EFFECTS OF INTERGOVERNMENTAL FISCAL TRANSFERS ON COUNTY OWN SOURCE REVENUE GENERATION IN KENYA

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X51/87949/2016

A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF ECONOMICS IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTERS OF ARTS IN ECONOMIC POLICY MANAGEMENT OF THE UNIVERSITY OF NAIROBI

DECLARATION

Declaration by the Student:

This research project is my original work and has not been presented to any other university or academic institution for any degree award in any other University.

Signature ___  **_____** **Date ____18th November 2021__**

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Declaration by the Supervisor:

This research paper has been submitted for examination with my approval as University supervisor.

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DEDICATION

I dedicate this research project to my parents, Mr. Samuel Kibigo Ngugi and Mary Wairimu Kibigo, whose steadfast love, great sacrifice, material provision and support saw me go through different levels of school and achieve great strides in academia. I will always be thankful for everything they have done for me and my siblings in ensuring that we get the best education. A special feeling of gratitude to my wife, Cynthia Gathoni Mugambi for her stupendous support throughout my post graduate journey. She has been a strong support system and an inspiration in my life, and I am genuinely appreciative for having her in my life.

Finally, I dedicate this work to the memory of my maternal grandmother, Esther Muthoni Joram whose great examples in life inspired me to work hard for everything that I aspire to accomplish, and the importance of being resilient in realizing my dreams. Although she inspired me to pursue my bachelor's degree, she was unable to see my graduation. This one is for her.

ACKNOWLEDGEMENT

I want to acknowledge God the almighty, for the gift of life and sound mind over the years I have been in existence. I wish to express my profound feeling of appreciation to my research supervisor, Prof. Wafula Masai for his timely advice, meticulous scrutiny and scholarly advice, which have to a great extent helped me accomplish this work. I am extremely thankful to the University of Nairobi, through the School of Economics for offering this prestigious course to students and equip them with the necessary, on demand market skills that help solve the pressing economic policy and development challenges of the 21st century.

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ABBREVIATIONS AND ACRONYMS

CG	Conditional Grants
COB	Controller of Budget
ESR	Equitable Share of Revenues
FCTs	Fiscal Capacity Transfers
FEM	Fixed Effects Model
FGLS	Feasible Generalized Least Squares
GMM	Generalized Method of Moments
IGF	Internally Generated Funds
IGT	Intergovernmental Fiscal Transfers
IV	Instrumental Variable
LGAs	Local Government Authorities
LGES	Local Government Equitable Share
NCC	Nairobi City County
OCOB	Office of the Controller of Budget
OLS	Ordinary Least Squares
OSR	Own Source Revenues
PFM	Public Finance Management
PFMR	Public Finance Management Reforms
RDT	Resource Dependency Theory
REM	Random Effects Model
SGMM	System-Generalized Method of Moments Estimation
SPTs	Special Purpose Transfers
2SLS	Two Stage Least Squares

OPERATIONAL DEFINITION OF TERMS

Aggregate county own source revenues: Aggregate county own source revenues refers to the sum total of own source revenues raised and generated internally from taxes, fees, user charges, fines and other county diverse revenue streams, by ALL the forty seven (47) counties in Kenya in one fiscal year.

Conditional Grants: Conditional grants are revenue for recipient sub-national governments, and as such, receiving sub-national governments are held to account for delivering on specific national priorities where the equitable share of revenues is not achieving such priorities. In this study, conditional grants refers to revenues received by the county governments from the national government only, with imposed restrictions on how County Governments will spend them.

Equitable Share of Revenues: Equitable share of revenues refer to the unconditional allocation of revenues raised nationally for both the county and national the governments. As such, both levels of government are entitled to use these revenues to offset their budgetary responsibilities without any restrictions from either of them.

Intergovernmental fiscal transfers: Intergovernmental fiscal transfers constitute the main source of subnational revenues in most countries with decentralized system of governance and come in form of conditional grants and unconditional equitable share of revenues employed by central governments to ensure that sub-national governments' revenues match their expenditure needs. As such, their utilization is mostly channeled towards the advancement of national and regional objectives, such as promoting equity and fairness, and creating a common economic union.

Own source revenues: Own-source revenue constitute the revenues that a sub-national government raises by collecting taxes, fees and user charges within the specified, legal geographical coverage of the sub-national government. County own source revenues therefore refers to the revenues collected by counties in one year from taxes, fees and user charges that fall squarely within the full disposal of the county governments in Kenya.

Total county revenues: Refers to the sum total of county own source revenues, equitable share of revenue and conditional grants transfers to county governments from the central governments, as well as revenue balances brought forward from previous years that accrue to ALL the 47 county governments in one fiscal year.

