INTERGOVERNMENTAL FISCAL TRANSFERS AND FISCAL CAPACITY IN KENYA

BY

HELEN HOKA OSIOLO

C50/P/8853/05
SCHOOL OF ECONOMICS

UNIVERSITY OF NAIROBI

A Research Paper Submitted to the School of Economics, in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Arts in Economics

December, 2007

DECLARATION

This research paper is my original work and has not been presented for a degree award in any other University.

NAME: HELEN HOKA OSIOLO

SIGNATURE: .....

DATE: .....17TH DEC 2007.....

APPROVAL

This research paper has been submitted for examination with our approval as University supervisors.

NAME: DR. PURNA SAMANTA

SIGNATURE: .....P. C. Samanta.....

DATE: .....17/12/007.....

NAME: MR. MOSES MURIITHI

SIGNATURE: .....

DATE: .....18/12/07.....

DEDICATION

"The world is moving so fast these days that the man who says it can't be done is generally interrupted by someone doing it" *Elbert Hubbard*

I dedicated this research work to my Dad, Caleb and Mum, Loida indeed you both inspired me to have a reason to study.

ACKNOWLEDGEMENTS

This research work has come out as an upshot of massive support from assorted individuals. My initial and leading acknowledgement goes to the almighty God for his blessings and graciousness for enabling me reach this point. I am indebted to the University of Nairobi, School of Economics for providing favourable space that has enabled me to achieve this type of knowledge. I am indeed grateful to my project supervisors Dr. P. Samanta and Mr. M. Muriithi who have seen me through my research process. Their advice, support, time, tireless effort can't go unnoticed. I am ever grateful to Dr. Manda Kulundu from School of Economics for numerous hours spent instructing and insightfully commenting on this project. I am also thankful to Prof. Germano Mwabu and Mr. Seth Gor who are also from School of Economics for their directions and their advice from which this paper has benefited.

I appreciate the efforts of my parents for taking me to school and for sacrificing a lot for my sake. I greatly appreciate their financial support to pay for my education. I also extend my gratitude to all my brothers Daniel, Francis and Victor. Their unconditional love, support and understanding could not go unobserved.

I am greatly indebted by Mrs. Jane, the librarian, Ministry of Local Government for enduring my constant interruptions by my visits to access the data that was used in this study and her efforts that ensured that I obtained all the required information. I also thank Owen Nyangoro for his scholarly and proper support that came very handy.

I will not forget the intellectual and moral support of the followings classmates of the M.A Economics (2005 - 2007) class and friends: Joel, Rachael, Jane, Beth, Patrick, Grace, Eunice, and Tich for their encouragements and cheers. It's incredible to mention by names all those who assisted me, however, to all of you I am deeply obliged and feel privileged.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

DFRD	District Focus for Rural Development
FY	Financial Year
GOK	Government of Kenya
LA	Local Authority
LATF	Local Authority Transfer Fund
LASDAP	Local Authority Service Delivery Action Plan
MLA	Ministry for Local Authority
RMLF	Road Maintenance Levy Fund
RTS	Representative Tax System
RRS	Representative Revenue System

ABSTRACT

This study examined the intergovernmental fiscal transfers and fiscal capacity in Kenya. Its main objective was to analyze the horizontal imbalances in revenue collection within local authorities in Kenya by identifying the determinants that contribute to higher revenue collections in local authorities and analyzing the effects and significance of these determinants on fiscal capacity. It is based on Dahlby and Wilson (1994) and Martinez – Vasquez (1997a) modified efficiency model as an alternative to conventional fiscal capacity measures. This model is drawn from optimal tax theory that seeks to minimize social cost or excess burden by maximizing the social welfare function.

The study analyzed a sample of 22 local authorities using panel data for a period of 6 years (2001- 2006). Revenue factors were estimated using six variables (which included contributions in lieu of rates, property rates, single business permits, market fees, other revenue sources and intergovernmental transfers); and non-revenue factors that are estimated using two variables (that is population of the local authority, and number of employees working in the local authority).

Following the Hausman specification tests, the random effects model is found to be the best fitted model. The results show that all revenue factors are significant and positively related to fiscal capacity. Contributions in lieu of rates which is one of the local authorities' source of revenue have the largest contribution to fiscal capacity. Secondly municipal councils have higher revenue collection than the rest of the councils. Thirdly, the results also show that there is no significant difference in revenue collected between town council, county council and the city council. Lastly, local authorities with high allocation of local authority transfer fund (LATF) tended to have higher fiscal capacities. Generally, these findings support the fact that there are substantial differences in horizontal imbalance among local authorities in Kenya

CHAPTER ONE: INTRODUCTION

1.1 Background

There are three reasons why central authorities may wish to support local authorities' expenditures in general or local authority spending on public goods and services. First, in the absence of central authority transfer, local authorities could under provide public goods for which significant externalities are present. For instance; pollution controls (Musgrave and Musgrave, 1980). The second reason for intergovernmental transfers is to attain macroeconomic stability. The third reason for intergovernmental transfer is the goal of the explicit equalization of resource between local authorities.

Intergovernmental fiscal transfers form the cornerstone of local authorities or local authority's financing in most developing and transition economies. In Kenya, according to the 2004/5 Government of Kenya (Gok), Local Authority Transfer Funds (LATF) annual report, the LATF which is designated for local authorities comprises 5 percent of the national income tax collection in any year. The LATF currently makes up approximately 24 percent of local authority revenues. At least 7 percent of the total fund is shared equally among the country's 175 local authorities; 60 percent of the fund is disbursed according to the relative population size of the local authorities. The balance is shared out based on the relative urban population densities. LATF monies are combined with local authority revenues to implement local priorities.

The need for intergovernmental transfers varies due to both vertical and horizontal fiscal imbalances. Vertical fiscal imbalance arises when central authorities have greater capacity in collecting revenues than local authorities. While Horizontal fiscal imbalance occurs when there is varying fiscal capacities across different local authorities within a country. Fiscal capacity can be defined as the revenue that the local authority could be expected to raise, given its relevant fiscal and economic resources. In Kenya, Nairobi city council own source local revenue FY 2004/2005 was Ksh. 1073.1 percapita while Kisumu municipal council was Ksh 442.7 percapita The central authority transfers (for

LATF) were 691 million and 75 million for Nairobi city council and Kisumu municipal council respectively (Gok, LATF 2004/5).

In South Africa, for instance, Metropolitan councils mobilize an average of 90 percent of the revenues themselves compared to smaller municipalities, which raise only 65 percent of their revenues from own sources. In aggregate the local authorities raise more than 90 percent of their own revenue, with the difference being made up by transfers from the national and provincial governments. In contrast, the lion's share of operational costs of district councils in Tanzania is financed by central government transfers, which accounted for 85-90 percent of the total operational costs in rural councils in 2002 (Kolstad and Fjeldstad, 2006). In Kenya, central government transfers comprises of both local authority transfer fund (LATF) and the road maintenance levy fund (RMLF) . The central government transfers to local authorities now accounts for 35 percent of their revenue in aggregate, but as high as 80 percent in some local authorities.

The Table 1 below shows, the central government transfers has been increasing as a contribution to total revenue from 26 percent in 2000/1 to 37.6 percent in 2005/6. Own revenue sources have declined from 74 percent in 2000/1 to 62.4 percent in 2005/6. This is because LATF has been increasing at a higher proportion than own revenue sources.

Table 1: Categorization of Local Authority Revenue Sources 2000 – 2006

Category	2000/1	2001/2	2002/3	2003/4	2004/5	2005/6
Central Govt (Latf + Rmlf)	26 percent	31.2%	29%	32%	35.7%	37.6%
Own sources	74%	68.8%	71%	68%	64.3%	62.4%
Total Revenue	**10.25 billion**	**10.81 billion**	**12.10 billion**	**13.54 billion**	**12.77 billion**	**15.57 billion**

Source: Extract from GoK, LATF Annual Report FY 2004 – 2005

Table 2 shows the trends in the contribution of each revenue source to the total revenue collected. While some sources of revenue have declined (i.e. market fees) others have also increased (i.e. single business permit) over the period. This means that LATF

monies are not discouraging local authorities from improving their own revenue bases. The revenues, which have been increasing overtime, include property rates (14 percent to 16 percent) in 2005/6. The property rates have the potential to increase further, particularly if all local authorities could become rating authorities, carry out property valuation in their areas of jurisdiction, and improve on collection of property rates. The Contributions in Lieu of Rates (CILOR) seems to be a major non-performing revenue source. For instance, in 2005/6, only 46 percent of the planned CILOR was actually collected. This is a major obstacle to improving financial budgeting particularly in the municipalities where government occupies substantial property for which rates are due annually. According to LATF submissions by local authorities the rates payable amount to Kshs 400 million annually, and the arrears estimated at Kshs 4.5 billion in 2005/2006 (GoK, LATF annual report).

