens to their populations. The countries that imposed lower average tax burdens to their populations witnessed a higher real rate of GDP growth compared to those that imposed higher tax burdens.

The high rates of economic growth paved way for a substantial rise in the real living standards in the low-tax countries evident by their increased levels of private consumption. Concurrently, the high rates of economic growth, as a result of increased levels of output from economic activities, expanded the tax base thus generating increased revenue for the governments thus financing a much more rapid expansion of expenditure on government services to the people such as education, health and defense in the low-tax countries.

In investigating the link between taxes and economic growth, regression analysis was used, based upon the tax/GDP ratios of the selected countries. The overall results showed that the regression coefficient of the total tax variable was negative indicating that an

increase in the tax/GDP ratio would result into a decrease in the rate of economic growth. The study reveals that the impact of this was much greater in low-income countries since they offer a wider scope of productivity gains from the spread of modern technology, improvement of skills and intersectoral transfer of labor.

(Roshaiza, Loganathan, & Sisira, 2011) in studying *The Effects of Economic Growth on Taxation Revenue; The Case of a Newly Industrialized Country*, found out that when there is a strong growth performance in the economy as a result of increased economic activities, there will be an increase in tax revenue collected by the respective governments. The paper goes ahead to explain that this relationship would happen in the short run or in the long run provided that there is economic stability.

(Musgrave & Musgrave, 1980), posited a law of public expenditure in the United States of America that stated that, as the national income per capita grew, the government tax revenue as a percentage of the Gross National Product (GNP) also grew. This made the implication that as the United States of America experienced an economic growth, the tax effort of the country also experienced a growth. The findings of this study were found to be in conformity with the largely acknowledged empirical findings in the discipline of development economics that postulate that: as the economy of a country grows, its tax base also grows in a similar proportion. The growth rates of the economy and tax capacity are however inclined to be different from country to country, period to period as a result of causative factors that occur but in the short term and in the long term. These include internal and external economic shocks.

(Lundeen, 2014), argues that most people view tax revenue as a function of tax rates in that if you want to raise more tax revenue, you raise the tax rates. However, this is not simple. Instead, economic growth is often the key driver of tax revenues. The author of the study supports these thoughts through studying the tax revenue experience in the United States of America and the United Kingdom. He found that the major driver of the levels of tax revenues in both countries was economic growth such that during periods when the economy was doing well, the tax revenues were up whereas when the economy was doing poorly, the tax revenues were down. For instance in United States of America, during the mid-1980s through to the late 1990s, the economy grew steadily as well as the

tax revenues. This happened since this was a period of economic recession. Conversely, between 2007 and 2009, total tax revenue in the United States of America dropped from 26.9 percent GDP to 23.3 percent of GDP. This was due to the financial crisis experienced during this period.

The same paper goes ahead to give solutions on how to maximize tax revenues collected by governments. It postulates that in the short term, it can be done by increasing economic growth. This is made possible by limiting the taxes on drivers of economic growth, namely investments. This therefore means reducing taxes charged on businesses, limiting the double taxation of investments created by taxing corporate income at both the entity level (corporate tax) and the shareholder level (capital gains and dividend taxes) and moving towards full expensing that mean that businesses account for all their costs. In the long term, cutting the corporate tax and moving to full expensing would lead to increased federal tax revenue due to more jobs, higher wages and more economic activity. In the end, moving away from economically inefficient taxes such as corporate taxes and long depreciation lives and moving towards taxes that collect revenue without damaging economic growth would maximize total tax revenue collected by governments.

(Bill, 2016) in studying how economic development impacts on local government revenue discovered that, apart from Michigan local governments which due to constitutional limitations, economic development does not often equate to an increase in revenues despite being extremely dependent on property taxes, in other states, economic growth has an impact on the overall property values in the community which in turn generates additional revenue for the local governments. The revitalization of downtowns results into a lucrative overall property market. Similarly, the stimulation of housing market results into homes being rehabilitated and significantly increasing in value. All these activities generate more revenue to the local governments.