ABSTRACT

Intergovernmental fiscal transfers, both conditional and unconditional constitute the principal source of revenue for sub-national governments in many transitioning nations. These transfers which come in form of equitable share of revenues and conditional grants have been perceived to swarm out local own source revenues by discouraging the efforts of sub-national governments to enhance their fiscal capacities. In Kenya for example, the proportion of aggregate, county own source revenues to total county revenues declined consistently between FY 2013/14 and FY 2020/21, recording a downward trajectory in their performance trends. This proportion of revenue that falls within the full disposition of county governments has been insufficiently low in the country, hovering at around 9% of total county revenues on average, with little capacity to deliver on county governments' budget cover. Consequently, counties across the board have been unable to realize their full estimated annual financing, and have continuously struggled to deploy their budgets efficiently and effectively due to shortages in own source revenue generation. The present study thus, strived to examine the effects of equitable share of revenues transfers and conditional grants transfers on aggregate county own source revenue generation in Kenya with two views: to assess whether these transfers are stimulatory or substitutory in nature to county own source revenue generation in Kenya; and to provide the policy tools and frameworks with which county governments in Kenya can adopt, develop and enhance their own source revenue governance and fiscal independence. The study sought to provide empirical evidence to three critical questions: (i) what effect does equitable share of revenue transfers have on aggregate county own source revenue generation in Kenya? (ii) Do conditional grant transfers affect aggregate county own source revenues generation in Kenya? and, (iii) what policy proposals can be extracted from the empirical results of the study? The study's theoretical foundation was underpinned by two theories; the theory of fiscal federalism by Richard Musgrave (1959) and the resource dependence theory by Jeffrey Pfeffer and Gerald R. Salancik (1978). Empirical literature was adequately reviewed and existing research gaps identified. A correlation research design was adopted as the appropriate design for the study. Annual panelized data for the period between 2013/14 and 2020/21 was collected from authoritative sources for the study's empirical analysis using STATA software version 14. The robust fixed effects model was preferred in estimating the two study objectives in order to obtain valid and consistent results due to the presence of serial correlation and heteroskedasticity in the data set. The empirical results of the robust FEM revealed that the unconditional transfers of equitable share of revenues from the National Treasury had a negative effect on the aggregate county own source revenue generation in Kenya, but the effect was found not to be significant in nature. However, conditional grants transfers were found to have a positive and significant effect on the aggregate county own source revenue generation in Kenya. The results showed that a 1% increase in national government's conditional grants transfers brought about a 17% increase in county own source revenue generation in Kenya, underscoring the stimulatory nature of conditional grants on OSR generation in Kenya. These empirical findings which point out the stimulatory nature of conditional grants on aggregate county OSR generation in Kenya informed the key policy recommendation in favor of the National Treasury conditional grants transfers as effective instruments of promoting county own source revenue generation in Kenya. The study also recommended as a matter of policy, that the utilization of conditional grants transfers to county governments be channeled to development projects in order to foster more productive activities that translate constituents' economic activities to increased own source revenue generation within the respective county governments in form of taxes, fees and respective user charges.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Intergovernmental fiscal transfers constitute the principal source of revenue for sub-national governments in many transitioning nations. Central governments with decentralized governance systems employ such transfers either unconditionally, making them accessible for use at the total discretion of beneficiary subnational governments, or conditionally, in subnational government programs that meet certain predetermined conditions. (Boadway, 2019). The different types of intergovernmental transfers mirror the way that central governments fulfill various roles of fixing inefficiencies in public service delivery and meeting development challenges in many developing countries (Brun et al., 2016). However, according to Silver, Azis, & Schroeder (2010), some national governments utilize fiscal transfers as political instruments to empower sub-national governments in pursuance of their own objectives and influence the sub-units' needs through conditionalities, while at the same time playing the role of nation building. Bahl (2000) views this motive as a compromise for recipient subunits, since it allows the focal government to maintain control over its public spending framework while offering an approach to channel financial resources into subnational government spending plans.

Boadway (2019) on the other hand, observes that central governments utilize fiscal transfers as re-distributive instruments in evening out the relative fiscal capacities of sub-national governments so as to give equivalent degrees of public goods and services at practically similar tax rates. This view is shared by Rao (2014) who affirms that one of the economic rationales behind intergovernmental transfers is to offset fiscal imbalances, both vertical and horizontal at the sub-national levels of government in order to enhance efficient public service delivery. These imbalances, according to Brun et al. (2016), can only be narrowed either by according sub-national governments more powers to raise their own revenues, or by embracing redistributive fiscal transfers. Notwithstanding the above assertions, it is the incentive/disincentive effects that intergovernmental fiscal transfers have on the revenue generation of the subnational governments that continues to spur a lot of policy debate in the Public Finance Management (PFM) realm. A significant element of the debate relates to the subject of how local governments can leverage on intergovernmental fiscal transfers to enhance their fiscal independence by expanding their own source revenue generation and reap from own revenues efficiency gains in the delivery arrangement of public goods and services to their constituents (Mogues & Benin, 2012).

From the large, existing body of literature, the conventional view emerges that centralized intergovernmental fiscal transfers have some disincentive effects on own source revenue (OSR) generation for local governments in developing countries (Taiwo, 2021). Conditional grants have been perceived to 'swarm out' local own source revenues by discouraging the efforts of sub-national governments to enhance their fiscal capacities (Caldeiraa & Rota-graziosi, 2014). Further, heavy reliance on unconditional fiscal transfers appear to disintegrate the responsibility of local governments to uphold fiscal discipline by encouraging them to spend extravagantly and/or lower their tax effort (Jia, Ding, & Liu, 2020). This is despite the high potential for efficiency gains and the great opportunities for fiscal autonomy that fiscal decentralization has presented to many transitioning countries in the last decade (Eskeland, 2014).