Table 2: Sources of Revenue 2000 – 2006

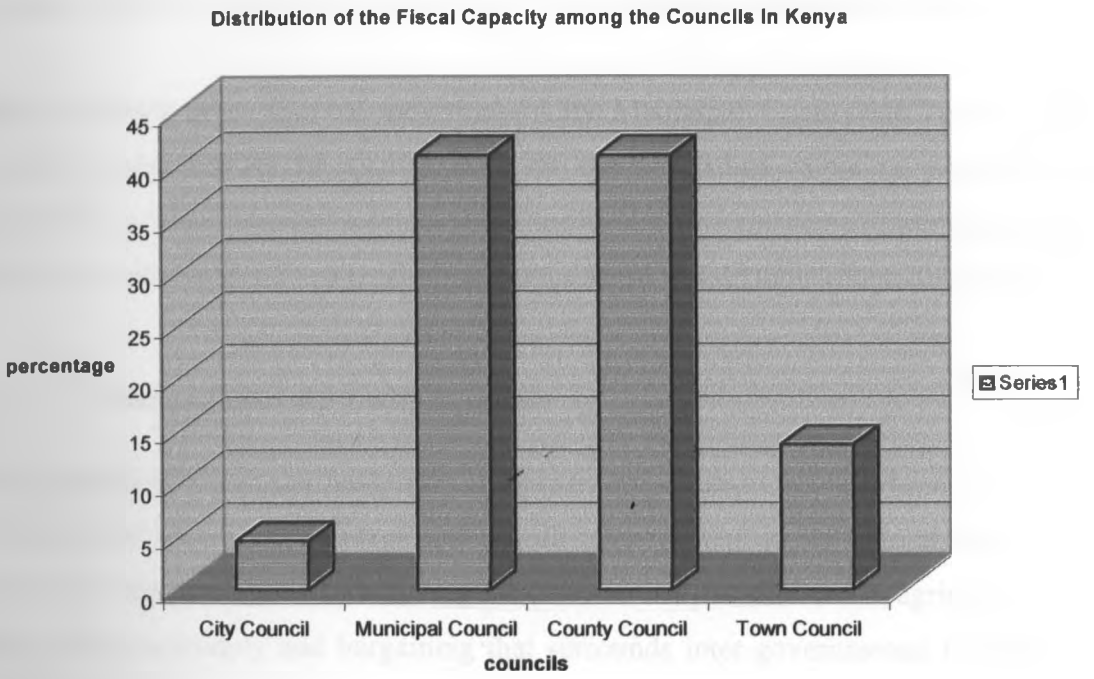
	2000/1	2001/2	2002/3	2003/4	2004/5	2005/6
CILOR	1%	0.3%	1%	2%	4%	3.3%
Markets	5%	1%	1%	3%	2.1%	1.4%
Rmlf	5%	5.3%	5%	5%	5.4%	5.4%
Sbp	11%	11.2%	11%	12%	12.9%	11.2%
Rates	13%	14%	19%	15%	14.2%	16.1%
Latf	21%	25.9%	24%	27%	30.3%	32.1%
Others	43%	42.3%	38%	36%	31%	30.6%
Total Revenue	**10.25 billion**	**10.81 billion**	**12.10 billion**	**13.54 billion**	**12.77 billion**	**15.57 billion**

Source: *Extract from GoK, LAFT Annual Report FY 2004 – 2005*

They are often substantial disparities in revenue-raising capacity or fiscal capacity across local authorities as shown in the figure 1 below. The figure shows that municipal and county councils have higher fiscal capacities of 41 percent each followed by town which has 13 percent and city councils which has 5 percent. Equalization (Horizontal equalization) means achieving some degree of fiscal balance between the different local authorities. The economic rationale for designing an equalization transfer system is to eliminate or reduce the differences in fiscal disparities (Yilmaz et al; 2002). In a decentralized system local authorities acting independently may finance and deliver

system would lead to inefficiency and inequity in the economic system. Variations in fiscal capacity across local authorities encourage fiscally induced migration of factors of production. Labor and capital may move to areas with positive net fiscal benefits for fiscal considerations alone. Fiscally induced migration creates social and economic problems in resource-rich areas. Factor movements in response to fiscal considerations alone create inefficiency and reduce social welfare (Shah, 1996).

Figure 1: A bar chart on the distribution of fiscal capacity among the councils in Kenya



Source: constructed from *survey data GoK, LATF annual reports*

The study aimed to analyze the horizontal imbalance in revenue collection by measuring the size of fiscal capacity and then it seeks to identify the determinants of fiscal capacity (among them intergovernmental transfers) and their effects on fiscal capacity of the local authorities.

1.2 The Local Authorities in Kenya

The Republic of Kenya is a unitary state, administratively divided into seven provinces – Central, Coast, Eastern, North East, Nyanza, Rift Valley, Western – and one area (Nairobi). The Provinces, and the one area, are further divided into 69 districts, which have administrative responsibilities under the De-concentration Initiative, the District Focus for Rural Development (DFRD), introduced in 1983. Under Districts there are divisions, locations and sub-locations. Kenya has 175 local authorities including 67 county councils, 43 municipal councils, 62 town councils, and 3 city councils.

The legislation gives all local authorities – City, Municipal, County and Town Councils – similar responsibilities. In practise, however, the established municipal councils are able to provide a wider range of services than the cities, towns and some newer municipalities. The local authorities have a semi-autonomous status within their geographical area.

1.2.1 Taxation Policy for Local Authority

The general trends in tax modernization programmes are to move towards more elastic, buoyant and high yielding taxes and overall improvement in tax administration. At the same time the trend includes reducing the taxes on international trade, agriculture and the poor. The uncertainty and bargaining that surrounds inter-governmental financial flows need to be reduced so that the sources of local finance are made more explicit. The future local government tax policy should then be characterized by; reduced taxation on Agriculture, access to more buoyant taxes, improved tax administration, use of a functional equalization grant system and shift towards user charges and indirect taxes.

1.2.2 Expenditure Responsibilities/Functions

The scope of expenditure responsibility is generally defined by the range of functions that local government is charged with. Studies done in a number of developing countries indicate the functions of local governments to include health care, cemeteries, abattoirs,

road construction and maintenance, water supply and sanitation, drainage, primary education, health, social welfare, housing and urban transport.

In Kenya these functions differ with the type of local authority, with municipalities having the largest package of responsibilities. In Nairobi and in the central government capitals, there is considerable sharing of expenditure responsibility between central and local governments, especially in education, health, water supply, road maintenance, social services and fire protection. The local government does not have a core set of functions over which it has monopoly or fiscal capacity especially where widespread lapse of public accountability characterizes its local financial management.

There is regrettably very little formal sharing of expenditure responsibility between local authorities and autonomous municipal service. The range of privatized services is fairly narrow and there is scanty experience in public-private sector collaboration in urban services delivery. Where they exist, autonomous enterprises of local government tend to generate a large volume of local finance by widely applying user charges, and market prices. They also tend to enjoy a comparative advantage over regular local government departments due to the autonomy in management which also contributes to vast efficiency gains and tremendous success in resource mobilization.

1.2.3 Revenue

There are several Acts of parliament – the Local Government Act, the Rating Act, the Valuation for Rating Act and the Regional Assembly Act – which give local authorities in Kenya a right to raise income from a wide variety of sources, subject to the approval of the ministry of local government. No particular source of revenue is required or reserved exclusively for specific types of local authorities, but some general patterns have emerged.

Large municipal councils are less diversified in their principle sources of revenue, relying heavily on water charges, land rates, house rents, sewerage fees and grants for teachers' salaries with small percentages from all others. Town councils are less reliant on land

rates and infrastructure-based revenue but rely more on plot rents, licenses and incomes from less capital-intensive services such as market and bus park fees. Rural county councils tend to have fewer substantial sources of revenue than the councils in the urban areas, except for those that charge excess on production of cash crops or have access to land rates. Most county councils rely heavily on market related fees and trade licenses, which are collected in at least several trading centres as well as the administrative seat of the county council. Some council have bus parks and slaughterhouses, and a few collect large amounts of revenue from game reserves within their areas of jurisdiction. Most other revenue sources are unreliable and unproductive. The financial sustainability of any local authority in Kenya is to a large extent dependent on the central government/local authorities' relationships.

The local authority total revenue is split between central government transfer and local revenues. These transfers include LATF and RMLF (Road Maintenance Levy Fund). The local revenues is a list of amount that each Local Authority is expected to receive or receives from their own sources of revenues – with specific figures from the Contributions in Lieu of Rates (CILOR), property rates, single business permits, market fees and other small revenue sources.

Contributions in Lieu of Rates (CILOR) are the amount which each LA is to receive from the central government for property they occupy within a LA. LA(s) cannot directly influence the amount of CILOR remitted to their LA(s) but rely on central government for the remittance. Property Rates is the amount collected from property which is collected in accordance with Rating Act and the Valuation for Rating Act. Single Business Permit is the amount from the Single Business Permit as collected in accordance with the Local Government Act (Cap 265) and Ministry for Local Authority (MLA) circular 11/98. Market Fees is the amount collected from the various markets located within a LA in accordance with the Local Government Act (Cap 265) and related by-laws which are approved by the MLA. Other small revenue sources include the local fees and charges – such as cess, bus parks, game park fees, house, plot rents, garbage fees, and water, etc.

1.3 The Local Authority Transfer Fund (LATF)

The Local Authority Transfer Fund (LATF) was developed as a mechanism to provide funds to Local Authorities (LA) to supplement the financing of the services and facilities which LA(s) are required to provide under the Local Government Act. The LATF is structured to provide both additional resources and strong incentives to LA(s) to improve local service.

The LATF Act was passed in 1998 and brought into effect in 1999. In FY 1999-2000, the Government distributed Kshs 1 billion to the 174 local authorities. In FY 2000-2001, the LATF distributed Kshs 2.3 billion while in FY 2001-2002 and in FY 2002-2003, the LATF distributed Kshs 3.0 billion, in FY 2003-2004, 3.75 billion was distributed increasing to 4.0 billion in FY 2004-2005. In each of these years, the LATF monies were allocated in an objective, transparent and accountable manner. Each year, these LATF funds have been combined with local own source revenues to enable local authorities to deliver improved local services such as markets, road, water supply, and health facilities. The LATF has improved financial management, revenue mobilization and reduced local council debt.

In FY 2004-2005 LA(s) reported public expenditures of Kshs 13.28 billion, less then 5 percent of total public expenditures in Kenya. The Kshs 4 billion, which was disbursed through LATF, accounted for 30 percent of these expenditures. These important LATF resources are now supplementing existing local revenues to enable local authorities to meet the backlog in existing infrastructure and services. In addition, the LATF through its performance conditionalities is providing incentives to improve financial management, revenue mobilization and service delivery.

To ensure that LATF objectives are met, the Government continues to monitor the allocation and distribution of the LATF monies to the councils. In addition, local authorities are increasingly incorporating citizen's stakeholders into the local planning,

implementation and monitoring process through the Local Authority Service Delivery Action Plan (LASDAP) process. Central level monitoring, in combination with local level citizen involvement in horizontal and bottom-up monitoring will help to ensure that local authorities are being responsive to local needs and accountable for all local revenue and expenditure.