2.2.2 FISCAL IMPACT OF ECONOMIC GROWTH AND DEVELOPMENT

According to (Wong, 2004), the impact of economic growth and development on the fiscal policies of communities became a major issue in the United States of America as many areas across the country witnessed substantial growth levels. As a result, these areas were faced with the prospect of growth and development related infrastructure for instance waste-water treatment facilities as well as off-site streets. One outstanding question that emerged during this study was; Does economic growth and development necessarily increase local government revenue capacity?

The paper goes to explain that regression model was developed to determine the relationship between the number and proportion of manufacturing, service, agricultural and retail establishments per capita on the real local government tax capacity per capita. The results, as of the findings of the research done in Kansas State revealed that counties with high tax capacities tend to have a high number of service establishments. Based on this, it became conclusive that economic growth and development do in fact result into an increase in local government tax capacity. This impact is however not generic across employment and business sectors. The creation of new businesses in the service sector appears to have a positive impact on local government tax capacity whereas increases in the agricultural, manufacturing and retail activities do not. Despite the increases in the service industry having a positive impact on the tax capabilities of counties, increasingly large concentrations of economic activities in the service sector will not necessarily result into increases in tax capacity.

The fiscal impact of growth and development is however variant depending on the types of land uses involved, (Burchell & Listokin, 1992). Land uses that impose a below average demand on the local government services such as public safety, education, recreation and social services will have a positive fiscal impact whereas land uses that impose an above average demand on local government services have a negative fiscal impact.

2.2.3 EXISTENCE OF FEDERAL WILDERNESS LANDS AND LOCAL GOVERNMENT TAX REVENUE

(Reale, 2011) , in her research on The Correlation between Local Government Tax Revenue and the Existence of Federally Designated Wilderness Lands holds that the federally designated wilderness lands have an impact in the level of revenue collected by county governments in the United States. Wilderness lands, according to the Wilderness Act of 1964, are lands that are protected and should remain untouched. As a result, no additional revenue generating activities can be carried out on these lands other than those provided for by the Wilderness Act. In Kenya, this is an equivalent of Public lands. The study holds that counties with Wilderness lands collect low revenue amounts compared to those counties without Wilderness Lands. This is so because unlike counties without wilderness lands where there are vast economic activities, counties with Wilderness Lands faced with reduced levels of economic activities due to presence of lands that should be left untouched. This reduces the amount of tax revenues collected in these counties hence the revenue collected by the county governments.

In studying the effects of Wilderness Lands on the economies of counties, quasi-experimental time series design was used to evaluate the economic impact of the designated Wilderness Lands on local economies. It was revealed that designated Wilderness Lands do have a negative influence on local economies (Ryan, Brian, Randy, & Christopher, 2016). This is because designation out rightly restricts land use hence a reduction of economic activity on the lands and thus decreased levels of county government revenue.

2.2 RESEARCH GAP

This paper seeks to determine the impact that economic activities within counties have on county governments' revenue, a field of study that has not been exploited in Kenya since the introduction of devolution. The paper also seeks to come up with ways in which county government revenue can be forecasted based on the economic activities within the counties as well as formulating means of maximizing the amount of revenue collected by county government to enable them raise sufficient revenue to meet their budgetary obligations.



CHAPTER THREE: RESEARCH METHODOLOGY

This chapter outlines the various stages and phases that are to be followed in completing the study. In this stage, most decisions concerning how research is going to be executed and how data is going to be collected, as well as when, where and how the research will be completed are discussed. Specifically, the following subsections are included; research design, target population, data collection instruments, and data collection procedures and data analysis.

3.1 RESEARCH DESIGN AND METHODOLOGY

The study adopts an exploratory research design. The exploratory study seeks to determine the objectives of the study that are: (i) the relationship between economic activities within counties and county government revenue and (ii) how economic activities within counties can be used to forecast county governments' revenue.