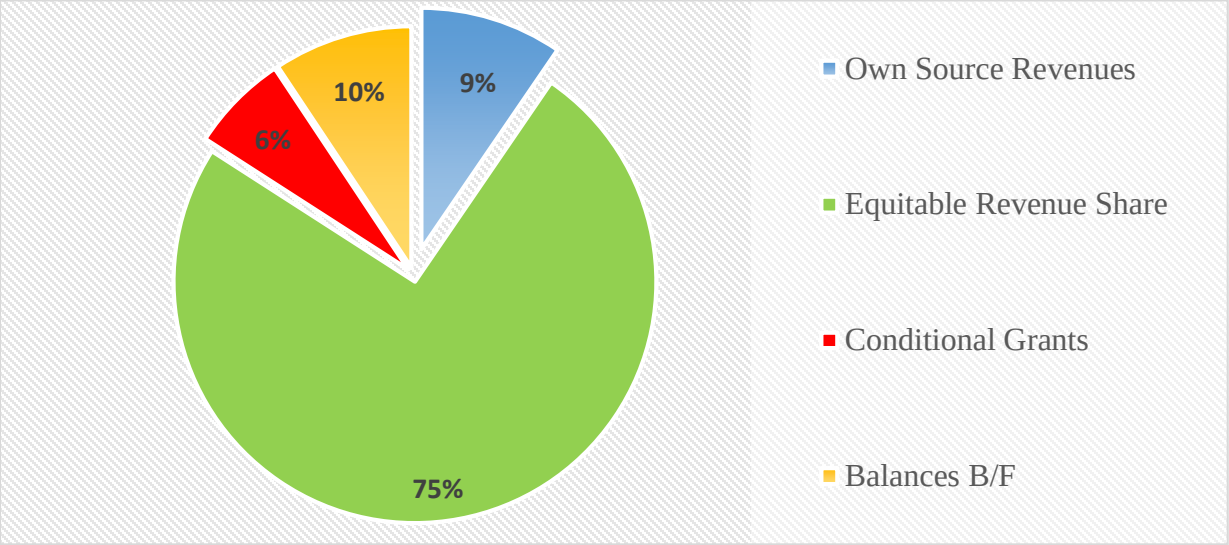
OSR generation is necessary, not only to improve the fiscal capacity of subnational governments to deliver public goods and services efficiently (Development Initiatives-Kenya, 2018), but also to close the financing gaps occasioned by insufficient fiscal disbursements of the central government, in efforts to eliminate destitution and accomplish development goals. Reinforcing OSR generation by sub-national governments therefore, enhances their fiscal autonomy through more predictable access to revenues, hence permitting local governments to have significant proprietorship and authority over their development agenda. As Khadondi (2016) opines, local governments' ability to generate their own revenues is crucial for their survival and wellbeing. Hence, the adequacy of locally generated own source revenues is not only a necessary prerequisite in the improved fiscal capacity of sub-national governments to deliver efficient and cost–effective public goods and services (Clos, 2015), but is also sufficient, in enabling them to sustain their fiscal responsibilities and eventually advance towards greater prosperity.

In Kenya, just like in many other developing countries, the proportion of locally generated own source revenues comprises an insignificant portion of the county governments' total revenue, owing to their restricted taxing rights (Mutua & Wamalwa, 2017) that has hugely curtailed their own source revenue generation. County governments in Kenya have thus, continued to grapple with challenges of OSR generation, despite the country having undergone fiscal decentralization in 2013 to remedy the idiosyncrasies of inefficient public service delivery to the lowest feasible sub-centers (counties) in the country (Nyanjom, 2011) through own source revenue generation.

1.1.1 Trends and Overview of Intergovernmental fiscal transfers in Kenya since 2013/14.

Unconditional equitable share of revenue (ESR) and conditional grants (CG) transfers constitute the two main forms of Intergovernmental fiscal transfers to county governments in Kenya. On average, ESR and CG transfers independently contributed about 75% and 6% respectively to the total county governments' revenue between FY 2013/14 and FY 2020/21 as shown by figure 1.1.

Figure 1.1: *Various revenue sources for county governments in Kenya between 2013/14 and 2020/21.*