The LATF is structured as a "block grant" (unconditional grant) to provide LA(s) with supplementary funds) - which are combined with own-source revenues – to meet the LATF objectives. Local Authorities are given discretion to allocate the LATF funds – and their own source revenues – through the annual budgetary process as stipulated in the Local Government Act (Cap 265) and related financial regulation. LATF monies and all other local own revenues are subject to all general budget and financial management conditions. Local authorities are accountable for the execution of their budgets and including the use of the LATF monies subject to the guidelines under the Local Government Act.

1.4 Problem Statement

Local authorities in Kenya operate in a highly competitive environment. They must compete for both residents and businesses that are able to help finance public services. In urban areas, local authorities were required to provide a wide range of services than their rural counterparts. The costs of these services are heavily influenced by the characteristics of the environment in which local authorities operate. It was substantially more costly to provide adequate educational services, health and social services, and a safe and secure environment in local authorities with substantial numbers of poor. From the background we noted that horizontal imbalance or fiscal disparities exists when some local authorities can provide a given level of local public service at a lower cost or at less sacrifice than other local authorities. There are wide differences in the ability of local authorities to mobilize resources independently thus the emergence of fiscal disparities across the local authorities which lead to inequity and inefficiency problems. Therefore intergovernmental transfers can be a powerful mechanism to help equalize the differences in local fiscal capacity.

The motivation of the study is to contribute to the debate on local fiscal capacity and intergovernmental transfer funds policy in Kenya. The presence of fiscal disparities among local authorities is evident in Kenya. Different local authorities have different fiscal capacity determinants based on various own source revenue factors (such as property tax, cilor, market fees, and single business permits), other small revenue sources (i.e. game fees, cess fee, garbage fees, and parking fees, etc), and other factors such as population and the number of employees in the local authority. Examining a mix of fiscal capacity determinants makes it possible to highlight the fiscal capacity situation of local authorities. It was therefore important to assess the situation of fiscal capacity by looking at the different local authorities.

Several studies have been done on the measurement of fiscal capacity and fiscal disparities across local authorities such as (Chernick and Reschovsky, 2006; Orfield, 2002; Campbell and Sacks, 1967 and others). Most of these studies concentrated only on local economic resource endowments in their measurements and failed to capture intergovernmental transfers. We also note that most previous studies used the actual revenue collected as a proxy for fiscal capacity instead of using the potential revenue collected. Actual revenue collected is widely affected by the tax rates, enforcements effort and tax payer compliance which limits it from being a good measure of fiscal capacity. This study uses the potential revenue collected as the proxy for fiscal capacity and sets forth to incorporate the intergovernmental transfers in the fiscal capacity model. There are few studies on horizontal imbalances in revenue collection and the determinants of fiscal capacity in Kenya. Currently, an independent study on the impact of the LATF in Kenya is still on ground (Syagga et al; 2007). The study also uses panel data model estimation which has rarely been used by earlier studies. By using panel data this study is able to control for local heterogeneity that were not accounted by earlier studies to analyze the determinants of fiscal capacity.

1.5 Research Questions

The key research questions in the study are as follows:

2) Does the relationship between Fiscal Capacity and Intergovernmental transfer variables differ significantly among local authorities?
3) What are the effects of these factors on Fiscal Capacity?

1.6 Objectives of the Study

The main objective of the study is to analyze the horizontal imbalances in revenue collection within local authorities in Kenya. Specifically, the study seeks:

1) To identify the determinants of Fiscal Capacity in Local Authorities
2) To analyze the effects and significance of these determinants on Fiscal Capacity
3) To draw policy recommendations

1.7 Significance of the Study

The study highlights that among other factors that affect the fiscal capacities, intergovernmental transfers is the most important factor that seeks to address the differences in fiscal capacity among local authorities. A measure of fiscal capacity portrayed the size of fiscal capacity which is an important factor in determining the allocation of intergovernmental transfers that equalize the amount of resources available to each of the local authorities. If the size of the fiscal capacity is negative, apart from receiving transfers to fill the gap, the specified local authority should target to improve their fiscal capacity through measures aimed at increasing their revenue raising capacities such as increasing the effort at revenue collection and enforcing tax payer compliance. With this knowledge, policy makers will be able to design better intergovernmental transfer system that will address allocative, efficiency, distributional equity and macro economic stability in Kenya. The study will also contribute to the most needed literature in the areas of intergovernmental transfers and fiscal capacity.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter explores the studies related to fiscal capacity measurements and factors that tend to constrain local government revenue collections. We reviewed the theoretical and empirical contributions to the research area of study. Theoretical studies looked at fiscal capacity determinants and set precise relationships for estimation. We highlighted the goals of intergovernmental transfers and more specifically the horizontal equalization transfer. Empirical studies on the other hand examined the trends of fiscal capacity over time and stated the contributions of various tax bases (such as property, single business permits, etc.), population and other fiscal capacity factors.

2.1 Theoretical Literature

Martinez -Vasquez and Boex (1997a) defined fiscal capacity as the potential ability of a local authority to raise revenues from their own sources in order to pay for a standardized basket of public goods and services. A measure of fiscal capacity should be an important factor in determining the allocation of intergovernmental transfers in order to equalize the amount of resources available to each of the local authority.

While the level of (actual) revenue collection in a local authority may intuitively be considered as a good proxy for fiscal capacity, the amount of revenues collected was not a good measure of fiscal capacity in actuality. First, two local authorities with the same fiscal capacity may collect different amounts of revenue as a result of applying different tax rates, or due to variances in the enforcement effort with which revenues were collected, or as a result of different levels of taxpayer compliance. Thus, while tax rates, enforcement effort and taxpayer compliance all affect the level of (actual) revenue collections, they do not affect the potential ability of local authorities to collect revenues (Martinez -Vasquez and Boex 1997a).

Martinez -Vasquez and Boex (1997a) argued that the potential of a region to collect revenues, or fiscal capacity, was influenced by the economic structure of the region and

by the availability of taxable resources, or tax bases. For example, the tax base of the enterprise profit tax, tax base for the personal income tax, value added tax, the property taxes and so on. The measurement of fiscal capacity was based on RTS (Revenue Tax System) regression approach. It was obvious that regions with a smaller tax base had more limited potential ability to raise revenues (Martinez -Vasquez and Boex, 1997a).

Dahlby and Wilson (1994) developed a modified efficiency model of fiscal capacity based on optimal tax theory. It seeks to minimize social cost or excess burden by maximizing the social welfare function. According to him RTS approach expresses fiscal capacity as a simpler linear function of the size of the tax base. Hence, a larger tax base yields higher returns on tax revenue given a larger number of taxable sources.

Fernholz (2007) indicated that property taxes were the largest and most important revenue source for financing local governments throughout the world. Property tax, however, by its structure was not automatically a buoyant revenue source for local authorities. Property tax revenues tend to stagnate in real terms primarily because of inadequate collection/enforcement lags in maintaining tax base coverage, and outdated valuations. Property taxation therefore relies extensively on active local government initiative to ensure that tax base information and property values were kept up to date and that taxes were properly assessed, billed, collected and enforced. Local authorities with large property taxes per capita therefore have greater revenue raising capacities and hence higher fiscal capacities.

Businesses and commercial activities was a natural revenue base for local governments (Fernholz, 2007). These can be justified as a form of benefit tax to pay for local services, or, from another viewpoint, as a payment for the right to trade in a locality – a sort of economic rent paid to the local community. Local governments seek to make their areas attractive for investments and business licenses – the rates, length of time and the ease or difficulty of processing are factors affecting the competitive rating of a city. A standard mechanism for mobilizing revenues from business has been through licensing fees from a

broad set of economic operations. Local authorities with large revenue collections from license fees tend to have high fiscal capacity.

Dudley and Montmarquette (1992) in their study indicated that the closer people live and work together for given levels of urbanization the lower tends to be the governments cost of observing taxable activities. Hence a high fiscal capacity as a result of low expenditure needs.

According to (Schneider, 2002) additional tax revenue resulting from a larger tax base of the local authority (for example arising from enforcing an active economic policy to get firms to settle in its territory) would increase its fiscal capacity and would therefore reduce the equalization transfer. This reduction of equalization transfers is called *compensation effect* because additional tax revenue was (partly) compensated by a reduction of the transfers. This creates fiscal incentives for the local authorities to enlarge their tax bases.

Nagowski (2007) argued that fiscal capacity assesses each state's ability to raise revenues relative to its expenditure needs. A state with low fiscal capacity has a relatively small revenue base, a relatively high need for expenditures, or—as was often the case—a combination of both. Low *fiscal capacity* does not necessarily imply a weak fiscal position. Local governments with low fiscal capacity could maintain fiscal health (that is, setting revenues equal to expenditures) using a high revenue effort, low actual expenditures, or through transfers from the central government.

When differences in revenue-raising capacities and/or expenditure needs occur among authorities, low capacity and/or high need authorities would have to levy higher tax rates than their neighbours to provide similar levels of public services (Broadway and Flatters, 1982). Smart (1998) and Kothenburger (2002) observed that, an increase in local tax rates causes measured tax bases to decline, as tax- payers shift to other regions of the country or to other, more lightly taxed activities and so causes capacity equalization

transfers to rise. Thus the transfers in effect subsidize tax increases and penalize tax cuts by local governments.

Yilmaz et al (2002) asserted that differences across local governments in fiscal capacity reveal the degree of *fiscal disparity* within the nation. Indeed, the central government might view supplementing revenues for local governments with low fiscal capacity as part of its redistributive role; a widely embraced goal of many nations possessing a federalist form of government was to narrow local government's fiscal disparity.

Bakhshi et al; (2006) articulated that unequal fiscal capacities arise from an unequal distribution of revenue sources (and perhaps the cost of public services) among sub-national units, leading to unequal fiscal burdens for otherwise equal citizens.

One of the most important reasons for the existence of intergovernmental transfers in any given country is the explicit goal of equalization of fiscal resources between various levels of local authorities (Martinez-Vazquez and Boex, 1997b). Equalization of fiscal capacity occurs when local authorities receive transfers from the central authority in order to compensate them for the differences in the revenue raising capacity to enable them provide a similar level of public services.