3.2 THE POPULATION OF THE STUDY

This study is a case study of how economic activities affect county government revenue in Kenya. Out of the 47 counties in Kenya, the study only focused on one county that is, Kiambu county. As a result, sampling was done.

3.3 TYPES OF DATA

The data used in this study is secondary quantitative data on the various sources of county government revenue. The data used will be on the periodical revenue analysis of county government of Kiambu.

3.4 DATA ANALYSIS

The focus of this model is to determine the relationship between the amounts of revenue collected from agricultural, manufacturing, service, and retail establishments and the local government revenue capacity. Revenue capacity is defined as;

$$\text{REVENUE CAPACITY} = \text{TOTAL DAILY REVENUE COLLECTED}$$

The data set to be used comprises of a time series and cross sectional data and as a result, OLS is used to determine the relationship under study by regressing the explanatory variables against the dependent variable. The model will thus take the form;

$$\ln(\text{CAPACITY}) = f[\ln(\text{TAX AND FEES}), \ln(\text{AGRIC}), \ln(\text{RET}), \ln(\text{SERV}), \ln(\text{MANU})]$$

Where;

Ln(CAPACITY): natural logarithm of county government revenue capacity.

ln(TAX AND FEES): natural logarithm of taxes and fees collected by the county government.

ln(AGRIC): natural logarithm of revenue from agricultural establishments

ln (SERV): natural logarithm of revenue from service establishments.

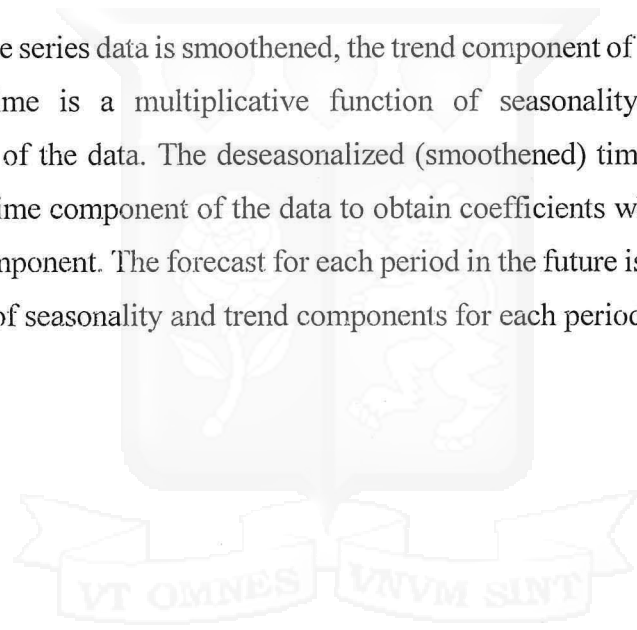
ln(MANU): natural logarithm of revenue from manufacturing establishments.

Ln(RET) : natural logarithm of revenue from retail establishments.

The main assumption of the model is that the average county tax rate is expected to be negatively related to tax capacity since the demand for taxable property is expected to decrease with higher tax rates.

In order to forecast, based on the simple linear regression model of the study, the daily revenue data is grouped into weekly data for six months data available. From the data, a four period moving average (MA) is obtained since each circle in the time series represent on a line graph has four time periods. A centered moving average (CMA) is then obtained. This is to smoothen the time series data by getting rid of seasonality and irregularity components of the time series data.

Once the time series data is smoothened, the trend component of the time series is obtained since the time is a multiplicative function of seasonality, irregularity and trend components of the data. The deseasonalized (smoothened) time series data is regressed against the time component of the data to obtain coefficients which are used to calculate the trend component. The forecast for each period in the future is then obtained by finding the product of seasonality and trend components for each period in the future.



CHAPTER FOUR: RESULTS AND DISCUSSION OF FINDINGS.

This chapter presents the empirical results of the study. The sections will be divided based on the tests carried out and the subsequent results obtained in order to meet the objectives of the study.