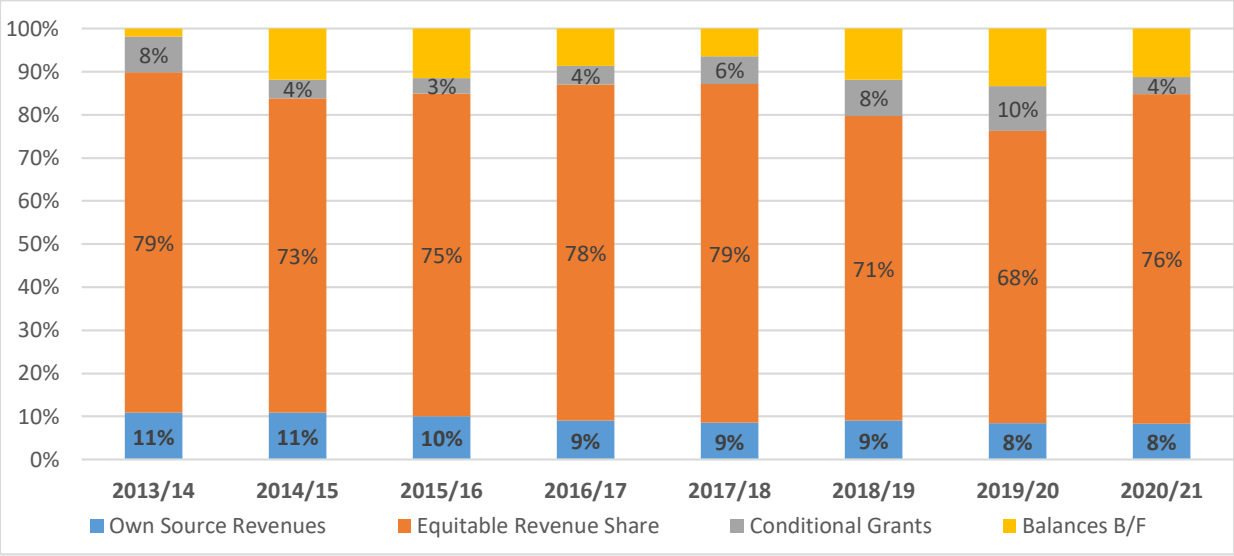


Source: *Author's Computations from various issues of OCoB reports.*

It is evident from the pie chart above that county governments in Kenya depend largely on ESR transfers from the national government to cover at least 75% of their budgetary needs. This is a grim situation that endangers the efficient delivery of public goods and services at the county level, particularly in the event of a future revenue shock to the central government. Comparatively, conditional grant transfers contributed a paltry 6% to total county revenues for the period between FY 2013/14 and FY 2020/2021. Aggregately, intergovernmental fiscal transfers in Kenya averaged 81% in contributions towards the total county governments' revenues over the same period of time. These analyses imply that fiscal resources in Kenya still appear to be heavily centralized at the top almost a decade after the country devolved its fiscal responsibilities to county governments.

A deeper analysis into the performance trends of ESR and CG showed that the proportion of ESR transfers to total county governments' revenues started off with a substantial 6% decline from 2013/14 to 2014/15, and increased marginally for the next 3 years before declining considerably in nominal terms up to 2019/20 (See figure 1.2). Conversely, the proportion of CG transfers started off on a declining trend in 2013/14 for the first two years after, but thereafter took a consistent upward trajectory in the subsequent years up to 2019/20.

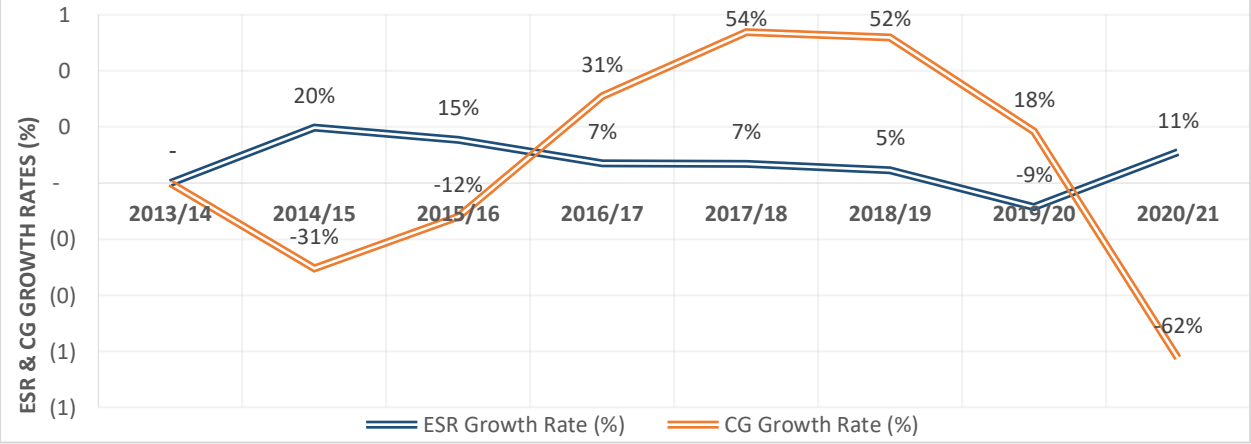
Figure 1.2: *ESR and CG performance trends in Kenya between 2013/14 and 2020/21.*



Source: *Author's Computations from various issues of OCoB reports.*

Given the fact that county governments in Kenya rely heavily on ESR transfers from the National Treasury, a decline in performance of ESR poses some potential risks of public service delivery inefficiencies at the county level. An observable, worrisome trend however, is the fact that the rate of growth in ESR transfers to the 47 counties for the period between FY2014/15 and FY2020/21, registered a consistent declining trend, with that of conditional grants exhibiting intermittent volatility as shown by figure 1.3.