Buchanan (1950) articulated that in many decentralized fiscal systems, local authorities were responsible for providing core public services, such as education, health care, and public safety. One possible goal of an equalization aid program was to ensure that all citizens, regardless of where they live within a country, have access to a minimum amount and quality of either a specific public service, such as primary education or basic health care, or a full array of public services. For the aspect of fiscal equity, one generally accepted principle regarding horizontal equity is "equal treatment of equals", which was first proposed by James Buchanan in 1950.

A second possible goal for equalizing transfers was to reduce, or even eliminate, fiscal disparities among local authorities. According to Yinger, (1986) "fiscal disparities exist when some cities can provide a given level of local public services at lower cost or at less

sacrifice than can other cities." The resulting fiscal disparities across municipalities lead to inequity and inefficiency, which was mostly outside the control of local governments. Previous research suggests that higher levels of government may be able to improve social welfare through intergovernmental transfers (for example, Bradbury et al; 1984 and Yinger, 1986).

A third possible goal of equalization transfers, regards the efficiency perspective, it was argued that efficiency loss would be resulted in without relevant horizontal fiscal equalization measures in place. The efficiency case for fiscal equalization was closely related to the above-mentioned principle of horizontal fiscal equity. Reschovsky (1994) argued that for the equals who live in different regions, if they want to enjoy a comparably same level of public service under the background of horizontal fiscal inequity, those dwelling in poor regions would pay their taxes according to higher rates than those living in rich regions. According to Vaillancourt and Bird (2004) the existence of such a disparity would then provide an incentive for those from poor regions to move to rich regions in an attempt to either reduce their current tax burdens or enjoy a higher level of public service. Such a regional migration would result in efficiency loss in view of following reasons: firstly, migration itself was costly and would lead to waste of resources; secondly, other things being equal, ,economic efficiency was viable and improved only when the migration was induced by regional disparities in either actual production factors such as labour and technology or those factors relevant to the effective utilization of economic resources. Under the above fiscally-induced regional migration settings, however, the migration was contradictive to efficiency improvement as it was only induced by different fiscal treatments among regions.

2.2 Empirical Literature Review

Campbell and Sacks (1967) in their book, focused on the differences between the fiscal conditions of central cities and their suburbs. Building on this work, a number of authors wrote papers that compared the fiscal condition of central cities to the average fiscal condition of local governments in the suburban ring of metropolitan areas. Most of these studies measured fiscal disparities within metropolitan areas by comparing measures of

spending, tax rates, and other characteristics of central cities to the same variables in the suburbs (Sacks and Callahan, 1973 and Bahl, 1994). The general conclusion of this literature was that central cities in the U.S. were typically in considerably weaker fiscal health than their surrounding suburbs.

Akin and Auten (1976) investigated the relative fiscal positions of school districts. This study developed a comprehensive measure of fiscal capacity based on a district's economic resources and its ability to shift taxes outside the district. Their results suggest that on the average the large central cities were less able to finance public services, while the suburban districts have excess fiscal capacity.

Ladd and Yinger (1989) in their book, *America's Ailing Cities* applied a similar income with- exporting methodology to measuring the fiscal capacity of 86 U.S. cities. They found that decay in the economic health of cities in the 1972-82 periods had led to a decreased ability of cities to finance public services with own-source revenues, and that exported taxes were a critical part of many cities' budgets. They also indicated that a fiscal distress result largely from constraints beyond the control of municipal official's which prompts them to call for extensive intergovernmental aid. They also found that using per capita income as a gauge of revenue raising capacity understated inter-area variations in fiscal capacity because individual variations in residents' incomes, as well as variations in tax policies regarding export taxes, were not captured in the measure.

Rafuse and Marks (1991) included categories of revenue in their study - intergovernmental revenues, property taxes, general sales taxes, motor fuel taxes, motor vehicle license taxes, other taxes, current charges, interest earnings, all other own general revenues, utility revenues, and insurance trust revenues. The authors found that the city of Chicago's index of fiscal capacity was 28 percent lower than that of the average of the municipalities included in their study. When accounting for intergovernmental revenue sources, Chicago's fiscal capacity index still remained 13 percent lower than the regional average.

Green and Reschovsky (1993) examined fiscal disparities across 285 municipalities in Wisconsin with populations in 1991 of more than 2,500. They estimate both expenditure needs and revenue capacity of individual local governments and analyze the resulting fiscal conditions and state aid programs. Green and Reschovsky define a municipality's tax capacity as the amount of property tax revenue it would raise if all municipalities were to levy a uniform property tax rate on their residents. They found that revenue raising capacity was the lowest in Wisconsin's smallest and largest cities. Villages had the greatest ability to generate own-source revenues, followed by towns and cities.

Chernick (1998) compared fiscal capacities in New York City to those of neighboring jurisdictions, using both the income with exporting method and a restricted Representative Tax System (RTS) measure based on property taxes. He found weak fiscal capacity in the city, relative to most suburban jurisdictions.

In his 2002 book, *American Metropolitics: The New Suburban Reality*, Myron Orfield studied the intrametropolitan disparities in fiscal capacity in the 25 largest metropolitan areas of the United States. There was no consistent pattern in his findings across metropolitan areas. In some cases the central city had strong revenue raising capacity (e.g. Denver and Atlanta) while in other cases the tax capacity of the central city was relatively low (e.g. Boston, Milwaukee, and Philadelphia). There was also substantial variation across suburban municipalities – some with higher tax capacity and some with lower tax capacity. The spatial pattern of these suburban jurisdictions varies across metropolitan areas as well.

Yilmaz et al; (2002) measured fiscal disparities across the U.S. states. He examined the states' fiscal capacity, or their potential ability to raise revenues relative to their need for public service expenditures. They used representative revenue system (RRS) framework to estimate a state's potential revenue raising ability, or revenue capacity. They found out that low fiscal capacity does not necessarily imply an unbalanced fiscal position and that little correlation existed between aggregate amount of federal aid received and their fiscal capacity. Their explanation was that federal money was not primarily distributed to offset

differences in the ability to raise revenues or provide services. While some federal grants were based on fiscally equalizing factors (for example, federal education funds related to the number of children in poverty), other programs require matching funds for states to be eligible for federal grants.

Using RTS measure based on property values, Luu (2005) also found that New York City's fiscal capacity declined relative to its suburbs for the period 1995 to 2000. The buoyant growth in New York City real estate values since 2001 has probably improved fiscal capacity in the city relative to the suburbs (Chernick and Haughwout, 2006).

Bell et al; (2005) in their study used the RRS framework for calculating the revenue capacity and effort of local governments within the six metropolitan study areas. The research results reveal that there were substantial differences in revenue raising capacity and effort between jurisdictions within metropolitan areas – not only among core and suburban jurisdictions, but also among suburban jurisdictions. Their study showed that the center city still lags behind the suburbs as a whole in this key component of fiscal disparities.

Chernick and Reschovsky, (2006) provides an aggregate analysis for six metropolitan areas. The aggregate analysis was based on census data on household income, population change, poverty rates, and school enrollments, and draws on previous research to translate differences in these variables into income based estimates of fiscal capacity and very partial estimates of differences in expenditure needs. The Atlanta analysis used property values as a measure of fiscal capacity, and estimated expenditure need for general administration, public safety, and courts, functions which make up about 70 percent of municipal government spending. Their tentative conclusion was that central city suburban fiscal disparities appear to have increased in the 1990s, despite a booming national economy in the latter half of the decade. Their analysis was based on very partial and incomplete measures of both fiscal capacity and costs, and does not yet take into account the role of intergovernmental grants.

Bell et al; (2005) in their study used the RRS framework for calculating the revenue capacity and effort of local governments within the six metropolitan study areas. The research results reveal that there were substantial differences in revenue raising capacity and effort between jurisdictions within metropolitan areas – not only among core and suburban jurisdictions. They also found that the RTS using regression analysis (RTS/R) measure was well-correlated with all other measures of fiscal capacity. This was especially impressive given that they only used two proxies for tax bases in their regression.

2.3 Overview of the Literature

Akin and Auten (1976); Chernick and Reschovsky, (2006) ; Ladd and Yinger (1989) and others are some of the few studies that analyzed horizontal imbalances however they had difficulties in measuring local fiscal capacity in an objective way. Several authors have acknowledged that the appropriate way to measure the fiscal capacity was to include the tax bases of own source revenues in local authorities in their estimations although they also point out the daunting nature of the data requirements to fully implement this approach. These studies have identified several factors affecting fiscal capacity which includes property tax, cilor, market fees, single business permits, and other small sources (i.e. game fees, cess fee, garbage fees, and parking fees, etc). Other factors include intergovernmental transfers, population and the number of employees in the local authority.

The study contributes to literature by analyzing the effects and significance of the above factors. We would employ the panel data model estimation which to the best of my knowledge it has not been used by previous studies. The variables considered relevant for determining local fiscal capacity would be grouped into categories of revenue and non-revenue factors. The novelty of the study was that to the best of my knowledge, no attempt has been made to analyze fiscal capacity and intergovernmental transfers in Kenya.

CHAPTER THREE: METHODOLOGY

3.1 Theoretical Framework

Dahlby and Wilson (1994) employed a modified efficiency model as an alternative to conventional fiscal capacity measures. Drawing from the ideological fabric of the optimal tax theory, the efficiency model seeks to minimize social cost, or excess burden, by maximizing the social welfare function, given parameters of governmental fiscal constraint. The social welfare function, as derived from optimal tax methodology, was theoretically premised upon the equalization of the marginal cost of raising revenue across jurisdictions. The efficiency model, thus, extrapolates the equalization of the marginal cost theory as a distributive mechanism to reapportion and minimize excess burden.

Simpler methodologies such as RTS (Revenue Tax System)/RRS (Representative Revenue System) express fiscal capacity as a simple linear function of the size of the tax base. As such, a larger tax base would yield higher returns on tax revenue given a larger number of taxable sources. Moreover, a large tax base was generally considered particularly propitious, in that higher revenue yields may be realized with relatively low tax rates.