4.1 STATIONARITY TEST

In testing for stationarity of revenue capacity data, the Dickey Fuller test is used. The hypotheses of the test will thus be;

H_0 : series contains a unit root

H_1 : series is stationary.

		t statistic
Dickey Fuller Test Statistic		-6.002301
Test Critical values	1%	-2.583153
	5%	-1.943344
	10%	-1.615062

Table 1: Dickey Fuller test

From the results of the test in table 1 above, the Test Statistic is more negative than the critical values and as a result we reject the null hypothesis. Thus, it can be concluded that the series is stationary, meaning that all its statistical properties are constant over time.

4.2 RESULTS FROM THE REGRESSION

The parameter estimates, T-statistics, P-values and standard errors are indicated in the table below.

Variable	Estimated coefficient	Standard Error	T-statistic	P- value
Ln(Tax and fees)	0.4781	0.0495	9.65	0
Ln(Serv)	0.1951	0.0518	3.76	0
Ln(Manu)	-0.0034	0.0230	-0.15	0.883
Ln(Agric)	0.0478	0.0378	1.27	0.21
Ln(Ret)	0.1156	0.0518	2.23	0.029
C	3.6475	0.6839	5.33	0

Table 2: Linear Regression Results

From table 2 above, it is clear that taxes and fees, service sector, agriculture and retail have positive coefficients, however, only the retail and service sector coefficients are statistically significant whereas manufacturing has a negative coefficient and is statistically insignificant. This translates to increasing the concentration of activities within the service and retail will tend to increase the revenue capacity if the county government whereas a higher concentration of manufacturing activities will tend to decrease revenue capacity of the county government.

Service and retail activities being statistically significant is an indicator that they have a positive impact on the local government revenue capacity. This is entirely not surprising due to the fact that these sectors are increasingly becoming important to many economies especially the service sector.

Tax and Fees has a coefficient of 0.4781. This means that a percentage increase in tax and fees will result in 47.81% increase in revenue capacity. Service establishments has a coefficient of 0.1951. This means that a percentage increase in revenue from the service establishments will result into a 19.51% increase in the revenue capacity. Agricultural establishments has a coefficient of 0.0478, meaning that a percentage increase in revenue from these establishments would result into a 4.78% increase in revenue capacity. Retail establishments has a coefficient of 0.1156. This means that a percentage increase in revenue from this establishments will result into a 11.56% increase in revenue capacity. Manufacturing establishments has a coefficient of -0.0034055, meaning that a percentage increase in these establishments will result into a 0.34055% decrease in the revenue capacity.

The fact that the parameter estimate for manufacturing sector is not statistically significant is an indicator that increasing the concentration of manufacturing activities does not increase the revenue capacity of the county government. This finding is seen to may have been related to the common practice of many local governments or communities granting tax concessions for manufacturing establishments in order to locate in their localities. This being the case, then an increase in the concentration of manufacturing establishments may not signal an expected increase in revenue capacity.

While the results from the study are consistent with the general economic trend for economic activity to be concentrated in the service sectors, this runs counter to the temptation for many communities to attempt to attract large manufacturing establishments and the accompanying jobs.