Figure 1.3: *ESR and CG growth rate trends in Kenya between 2013/14 and 2020/21.*



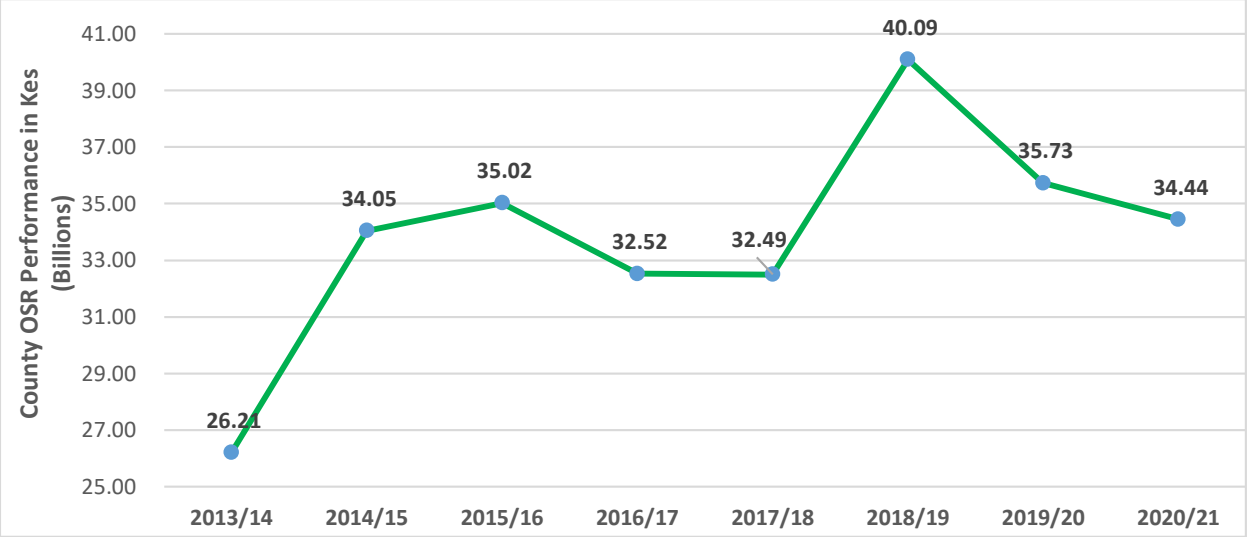
Source: *Author's Computations from various issues of OCoB reports.*

Given the fact that ESR transfers contributes the biggest proportion of total county governments' revenue in Kenya, the gradual but consistent decline in its growth rate since 2013/2014 undermines the efficient provision of public goods and services at the county level in the foreseeable future.

1.1.2 Trends and Overview of County Own Source Revenues (OSR) performance in Kenya.

Of all the revenues that accrue to county governments in Kenya, own source revenue (OSR) is the only category of revenues that falls under the full disposition of county governments as prescribed for in the Kenyan Constitution (2010). Despite this fact, its generation across the 47 counties has remained very low, on average contributing about 9% to total county governments' revenues since FY 2013/14 as indicated by the pie chart in figure 1.1. These revenues that are solely mobilized from within the geographical boundaries of county governments in form of taxes, fees and user charges, have over the period between FY2013/14 and FY2020/21 exhibited unstable performance trends in their aggregate generation across the 47 counties (See figure 1.4).

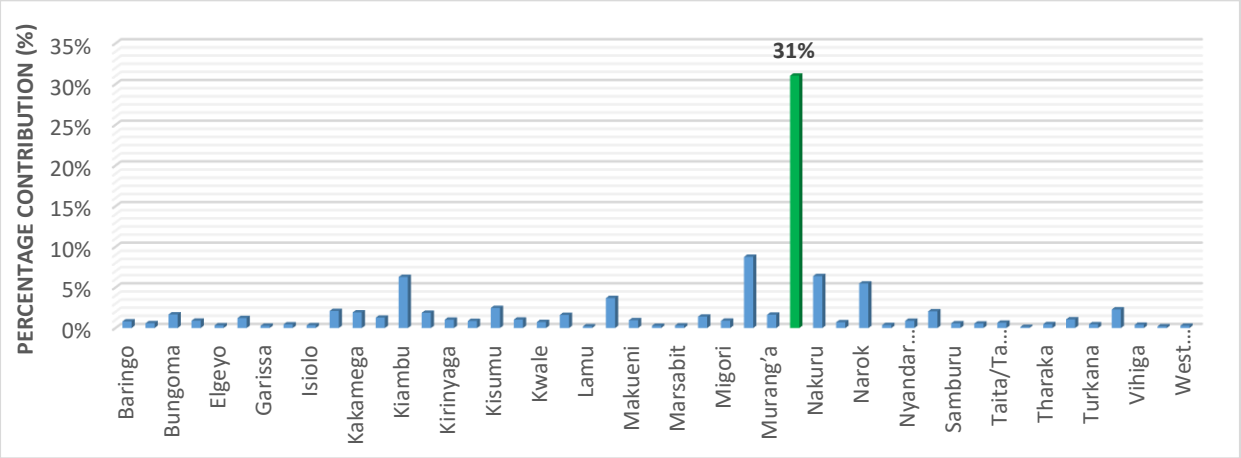
Figure 1.4: *County Own Source Revenues Performance trends between FY 2013/14 and FY 2020/21.*



Source: *Author's Computations from various issues of OCoB reports.*

Over the period under review, the highest accumulated OSR generated in nominal terms in Kenya across the 47 county governments in any one financial year was about 40 Billion Kenya shillings in FY2018/19, with the lowest being about 26 Billion Shillings in FY2013/14. County governments generated a total figure of Kes 270.55 Billion between FY 2013/14 and FY 2020/21. However, individual county percentage contribution to gross OSR differed considerably across the counties, alluding to the possibility of varying fiscal autonomy across county governments in Kenya (See figure 1.5).