Local authority with large amount of property tax bases (i.e. those with large manufacturing facilities, power plants, residential and commercial facilities and those with upto date collections) are expected to have greater revenue raising capacities. Single business permit is a licensing fee from businesses and commercial activities which provide revenue to local authorities. Local authorities with large economic activities (such as transportation, communications, hotels and restaurants, financial institutions, agro-business, professionals, educational institutions, medical facilities, entertainment, manufacturing, tourism services and workshops) can have high revenue capacities resulting from these single business permits. Opening of new markets and increased effort at collection might increase revenue from collections of market fees and thus higher fiscal capacity. Other small revenue sources like housing (rents plus tenant

purchase) collections depends on the repayment of arrears. Revenues from bus parks might increase, due to a combination of increased fees, increased traffic and increased efforts at collection on the part of the council. Cess collections depend on agricultural products available for trading purposes within the local authorities. Transfers are meant to equalize fiscal capacity to ensure comparable level of public service at comparable level of taxation among the local authorities. Local authorities with lower fiscal capacities tended to have high transfers. It's assumed that local authorities with large number of employees are able to collect more revenue compared to local authorities with few numbers of employees. Local authorities with large population might lower the government cost of observing taxable activities, implying that their fiscal capacity is high resulting from the reduced expenditure needs.

3.2 Model Specification

To measure the fiscal capacity of local authorities, we borrowed (Martinez -Vasquez and Boex (1997a) model and modified it as shown in equation 1 below:

$$FC_{it} = \delta_o + \sum_{j=1}^{6} \beta_j RF_{it} + \sum_{j=1}^{2} \lambda_j NRF_{it} + \varepsilon_{it} \qquad (1)$$

Where FC_{it} represents fiscal capacity, β_j are the slope coefficients; $j = 1,2.....8$. RF_{it} represents revenue factors that are estimated using six variables (that is Contributions in Lieu of Rates, Property Rates, Single Business Permits, Market Fee, Other revenue sources and Intergovernmental Transfers); and NRF_{it} represents non-revenue factors that are estimated using two variables (that is population of the local authority, and number of employees working in the local authority.

By inserting revenue factors and non-revenue factors into their respective proxies, equation 1 can be broken down into equation 2 below. This is the actual equation to be estimated which will be analyzed using panel data.

$$FC_{it} = \delta_o + \beta_1 CILOR_{it} + \beta_2 PR_{it} + \beta_3 SBP_{it} + \beta_4 MF_{it} + \beta_5 OR_{it} + \beta_6 T_{it} + \beta_7 EMPS_{it} + \varepsilon_{it} \quad (2)$$

Where: FC_{it} is fiscal capacity variable which was the total amount of own source revenues collected including transfers within the local authority, $CILOR_{it}$ is Contributions in Lieu of Rates which was total revenue received from central government for property they occupy within a local authority. PR_{it} is Property Rates which represents the total revenue collected from property rates, SBP_{it} is Single Business Permits that was the total revenue collected from single business permits within a local authority, MF_{it} is Market Fee which shows the total revenue collected from market fees, OR_{it} is Other revenue sources which represents total revenue collected from other small revenue sources which may differ from one local authority to another, T_{it} is the Intergovernmental Transfers (LATF) which shows the total revenue from statutory allocation meant to boost the revenue base of local authorities. $EMPS_{it}$ is the number of employees working in the local authority.

3.3 Fixed Effects or Random Effects? The Hausman's Specification Test

Hausman (1978) suggested a test to check whether the individual effects are correlated with the regressors (X_{it}). Under the null hypothesis of orthogonality, that is, no correlation between individual effects and explanatory variables, both random effects and fixed effects estimators are consistent, but the random effect estimator is efficient , while fixed is not. Under the alternative hypothesis that individual effects are correlated with X_s, the random effects estimator is inconsistent, while the fixed estimator is consistent and efficient. In addressing this problem, Greene (2003) recalls that, under null hypothesis, the estimates should not differ systematically.

This study adopts panel data estimation techniques in capturing the impacts of revenue factors and non-revenue factors on fiscal capacity. This is because panel data consists of both cross sectional and time series dimensions and hence it was expected to give unbiased parameters estimators, since it controls for individual specific effects.

A one way error model will be estimated which means that we decompose ε_{it} into individual specific effects and the error term (i.e. $\varepsilon_{it} = \delta_i + U_{it}$). Equation 2 above now becomes:

$$FC_{it} = \delta_0 + \beta_1 CILOR_{it} + \beta_2 PR_{it} + \beta_3 SBP_{it} + \beta_4 MF_{it} + \beta_5 OR_{it} + \beta_6 T_{it} + \beta_7 EMPS_{it} + \delta_i + U_{it} \quad 3)$$

δ_i is the individual specific effect which varies across local authorities or the cross sections unit but is constant across time, and may or may not be correlated with the explanatory variables. It is also noted that U_{it} varies unsystematically (i.e. independently) across time and local authorities.

The assumption made about the individual effects determines whether a random or a fixed effect is used. For random effects, δ_i is uncorrelated with independent variables, while for the fixed effects, δ_i is correlated with dependent variables.

3.4 Variable Description and Expected Signs

Fiscal Capacity – This is the dependent variable. It measures the total amount of own source revenues collected including transfers within each local authority in Kenya shillings.

Contributions in Lieu of Rates - Contributions in lieu of rates measures the amount which is received by the local authority from property occupied by central government. It is expected that the more revenue the local authority receives from the central government the higher the fiscal capacity.

Property Rates – Property rates measures the total amount collected from property. Local authority with large amount of property tax bases is hypothesized to have greater revenue raising capacities. Hence a positive relationship is assumed to exist between the property rates and fiscal capacity as seen in Fernholz (2007).

Single Business Permits - This is the total amount collected from the single business permits in each local authority. Local authorities with large economic activities (such as manufacturing, transportation, communications, agro-business, financial institutions, etc) are expected to have higher revenue raising capacities resulting from fees charged on acquiring a business permit. As supported by Fernholz (2007).

Market Fees – Market fees is the total amount which each local authority collects from the various markets located within their local authority. When new markets are opened collection is expected an increase resulting to an increase in fiscal capacity. Hence in theory market fees is expected to be positively related to fiscal capacity.

Other revenue sources - This variable represents other small own revenue sources such as the cess fees, game park fees, parking fees, garbage fees etc. Local authorities with an addition of other small revenues apart from the ones discussed above tended to have high fiscal capacity as seen in the literature (Martinez -Vasquez and Boex, 1997a; Schneider, 2002; and Nagowski, 2007).

Transfers or LATF - Transfers measures the total amount of transfer from central government to each local authority. It is commonly referred to as LATF (Local Authority Transfer Funds). The goal of allocating transfers is to equalize fiscal capacity among local authorities. Local authorities with high transfers in addition to their revenue sources will have high fiscal capacities. It is thus expected that transfers and fiscal capacity would be directly related.

Population within a local authority – This variable measures the population in each local authority. This variable is used to achieve the revenue base per capita and it is arrived by dividing each revenue source base by the population in every local authority.

The number of employees employed within a local authority – this variable measures the number of employees available to collect revenue within a local authority. It's

assumed that local authorities with large number of employees are able to collect more revenue compared to local authorities with few numbers of employees. It is likely that the number of employees would be positively related to fiscal capacity.

From the Appendix Table A1 shows the relationship between the exogenous variables and the expected signs on fiscal capacity.

3.5 Estimation Procedures

This study will use the STATA statistical software to analyze the data. We will use the Hausman specification test to test whether to estimate the pooled data using a fixed effects model or a random effect model.

3.6 Data Types and Sources

The study was based on secondary panel data. Data collected covered the period of 2001 - 2006. The study covered a total of 22 local authorities including Nairobi City Council, 9 municipal councils, 9 county councils and 3 town councils as detailed Table 3 below. The following criteria were used in the selection of the study area within LAs:

- Geographical distribution – To cover all the eight provinces of the country
- Categories of local authorities – To include the four types of the LAs in the country
- Impact of LATF in terms of magnitude of LATF allocation between various types of Local Authorities. Most of the money was spent in the municipalities and county councils

Table 3: The Local Authorities Covered in Study

Province and name of Local Authority	
Nairobi Province:	*North Eastern*
Nairobi city council	1. Garissa municipal council
Central Province	2. Wajir county council
1. Nyeri municipal council	3. Mandera town council
2. Kiambu municipal council	*Nyanza Province*
3. Kirinyaga county council	1. Gusii county council
Coast Province	2. Migori municipal council
1. Mombasa municipal council	3. Siaya county council
2. Kilifi county council	*Rift Valley*
3. Mariakani Town council	1. Kitale municipal council
Eastern Province	2. Nakuru county council
1. Embu Municipal Council	3. Bomet county council
2. Makueni county council	*Western Province*
3. Mwingi town council	1. Kakamega municipal council
	2. Bungoma County council
	3. Busia Municipal council

The pooled database had 132 data sets.

Data on the various tax bases such as transfers, cilor, property rates, single business permit, market fees, other small revenue sources and number of employees employed within a local authority was collected from the Local Authority Transfer Fund (LATF) annual reports available at the Ministry of Local Authority. Data on population and area was collected from the various issues of District development plans and Kenya statistical abstracts.

CHAPTER FOUR: RESULTS AND FINDINGS

4.1 Summary Statistics

This section gives the summary statistics of the main variables that have been included in the model and their correlation results. The descriptive statistics presented in Table 4 include the mean, standard deviation, minimum, and maximum.

Table 4: Descriptive Statistics of the Variables

Variable	Mean	Std.Dev.	Min	Max
Fiscal capacity	637.762	664.6615	26.47	3971.91
Contributions in lieu rates	16.97455	24.54144	0	128.32
Property rates	71.22379	135.9922	0	786.74
Single business permits	59.50091	61.38243	0	270.74
Market fee	43.53932	49.23786	0	242.15
Other revenue sources	277.7712	393.9021	7.79	2850.11
Intergovernmental transfers	148.1517	89.33829	0	351.11
Number of employees	1226.5	3503.77	28	18000
City Council	0.045455	0.209092	0	1
Municipal Council	0.409091	0.493539	0	1
County Council	0.409091	0.493539	0	1
Town Council	0.136364	0.344482	0	1

The results show that the variable fiscal capacity has a minimum value of 26.47 and a maximum value of Kshs 3971.91 with a mean value of Kshs 637.76. The fiscal capacity is highly dispersed as shown by the standard deviation of 664.66. This implies that there is high variation in the fiscal capacity revenues across local authorities; this result is consistent with that of Bell et al; (2005) study that was carried out in the United States.