1.3 FORECASTING

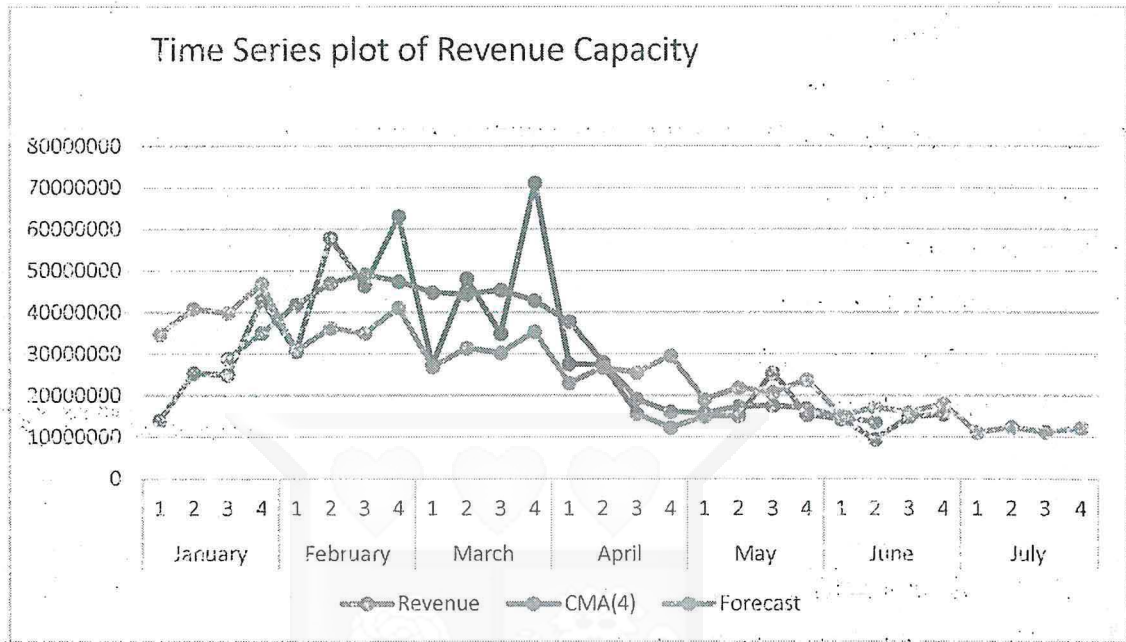


Figure 2.1 Time series plot of Revenue capacity.

From the figure above, it can be seen that revenue capacity has a downward trend. This means that as the year progresses, the amount of revenue collected tends to decrease compared to earlier in the year where higher revenue amounts are realized and as a result, the county governments should work towards increasing levels of activities that could lead to increased revenues during periods of low revenue especially in the retail, service and agricultural establishments.

CHAPTER FIVE: CONCLUSION

5.1 CONCLUSION

Taxes are an important factor that affects the revenue capacity of governments. They form the main source of revenue to governments whether at national or county level. However, high tax levies are highly uncorrelated with the expected tax capacity.

In Kiambu County, it is evident that having an increased concentration of economic activities in retail and service sectors of the economy will result into increased revenue capacity. From this it can be concluded that economic growth and development do in fact result into an increase in local government revenue capacity. However, the impact of economic growth and development is not generic across business and employment sectors. The creation of new businesses in retail and especially the service sector of the economy does appear to have a positive impact on the local government revenue capacity whereas increases in agricultural and especially the manufacturing sector activity do not.

Despite increases in service sector activity having a positive impact on the revenue capacity of local governments, increasingly high concentration of economic activity in the service sector do not necessarily lead to increases in tax capacity which translates to increased revenue capacity.

From the findings of the forecast, it is seen that revenue capacity has a downward trend has the year progresses. It can therefore concluded that the county government of Kiambu should come up with ways of ensuring that that high revenue amounts are collected throughout the year such as increasing the levels of economic activities especially in key sectors such as service, retail and agriculture.

5.2 LIMITATIONS

The main limitation of the study was getting adequate and relevant literature for the study from within Kenya since county governments were introduced recently in the country and there has been very little study done.

Getting adequate data was also another limitation to the study. With systems in place and with the levels of technology in the country, there are quite a number of activities whose data are not recorded especially in the informal sector of the economy.



5.3 RECOMMENDATIONS

The model used in this study was a simple linear regression model based on the variables' data available. When data on more variables is obtained then a more complex regression model would be recommended to determine the objectives of the study.