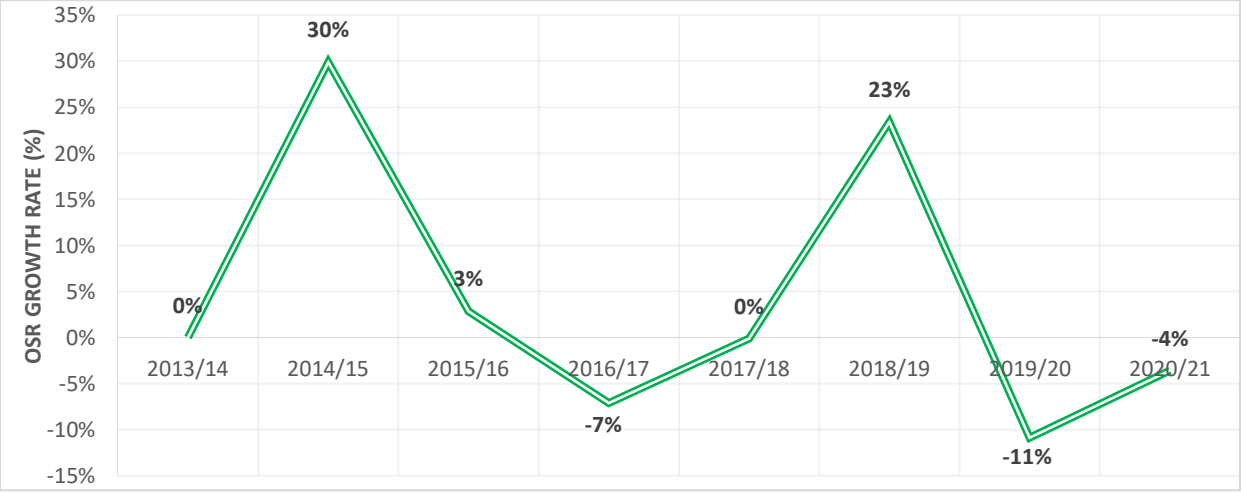
Figure 1.5: *Percentage Contribution of Individual County OSR to Aggregate County OSR in Kenya.*



Source: *Author's Computations from various issues of OCoB reports.*

It is worth nothing that, Nairobi City County (NCC) independently contributed about 31% on average, towards the Kes 261.6 Billion revenue generated across the 47 counties between FY2013/14 and FY2020/21. This is the highest percentage contribution to gross county OSR generated by any one individual county among the 47 counties in Kenya. Tana River County contributed the least proportion (less than 1%) amongst its peers towards the gross county OSR over the same period of time. The corresponding growth rates in aggregate OSR between FY2013/14 and FY2020/21 however, exhibited unstable trends with observable volatility between FY2013/14 - FY2015/16 and FY2017/18 – FY2019/20 as indicated by figure 1.6.

Figure 1.6: *Aggregate County OSR growth rate trends in Kenya from 2013/14 - 2020/21*



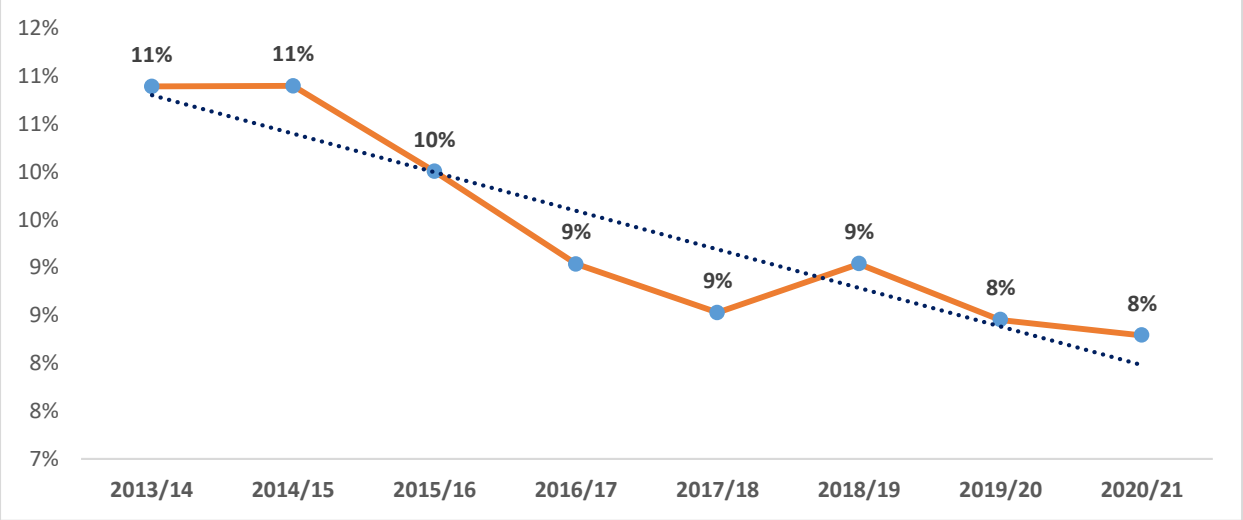
Source: *Author's Computations from various issues of OCoB reports.*

Volatility in own source revenue generation by county governments is a worrisome trend given the unpredictability of national government transfers to county governments over the years that undermines public service delivery at the county level.