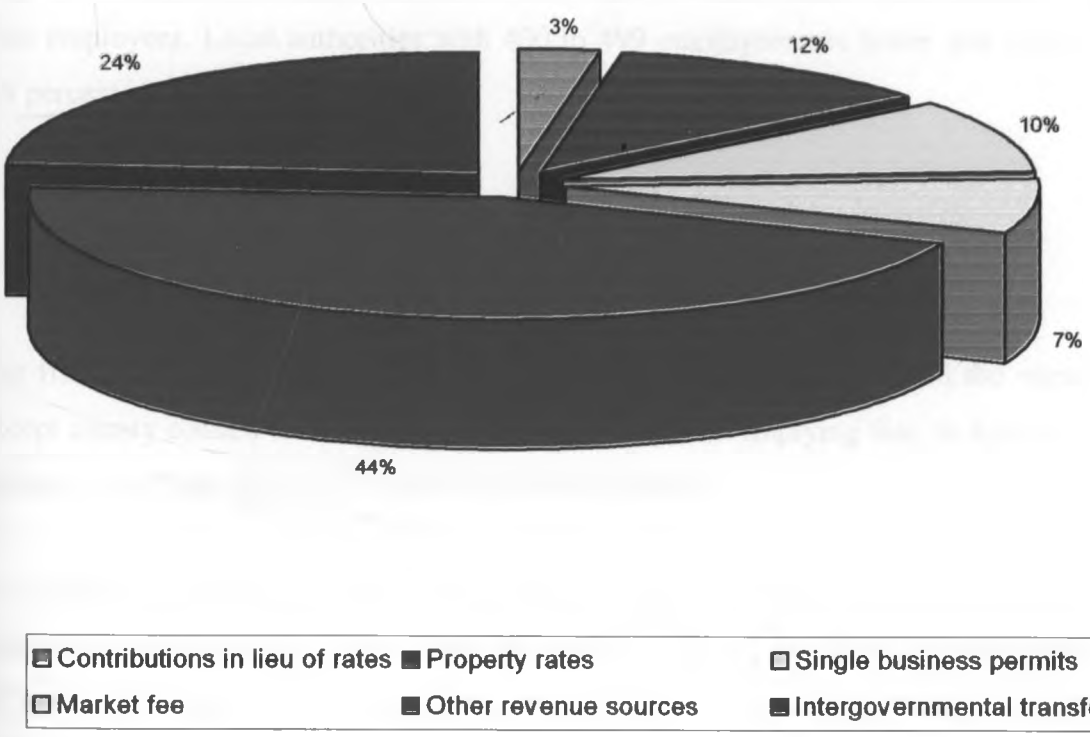
Contributions in lieu of rates, property rates, single business permits, market fees and transfers have minimum value of Kshs 0 and varying maximum value, this is because each year, some local authority do not collect revenue from these sources.

Contributions in lieu of rates had a standard deviation of 24.54 which is much lower than other revenue sources. Implying that, the contributions in lieu of rates exhibit the least amount of disparity compared to rest of the revenue sources within the local authorities.

The Other revenue sources had a minimum value of Kshs 7.79 and a maximum value of Kshs 2850.11. It also had the highest standard deviation of 393.90 in contrast with the rest of the revenue sources and with a mean value of 277.77. This means that the other revenue source had the highest amount of disparity when compared to the rest of the revenue sources within the local authorities.

Figure 2 below shows the contributions of various revenue tax bases on fiscal capacity. The Other revenue sources such as game park fees and parking fees have the highest contribution of revenue with 44 per cent followed by intergovernmental transfers with 24 percent. Contributions in lieu of rates have the lowest input with 3 percent.

Figure 2: A pie chart on composition of local revenue tax bases on fiscal capacity



Source: constructed from survey data GoK, LATF annual reports

The minimum number of employees within the local authorities is 28 employees and a maximum number employee is 18000. It also had a standard deviation of 3503.77. This implies that the there is a wide variation in the number of employees within local authorities.

Table 5: Distribution of local authorities employees

Number of Employees	Frequency	Percent
0-28 Employees	-	-
28-99 Employees	37	28.0
100-199 Employees	39	29.6
200-299 Employees	11	8.4
300-399 Employees	13	9.9
400-499 Employees	9	6.8
500-1000 Employees	5	3.8
1000+ Employees	18	13.6
Total	132	100

Source: constructed from survey data GoK, LATF annual reports

Table 5 above shows the distribution of employees within the local authorities. Local authorities' employees range from 100 to 199 employees consisting of 29.6 percent of the total employees. Local authorities with 400 to 499 employees use fewer and contribute 3.8 percent of the total employees.

4.2 Correlation Results

The correlation coefficients are shown in Appendix in Table A2.

The fiscal capacity variable has a positive correlation coefficient with all the variables except county council and town council dummy variables. Implying that, in Kenya, there could be low fiscal capacity in county and town councils.

It is probable that Kenyan municipal councils rely heavily on water charges, land rates, house rents, sewerage fees and grants for teachers' salaries as sources of their revenue while town councils rely more on plot rents, licenses and incomes from less capital-intensive services such as market and bus park fees. It is also likely that most county councils rely heavily on land rates, market related fees and trade licenses, bus parks,

slaughterhouses, game reserves within their areas of jurisdiction as sources of their revenue. The city council has the potential of having the largest revenue sources which includes; bus parks, water fees, garbage fees, game park fees, trading licences, house and plot rents, etc.

It is possible that the tax bases for local authorities are static because of weak databases for determining revenue potentials. Areas within the town councils and county councils where revenue could be generated are likely not to be well identified and therefore this could be the reason why their revenue collection level is not optimal. There are also indications that county council uses too many unproductive revenue sources such as the slaughterhouses fee and cess fee which may barely cover collection costs.

Fiscal capacity has a high correlation coefficient of 0.9405 with other revenue sources (as expected) such as the cess fees, game park fees, parking fees, garbage fees etc. This means that other sources of revenue in the local authority have higher contribution to the fiscal capacity. This result is in line with that of Martinez -Vasquez and Boex (1997a) and Nagoswki (2007) who notes that, if there are various tax bases available to a local authority then the local authority has a higher ability to collect revenue.

The correlation coefficient between single business permit and property rates is also very high i.e. 0.8427 with property rates. This can be attributed to the fact that most economic activities occupy property which is owned by local authorities. According to Fernholz (2007) local authorities with large economic activities are projected to have higher fiscal capacities resulting from fees charged on acquiring a business permit. There have been tendencies to over-tax business property in Kenya through higher tax assessment and higher rates. This issue does not promote economic efficiency but has some implications on the size of the total revenue generated from the local authority. For instance, it is likely that due to the high taxes on business property, business move to other local authorities in an attempt to either secure reduced tax burdens or enjoy higher level of public service as noted by Vaillancourt and Bird (2004). Hence therefore, local

authorities can be left with high tax rates with less revenue collection due to business migration.

In Kenya, property taxes, for example, often have to be paid directly in lump sum to the local authority periodically. Furthermore, property taxes are inelastic due to economic conditions, which usually make the base for property taxes static. Under such circumstances, the only way to increase revenues would be to increase tax rates.

Single business permit is correlated with employment with a coefficient of 0.7183. This relationship emanates from the fact that a local authority with more employees has the capacity to collect more revenue from the various single business permits within their local authorities compared with those with fewer employees. The size of a local authority is an important factor in determining the number of employees within a council. Despite that, Kenya councils which have more employees are likely to have higher revenues collected in contrast to those with fewer employees. For instance, Nairobi city council, Mombasa and Kisumu municipal councils have larger number of employees who can collect more revenue as compared to Bomet and Siaya county councils.

Other revenue sources and single business permit are highly correlated with a coefficient of 0.7424. This is largely due to the fact that the presence of an economic activity in a local authority attracts other revenue (tax) bases such as parking fees, garbage fees, game park fees, cess fee, etc. Nairobi city council enjoys higher revenue collection emanating from various other revenue sources such as house rents, plot rents, water fee and garbage fee which may be attributed by the presence of economic activities within the council.

Intergovernmental transfers have a high correlation of 0.7086 with fiscal capacity. At the same time they both have a positive relationship. This implied that an increase in intergovernmental transfers led to increase in the fiscal capacity. This finding was in disagreement with Yilmaz et al; (2002) who found little correlation existing between intergovernmental transfers and fiscal capacity.

Several studies have established that local sources of revenues do not cover local authority expenditure responsibilities. Intergovernmental fiscal transfers are therefore needed to cover this fiscal imbalance. Second, there are significant variations in terms of the magnitude of the revenues generated by local authorities due to differences in revenue generating potentials. Thus, intergovernmental transfers can be used to meet national redistribution objective to offset the fiscal capacity differences among local authorities. Thirdly, intergovernmental fiscal transfers could be used to encourage local expenditure on goods and services that exhibit positive externalities. In Kenya the intergovernmental transfers (LATF) funds increased by 11.1 percent since 2000 to 2006. LATF funds is usually combined with local own source revenues to enable local authorities to deliver improved local services such as water supply, markets, road, and health facilities, improved financial management and revenue mobilization and reduced local council debt.

Employment is correlated with property rates with a coefficient of 0.8833. The positive relationship between employment and property rates emanated from the fact that local authorities with more employees have the capacity to assess, bill, collect, and even enforce the collection of property tax. In Kenya the mechanism for collecting property rates are low because properties have not been properly valued. Furthermore there appears to be inadequate revenue collectors in most local authorities. This problem is further exacerbated by the poor logistics for revenue collection.

City council and property rates have a high correlation of 0.7951. This is because it is more likely for a city council to have more property than the local town councils and county councils. In Kenya city council fetches a larger property rate share than other councils largely because city council may be having higher rates in terms of the property tax base as revenue.

4.3 Regression Results

Given the short time dimension of the panel data, we estimate a one-way-error component model taking into account local authority specific effects. We then use the

Hausman (1978) specification test to test whether to estimate a random effects or fixed effects model. The results of this test are presented in the Appendix Table A4.