References

- (2016, July 1). *The Data Blog: World Bank*.
- (2017, March 29). *Economic Survey 2016: Kenya National Bureau of Statistics*.
- Akpan, H. E., & Ndebbio, J. (1998). Local Government Fiscal Operations In Nigeria. *African Economic Research Consortium*.
- Andruskaite, Egidijus, B., & Emile. (2013). Factors Affecting Value Added Tax Revenue. *1st Annual Interdisciplinary Conference*, 41-49.
- Ataro, P., Muturi, w., & Wandera, r. (2016). International Journal of Recent Research in Commerce Economics and Management(URRCCEM). *Factors Affecting Revenue Collection Efficiency in County Government in Kenya: A Case Study of Trans-Nzoia County*, 85-90.
- Bill, A. (2016, November 16). How Economic Development Impact Local Government Revenues. *Southeast Michigan Council of Governments*.
- Burchell, R., & Listokin, D. (1992). *Fiscal Impact Procedures, State of the Art*.
- Chandran, E: (2004). *Research Methods: A Quantitative Approach with Illustrations from Christian Ministries*.
- Chaudhry, S. a. (2010). Determinants of Low Tax Revenue in Pakistan. *Journal of Social Sciences*, 439-452.
- Chiripanhura, B. (2010). Measures of Economic activities and their Implications on Societal Well-being.
- Clack, C. (1948). *The Conditions of Economics*.
- Cleland, D. (2004). *Field Guide To Project Management*. John Willey.
- Cooper, D., & Schindler, P. (2013). *Business Research Methods*. New York.
- Counties, I. S. (2013). The History of County Government. *The History of County governments in The United States*.
- Fisher, A. (1993). Production, primary, Secondary and Tertiary. *Economic Record*.
- Illyas, M. a. (2010). Impact of Revenue Gap on Economic Growth: Case Study of Pakistan. *International Journal of Human and social Sciences*.

- Kerongo, J. N. (2014). Determinants of Revenue Collection in Developing Countries: Kenya's Tax Collection Perspective. *Journal of Management and Business Administration*.
- Lundeen, A. (2014, October 15). Economic Growth Drives the Level of Tax Revenue. *Tax Foundation*.
- Marsden, K. (1983). Links Between Taxes and Economic Growth. *World Bank Staff Working Papers*.
- Mugenda, A., & Mugenda, O. (2003). *Research Methods: Quantitative and Qualitative Approaches*. Nairobi, Kenya.
- Muriithi, C. M. (2013). The Relationship Between Government Revenue and Economic Growth in Kenya.
- Musgrave, R., & Musgrave, P. (1980). *Public Finance in Theory and Practice*. Tokyo: McGraw-Hill Co.
- Nai-Fu Chen, R. R. (1986). Economic Forces and the Stock Market. *The Journal of Business*, 383-403.
- Ndunda, J., Wanyoike, D., & Ngahu, S. (2015). Analysis of Factors Influencing Optimal Revenue Collection by County Governments in Kenya. *International Journal of Economics, Commerce and Management*, 1114 - 1129.
- Ngechu. (2004). *Understanding The Research Process and Methods: An Introduction to Research Methods*. Nairobi: Acts Press.
- Ngechu, M. (2004). *Understanding the Research Process and Methods: An Introduction to Research Methods*. Nairobi: Acts Press.
- Ottenberg, S. (2001). Local Governments and the Law in Southern Nigeria. *Journal of Asian and African Studies*.
- Reale, S. (2011). The Correlation Between Local Government Tax Revenues And the Existence of Federally Designated Wilderness Lands.
- Roshaiza, T., Loganathan, N., & Sisira, N. (2011, January). The Effects of Economic Growth on Taxation Revenue: The Case of a Newly Industrialised Country. *International review of Business Research Papers*, pp. 319-329.
- Ryan, Y., Brian, S., Randy, S., & Christopher, M. (2016). Wilderness Designation and Local Economies. 1-19.

- Saima, S., Tariq, A., Muhammad, F., Sofia, A., & Amir, A. (2014). Taxation Effect on Economic Activity in Pakistan. *Journal of Finance and Economics*.
- Shah, A. (2006). *Local Governance in Developing Countries*. Washington DC: The World Bank.
- Wong, J. (2004). The Fiscal Impact of Economic Growth and Development on Local Government Revenue Capacity. *Journal of Public Budgeting, Accounting and Financing Management*.
-