1.2 Statement of the problem

The aggregate county own source revenues contribution to total county revenues has been insufficiently low, hovering at around 9% of total county revenues on average (See figure 1.1), with little capacity to deliver on county governments' budget cover. Following the decentralization of fiscal responsibilities to county governments in 2013, the proportion of aggregate, county own source revenues to total county revenues in Kenya declined consistently between FY 2013/14 and FY 2020/21, registering a sharp downward trajectory in its performance trends (See figure 1.7). Consequently, county governments across the board have been unable to realize their full estimated annual financing, and have continuously struggled to deploy their budgets efficiently and effectively due to insufficient generation of their own source revenues.

Figure 1.7: *Declining proportion of County OSR to total county revenues in Kenya since FY 2013/14.*



Source: *Author's Computations from various Reports by the OCoB.*

The dismal performance in aggregate county own source revenue generation has raised serious concerns as to the fiscal independence of the county governments in Kenya, especially due to the fact that almost 95% of these counties, controlled less than 10% of all the total revenues that accrued to them between FY 2013/14 and 2020/21. Moreover, volatile and unstable county OSR growth rate trends (See figure 1.6), coupled with intermittent decrease in aggregate county OSR in nominal terms over the years (See figure 1.4) has raised serious policy concerns about the county governments' abilities to provide essential public goods and services to its constituents in future, as well as attract more investment in the long run, with little faith to behold by the prospective investors about the viability of investment returns from the individual county governments.

In the past, the decline in county OSR generation was attributed to among other things; lack of adequate county revenue enforcement and legal framework, tax evasion and citizen' resistance to pay, corruption among revenue collection officers and political interference (Adam Smith International, 2018). These predisposing factors constrained many county governments in Kenya to keep up pace with the mobilization of their own source revenues. However, there was no evidence of the incentive/disincentive effects that intergovernmental fiscal transfers bore on county governments' ability to mobilize their own source revenues in Kenya, a gap that this study needed to seal. The question of whether intergovernmental fiscal transfers by the National Treasury tapped into the ability of county governments to mobilize own source revenues, and also use them as leverage to attract more revenue was thus, of great interest to this study.

The present study thus, examined the incentive/disincentive effects of equitable share of revenues transfers and conditional grants transfers on the aggregate county own source revenue generation in Kenya with a view to provide the policy tools and frameworks with which county governments in Kenya can adopt, develop and enhance their own source revenue governance and fiscal independence. This way, the county government can recognize more tenable means of keeping up with service delivery for their residents beyond the central government fiscal transfers' mechanisms. More importantly, the study sought to contribute to the scant literature on the incentive effects of intergovernmental fiscal transfers on own source revenue mobilization in Kenya. So far, the existing body of literature has looked only at country case studies in other developing countries like Benin, Ethiopia, Nigeria, Uganda and Tanzania. There was no study of this nature that had been conducted in Kenya since the country fully devolved its system of governance in 2013, a gap that this examination found apt in filling.

1.3 Research Questions

Three critical questions guided the study.

i. What effect does equitable share of revenue transfers have on aggregate county own source revenue generation in Kenya?
ii. Do conditional grant transfers affect the aggregate county own source revenue generation in Kenya?
iii. What policy recommendation can be extracted from the empirical findings of the study?

1.4 Objectives of the study

1.4.1 General Objective

The study's broad objective was to examine the effects of intergovernmental fiscal transfers on aggregate county own source revenue generation in Kenya.

1.4.2 Specific Objectives

i. To establish the effects of equitable share of revenue transfers on aggregate county own source revenue generation in Kenya.
ii. To determine the effects of conditional grants transfers on aggregate county own source revenue generation in Kenya.
iii. To extract policy proposals from the empirical results of the study.

1.5 Significance of the study

The need for county governments to have a solid revenue framework as envisaged in Article 175(b) of the Constitution of Kenya 2010 is a basic standard of Kenya's devolution agenda (The National Treasury, 2017). A strong revenue framework is necessary, not only in enhancing the fiscal autonomy of county governments through more predictable access to own source revenues for efficient provision of public goods and services, but is also crucial for the success of fiscal decentralization in Kenya. County governments stand to accrue significant gains from focusing on their OSR enhancement which include; (i) increased linkages with taxpayers which enhances political economy, (ii) increased fiscal independence from the national government (iii), ability to attract investment, (iv) overall improvement in meeting budgetary objectives and (v) efficient provision of public goods and service to the county inhabitants.

Unfortunately, county governments in Kenya have continued to face significant fiscal capacity challenges around OSR enhancement, and have generally been hard pressed to finance their budgets and meet their expenditure obligations owing to insufficient financial resources. From late disbursement of National Treasury's equitable share of revenue transfers, to unmet conditions from conditional grant frameworks, to restricted taxing rights by the central government that has hugely curtailed own source revenue generation, county governments in Kenya have been unable to realize their full estimated annual financing, and have continued to struggle in deploying their budgets efficiently and effectively. As a result, efficient delivery of Public goods and service by many county governments in Kenya has for years on end been, and continue to be greatly undermined.