Based on the results, the null hypothesis cannot be rejected. Therefore, the preferred model is the random effects model. This is expected given that we have only used a sample of local authorities in Kenya.

The results of the random effects model are presented in Table 5. The dependent variable is the fiscal capacity while the t-statistics are in the parentheses.

Table 6: Random effects model parameter estimates

Variable	Coefficients
Contributions in lieu of rates	0.7479256** (5.12)
Property rates	1.114821** (20.14)
Single business permits	1.239271** (13.13)
Market fees	1.188279** (16.43)
Other revenue sources	0.9738146** (88.84)
Intergovernmental Transfers	1.028395** (24.34)
Number of employees	0.0042304 (1.03)
City council	-54.09729 (-1.16)
Municipal council	23.2742* (2.30)
County council	15.62603 (1.37)
constant	-13.98258 (-1.40)
R-squared	0.9985
Wald chi2(11)	72594.86
Prob>chi2	0.0000

* Significant at the 5 percent level

** Significant at the 1 percent level

The contribution in lieu of rates has a positive coefficient which is significant at 1 percent. This means that 1 unit change in lieu of rates increases fiscal capacity by 0.75 units. This conforms with the expectation in the literature. We earlier saw from the summary statistics that contributions in lieu of rates had the least amount of disparity compared to other sources of revenue within the local authorities. This implies that contributions in lieu of rates as a source of local government revenue can be used to reduce the differences in fiscal capacities among local authorities at the same time increasing their size of fiscal capacity.

The coefficient for property rates is about 1.11 and is significant at 1 percent level. This variable has a t-statistic of 20.14 meaning that a 1 unit change in property rates significantly improves the fiscal capacity by about 1.11 units. In Kenya, the existence of business activities within a local authority may highly influence the contribution of property rates to fiscal capacity arising from the high correlation between single business permit and property rates. This may explain why local authorities such as Nairobi city council with high single business permits have also high property rates.

Single business permit has a positive coefficient which is significant at 1 percent. A 1 unit change in single business permit increases fiscal capacity by 1.24 units which is in line with our literature. Single business permit is the highest revenue source contributor to the fiscal capacity among local authorities compared to the other revenue sources. This may be due to the high relationship it has with the property rates and also with the other revenue sources.

The coefficient for market fees is found to be positive which is significant at 1 percent level. This implies that 1 unit change in market fees generates about 1.19 units change in the fiscal capacity. This conforms with the expectation in the literature. The presence of a market in the Kenyan local authority attracts other revenue sources such as garbage fee, water fee and premises(stalls) fee etc which go in hand to increase the local authority revenue collection (Nagoswki , 2007).

Other revenue source has a coefficient of about 0.97 which is significant at 1 percent. This means that a 1 unit change in other revenue sources increases fiscal capacity by about 0.97 units change in the fiscal capacity which is in line with our literature. Local authorities with other revenue sources in addition to the contributions in lieu of rates, property rates, single business permits, market fee and intergovernmental transfers may have high revenue collection (Martinez -Vasquez and Boex, 1997a)

The coefficient of intergovernmental transfer is positive and it is found to be significant at 1 percent. A 1 unit change in property rates significantly improves the fiscal capacity by about 1.03 units. This conforms with the expectation in the literature. In Kenya, when local authority transfer fund was allocated to local authorities the size of their fiscal capacity increased. Though there was improvement in their revenue incomes, fiscal capacities differences continue to widen. This is because the LATF policy is not designed to reduce the fiscal disparities among local authorities.

The results show that revenue variables have the expected effect on fiscal capacity and are all significant. This results are consistent with those of Martinez – Vasquez and Boex (1997a) and Nagoswki (2007) who indicated that the potential of a local authority to collect revenues or fiscal capacity is influenced by the availability of taxable resources (tax bases) and that a positive relationship was expected between the tax bases and fiscal capacity. In Kenya, local authorities with various (numerous) tax bases have a higher contribution to the total revenue collected, in this case Nairobi city with its diversified revenue sources is able to fetch higher revenues.

The dummy variable for town council is our reference (base). The dummy variable for county council and city council are found to be insignificant. The dummy variable for municipal council had a significant coefficient. These results imply that relative to town council the municipal council tends to collect more revenue. The results also mean that there is no significant difference in revenue collected between town council, county council and the city council. The dummy variable for city council had a negative coefficient implying that relative to town council the city council tends to collect less

revenue. This result supports those of Rafuse and Mark (1991), Green and Reschovsky (1993), and Campbell and sacks (1967), who noted that city council is less able to collect revenue compared to their surrounding suburb.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The research paper has analyzed the horizontal imbalances in revenue collection among local authorities in Kenya. In this study, the fiscal capacity argument set forth by Dahlby and Wilson (1994) and Martinez – Vasquez (1997a) is employed to test a modified efficiency of fiscal capacity based on optimal tax theory. Unlike many prior studies that analyze only cross sectional differences between local authorities, this study has examined the fiscal capacity behavior of local authority using panel data. We used revenue factors and non revenue factors determining fiscal capacity and time series cross sectional analysis on 132 local authorities over a period of 6 years.

Based on the Hausman (1978) specification test, we estimated the Random Effects model is the model with most consistent and efficient estimators. All revenue factors are found to be positively related to fiscal capacity as expected. This implies that the various tax bases a local authority had, as source of revenue, the higher tended to be its fiscal capacity.

There are wide differences in horizontal imbalances among local authorities with municipal councils having higher fiscal capacities than other councils. Contributions in lieu of rates, property rates, single business permits, market fee, other small revenue sources, and intergovernmental transfers, are found to be important factors affecting fiscal capacity in Kenya.

We also found a lesser fiscal capacity in the city council than in other councils. This result supports those of Campbell and sacks (1967), Akin and Auten and Rafuse and Mark (1991) who found that cities have less fiscal capacities than their surrounding suburbs.

Intergovernmental transfers are also found to be positively related to fiscal capacity. The explanation behind this finding is the fact that according to the Local Authority Transfer

Funds (LATF) policy, intergovernmental transfer was not primarily allocated to offset differences in fiscal capacity.

5.2 Policy Implications

The following policy recommendations are based on the findings of this study. We noted that municipal council was found to have high fiscal capacities compared to the other councils. We also reveal that local authorities with high intergovernmental transfers tend to have higher fiscal capacities. It is now clear that compensating local authorities with low fiscal capacity through increased intergovernmental fiscal transfers will increase their fiscal capacities. Following this, we recommend that the Local Authority Transfer Fund (LATF) Policy should be redesigned to offset the differences in fiscal capacity among local authorities.

The root cause of horizontal imbalance or fiscal disparities is the fact that each local authority has a unique economic base since economic activity is not spread out across space in an even manner. In addition, different regions may also have differing abilities to collect taxes as a result of difference in economic structures; a rural, agricultural local authority, for example, may be less able to collect taxes than an urban local authority with a large manufacturing sector. We recommend that the ministry of local authority should also come up with policies that will set revenues equal to expenditures using a high revenue effort and low actual expenditures. The revenue effort can be achieved by having taxes that are properly assessed, billed, collected and enforced.

Property rates increased by 16 percent in 2005/6 but they have potential to increase even further, especially if all local authority could improve on collection of property rates, becoming rating authorities and carry out property valuation in the areas of their jurisdiction. We recommend that the Local government Act, the Rating Act, the Valuation for Rating Act and the Regional Assembly Act should be redesigned to cater for enforcements aimed at improving property rates collections, empowering local authorities to become rating authorities which have ability to carry out property valuation in their respective local authorities.

5.3 Areas for Further Research

This study uses panel data to analyze determinants of fiscal capacity in local authority in Kenya. This study only focused on the horizontal fiscal imbalance within the local authorities, we hence therefore suggest that a similar study should be undertaken to consider the vertical fiscal imbalance.

There are some factors which are found to determine fiscal capacity of local authority that are not included in this study mainly due to unavailability of data. Among these factors included; total number of parking spaces, total number of markets, total number of property, total number of single business and total number of property. There is need for further research that will include introducing these factors into the fiscal capacity model in the Kenyan context.

REFERENCES

Akin, S. J. and Auten, E. G. (1976) "City Schools and Suburban Schools: A Fiscal Comparison." *Land Economics*, Vol. **25**, No. 4. pp. 452-426.

Bahl, R. (1994) "Metropolitan Fiscal Disparities," Cityscape, *A Journal of Policy Development and Research* **1**, (1): 293-306.

Bakhshi, Samira, Shakeri, M., Olfert, M.R., Partridge, M.D., Weseen, S. (2000). Do Canadian Equalization Transfers Affect Interprovincial Migration? Under review.

Bell, M. E., Atkins, P., Curran, L., Wolman, H., and Cordo, J. (2005) "Intrametropolitan Area Revenue Raising Disparities and Equities," Report for the U.S. Department of Housing and Urban Development, Washington, DC: George Washington University.

Bradbury, K. L., Ladd, H.F., Perrault, M.., Reschovsky, A., and Yinger. J. (1984) "State Aid to Offset Fiscal Disparities Across Communities," *National Tax Journal* **37**, no. 2, (June): 151-170.

Broadway, R. W. and Flatters, F. (1982) *Equalization in a Federal State: an Economic Analysis* (Ottawa: Economic Council of Canada

Buchanan, J. M. (1950) "Federalism and Fiscal Equity", *The American Economic Review*, Vol. **40**, pp. 583-99.

Campbell, A. K. and Sacks, S. (1967) "Metropolitan *America: Fiscal Patterns and Authority Systems*," New York: The Free Press.

Chernick, H. (1998) "Fiscal Capacity in New York: The City versus the Region," *National Tax Journal Proceedings*, **51** (September): 531-540.

Chernick, H. and Reschovsky, A. (2006) "Fiscal Conditions in Selected Metropolitan Areas." Working Paper Series. La Follette School Working Paper No. 2006-010.

Dahlby, B. and Wilson L.S. (1994), "Fiscal Capacity, Tax Effort, and Optimal Equalization Grants", *Canadian Journal of Economics*, XXVII, p 657- 72

Dudely, L. and Montmarquette, C. (1992) "Is public Spending Determined by Voter Choice of Fiscal Capacity." *The review of Economics and Statistics*, Vol. 74, No. **3.** pp 532 – 539

Fernholz, F. (2007) "Toolkit for Local Revenue Mobilization." Prepared for Municipal Finance Task Force Project 2007. The findings are summarized on the Report: "Improving Revenue Mobilization in Malawi: Study on Business Licensing and Property

Rates" by Roy Kelly, Marco Montes, Edith Maseya, Kenneth Nkankha, and Kiisa Tombere UNDP/UNCDF, 2001.

Government of Kenya, Local Authority Transfer Funds (LATF). Annual Report FY 2006

Government of Kenya, Local Authority Transfer Funds (LATF). Annual Report FY 2005

Government of Kenya, Local Authority Transfer Funds (LATF). Annual Report FY 2004

Government of Kenya, Local Authority Transfer Funds (LATF). Annual Report FY 2003

Government of Kenya, Local Authority Transfer Funds (LATF). Annual Report FY 2002

Government of Kenya, Local Authority Transfer Funds (LATF). Annual Report FY 2001

Government of Kenya, District Development Plan 2002 - 2008. Government Printer.

Government of Kenya, Statistical Abstracts 2000 - 2007. Government Printer.

Green, R. K. and Reschovsky, A. (1993) "Fiscal Assistance to Municipal Governments," in *Dollars and Sense: Policy Choices and the Wisconsin Budget – Volume **III***, edited by Donald A. Nichols, pp. 91-117.

Greene W.H. (2003) *Econometric Analysis*. Fifth (International) Edition Prentice-Hall, Inc., New Jersey

Hausman, J. (1978), "Specification Tests in Econometrics," *Econometrica*, 46, pp. 1251-71.

Kolstad, I and Fjelstad, O-H (2006).*Fiscal Decentralization and Corruption: A brief overview of the issues*. Bergen: Chr. Michelsen Institute (U4 Issue 3:2006)

Kothenburger, M. (2002) "Tax Competition and Fiscal Equalization." *International Tax and Public Finance* **9**(4), 391-408.

Ladd, H. F. and Yinger, J. (1989) *America's Ailing Cities: Fiscal Health and the Design of Urban Policy*, Washington, DC: Brookings Institution Press.

Luu, K. N. (2005) "Fiscal Capacity of New York's Towns, Cities, And Counties: Property Values and Income Levels," Unpublished Masters Dissertation, Hunter College.

Martinez-Vazquez, J. and Boex, L.F.J. (1997a) *Fiscal Capacity: An Overview of Concepts and Measurement Issues and their Applicability in the Russian Federation*, International Studies Program Working Paper 97-3, Andrew Young School of Policy Studies, Georgia State University.

Martinez-Vazquez, J. and Boex, L.F.J. (1997b) *An Analysis of Alternative Measures of Fiscal Capacity for the Regions of the Russian Federation*, International Studies Program Working Paper 97-4, Andrew Young School of Policy Studies, Georgia State University.

Musgrave, R.A & Musgrave P. B. (1980) *Public Finance in Theory and Practice* (3rd Ed). McGraw-Hill Book Company. London.

Nagoswki, P. N. (2007) "The Fiscal Capacity of New England" Policy Brief 07-4. New England Public Policy Center.

Orfield, M. (2002). *American Metropolitics; The New Suburban Reality*, Washington, DC: Brookings Institution Press.

Rafuse, R. W. and Marks, L.R. (1991) "*A Comparative Analysis of Fiscal Capacity, Tax Effort, and Public Spending among Localities in the Chicago Metropolitan Region"* prepared for The Regional Partnership, March 1991. The findings are summarized in Robert, W. Rafuse, Jr., "Fiscal Disparities in Chicagoland," *Intergovernmental Perspective, pp. 14 – 19.*

Reschovsky, A. (1994) "Fiscal Equalization and School Finance." *National Tax Journal* 47 (1): 185–98.

Sacks, S. and Callahan, J. (1973). "Central City - Suburban Fiscal Disparity, in *City Financial Emergencies: the Intergovernmental Dimension*," Washington, DC. Advisory Commission on Intergovernmental Relations.

Schneider, M. (2002) "Local Fiscal Equalization Based on Fiscal Capacity: The Case of Austria." *Fiscal Studies* Vol. 23, No. **1**, pp. 105 -133

Shah, A. (1996) "A Fiscal Need Approach to Equalization," *Canadian Public Policy* **22**, 2, (June): 99-115.

Smart, M. (1998) "Taxation and Deadweight Loss in a System of Inter-governmental Transfers." *Canadian Journal of Economics* **31**(1), 189-206.

Syagga, P. M., Olima, W. H. A., Oyugi, M.O., and Kinyunyu, N. (2007) "Independent Study on the Impact of the Local Authority Transfer Funds in Kenya." Report prepared for Kenya Local Government Reform Programme (KLGRP)

Vaillancourt, F. and Bird, R. M. (2004) "Expenditure-Based Equalization Transfers." Working Paper 04-10, Georgia State University, Andrew Young School of Policy Studies, International Studies Program, Atlanta.

Yilmaz, Y., Hoo, S., Nagowski, M., Reuben, K., and Tannenwald, R. (2002) "Measuring Disparities Across the U.S. states: A representative revenue system/representative expenditure system approach". Occasional paper no. 74

Yinger, J (1986) "On Fiscal Disparities Across Cities." *Journal of Urban Economics* vol. **19**, 316– 337

APPENDIX

Table A1: Relationship between the exogenous variables and the expected signs on fiscal capacity (endogenous variable)

Exogenous Variables	Expected sign
Contributions in Lieu of Rates (CILOR)	positive
Property Rates (PR)	positive
Single Business Permits (SBP)	positive
Market Fee (MF)	positive
Transfers (T)	positive
No. of Employees (EMPS)	positive
Population (POP)	positive

Table A2: Correlation Matrix Table.

Variable	Fiscal capacity	Contributions in lieu of rates	Property rates	Single business permits	Market fees	Other revenue sources	Intergovernmental transfers	Number of employees	City	Municipal	County	Town
Fiscal capacity	1.0000											
Contributions in lieu of rates	0.6072	1.0000										
Property rates	0.8232	0.5560	1.0000									
Single business permits	0.8882	0.6284	0.8427	1.0000								
Market fees	0.5813	0.4794	0.3114	0.5379	1.0000							
Other revenue sources	0.9405	0.4529	0.6672	0.7424	0.4575	1.0000						
Intergovernmental transfers	0.7086	0.5132	0.5458	0.6417	0.5527	0.5314	1.0000					
Number of employees	0.7218	0.3664	0.8833	0.7183	0.0953	0.6541	0.3751	1.0000				
City	0.6362	0.2515	0.7951	0.6316	0.0238	0.5925	0.3191	0.9576	1.0000			
Municipal	0.4675	0.5534	0.2149	0.4170	0.5729	0.3823	0.5005	-0.0699	-0.1816	1.0000		
County	-0.6165	-0.4699	-0.4159	-0.5476	-0.5937	-0.5099	-0.6848	-0.2428	-0.1816	-0.6923	1.0000	
Town	-0.1727	-0.2723	-0.1947	-0.1963	0.0155	-0.1769	0.0703	-0.1333	-0.0867	-0.3306	-0.3306	1.0000

Table A3: Fixed Effects Model and Random Effects Model

Variable	Fixed Effects Model	Random Effects Model
Contribution in lieu of rates	0.42963 (2.05)	0.7479256** (5.12)
Property rates	1.120961 (11.24)	1.114821** (20.14)
Single business permits	1.334443 (10.25)	1.239271** (13.13)
Market fee	1.239011 (13.53)	1.188279** (16.43)
Other revenue sources	0.979621 (67.22)	0.9738146** (88.84)
Intergovernmental transfers	1.005038 (13.61)	1.028395** (24.34)
Number of employees	0.000915 (0.11)	0.0042304 (1.03)
City council	(dropped)	-54.09729 (-1.16)
Municipal council	(dropped)	23.2742* (2.30)
County council	(dropped)	15.62603 (1.37)
Town council	(dropped)	(dropped)
constant	28.39263 (0.89)	-13.98258 (-1.40)

* Significant at the 5 percent level

** Significant at the 1 percent level

Table A4: Results of the Hausman Test

	Coefficients			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
Variable	Consistent	Efficient	Difference	S.E.
Contribution in lieu of rates	0.4296302	0.7479256	-0.3182955	0.1507492
Property rates	1.120961	1.114821	0.0061409	0.0829468
Single business permits	1.334443	1.239271	0.0951724	0.0896027
Market fee	1.239011	1.188279	0.0507314	0.0561839
Other revenue sources	0.9796209	0.9738146	0.0058063	0.0096018
Intergovernmental transfers	1.005038	1.028395	-0.0233572	0.0605729
Number of employees	0.0009148	0.0042304	-0.0033156	0.0076521

Where b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2 (8) = (b-B)'[(V_b-V_B) ^ (-1)] (b-B)
= 8.17
Prob>chi2 = 0.4171

Table A5: Regression results for Random Effects Model

Fiscal capacity	Coef.	Std.Err	z	P>|z|	[95% Conf. Interval]	
Contribution in lieu of rates	0.7479256	0.1459908	5.12	0	0.4617889	1.034062
Property rates	1.114821	0.0553456	20.14	0	1.006345	1.223296
Single business permit	1.239271	0.094418	13.13	0	1.054215	1.424327
Market fees	1.188279	0.094418	16.43	0	1.046505	1.330053
Other revenue sources	0.9738146	0.0109618	88.84	0	0.9523298	0.9952994
Intergovernmental transfers	1.028395	0.0422528	24.34	0	0.945581	1.111209
Number of employees	0.0042304	0.0040913	1.03	0.301	-0.0037885	0.0122493
City council	-54.09729	46.83729	-1.16	0.248	-145.8967	37.70211
Municipal council	23.2742	10.09818	2.3	0.021	3.482121	43.06628
County council	15.62603	11.4153	1.37	0.171	-6.747536	37.9996
Constant	-13.98258	9.954777	-1.4	0.16	-33.49359	5.52842
sigma_u	4.4476807					
sigma_e	26.201665					
rho	0.02800737	(fraction of variance due to u_i)				