As part of redressing these challenges and instigate policy actions around the enhancement of own source revenue generation in Kenya, this study sought to investigate the effects that equitable revenue shares transfers and conditional grants transfers have on the ability of county governments to mobilize own source revenues on the interim and in the long haul. The empirical analysis of the study for the period between FY2013/14 and FY2020/21 sought to unravel what incentives/disincentives effects central government transfers have had in Kenya on the ability of county governments to generate revenues from their in the last almost a decade. The motivation for conducting the study was of three significance:

Foremost, the study attempted to use the results of its analysis to provide empirical evidence of the effects that intergovernmental fiscal transfers in Kenya have on the generation of county own source revenues, so as to inform the policy makers on the necessary support that county governments require to review, strategize, reform and implement recommendations needed to enhance county revenue governance.

Additionally, the empirical evidence generated by the study would be important to the National Treasury in calibrating effective policy recommendations that fosters capacity building to the revenue departments of county governments in Kenya in promotion of their fiscal autonomy.

Finally, the study sought to contribute, both in literature and empirically towards the policy actions taken in support of the Public Finance Management Reforms (PFMR) that have been taking shape in Kenya since 2013.

1.6 Scope of the study

The study aimed to examine the effects of intergovernmental fiscal transfers on aggregate county own source revenue generation in Kenya. The inquiry focused on the aggregate county own source revenues corporately generated within forty seven county governments in Kenya, for the period between fiscal years 2013/14 and 2020/21 in order to assess the fiscal decentralization contribution to the fiscal autonomy of county governments since 2013. There was no study of this nature that had been conducted in Kenya since the country fully devolved its system of governance in 2013, as only case studies in other developing countries like Benin, Ethiopia, Nigeria, Uganda and Tanzania had been done from the existing literature. The present study found it apt to seal this existing gap by carrying out the same investigation in the context of Kenya.

1.7 Organization of the Study

The rest of the paper is divided into four chapters.

The second chapter looks into the Theoretical and Empirical foundation of the study. The section discusses two fundamental theories that underpin the study; the Theory of Fiscal Federalism by Richard Musgrave (1959) and Resource Dependency Theory by Jeffrey Pfeffer and Gerald R. Salancik (1978). A conceptual framework is also presented this section with a summary of empirical review tabulated at the end of the chapter. The third chapter describes the research methodology used in the study and includes the research design, data sources and description, model specification, diagnostic tests, estimation techniques and the tool used for data analysis. The fourth chapter presents the analysis of the studies in tables and graphs, offers the interpretation of the estimation results and discusses the study findings. Finally, the fifth chapter summarizes the results of the study and provides the conclusions and recommendations of the study

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviewed the existing theoretical, empirical and conceptual foundations of the relationship that subsist between intergovernmental fiscal transfers and subnational own source revenue generation in various countries. Musgrave's theory of fiscal federalism (1959) and Resource Dependence Theory by Jeffrey Pfeffer and Gerald R. Salancik (1978) underpinned the theoretical foundations of the study. The scope of empirical review was limited to previous studies that investigated the relationships between intergovernmental fiscal transfers on one hand, and the local own source revenue generation and its related concepts on the other, across different jurisdictions, and made generalized conclusions on the existing relationship between them. Accordingly, a conceptual framework is diagrammatically depicted within the chapter. A summary of the existing knowledge gaps identified from the literature reviewed concludes the chapter.

2.2 Theoretical Review

2.2.1 Theory of Fiscal Federalism by Richard Musgrave (1959)

Musgrave theory of fiscal federalism (1959), concerns the decentralization of public sector functions and fiscal responsibilities among the various levels of governments in a rational manner, so as to enhance efficiency and effectiveness in public service delivery (Burkhead & Miner, 2018). The theory postulates that, a federal system of government can be proficient and viable at addressing the contemporary challenges faced by many administrations, like equity in income distribution, productive and viable allocation of scarce resources, and economic stability through fiscal federalism (Chandra Jha, 2015). While economic stability and equitable distribution of income can smoothly be handled by the central government due to its adaptability in managing these functions, and also because local governments and other municipalities differ in their fiscal capabilities to handle these roles, the efficient provision of public goods and services to the lowest sub-units on the periphery can effectively be executed by well-equipped and fiscally-enabled subnational governments.

Musgrave contended that the federal government ought to be responsible for the stabilization of the economy and redistribution of income in a country, but the efficient and effective distribution of scarce resources (efficient public service delivery) ought to be the obligation of state and local governments (Burkhead & Miner, 2018).

According to his point of view, the principle assignment of fiscal federalism is to characterize the proper capacities and fiscal capabilities of local governments as productively as possible, so as to augment the local government's fiscal autonomy in the efficient and cost-effective provision of public good and services for maximum achievable welfare to the community. In practice however, the overlapping and multidimensional character of most public-sector exercises makes it troublesome to apply this approach exceptionally well, especially due to the fact that few sub-national governments have adequate own-source revenues to sufficiently cover the fiscal responsibilities legitimately relegated to them. A significant component of fiscal federalism from Musgrave's theory has therefore, been the acknowledgment of the plausible requirement for intergovernmental fiscal transfers to close the local government revenue gaps with the intention of enhancing their fiscal capacity for efficient provision of public goods and services to citizens.

Musgrave theory of fiscal federalism was significant to this study because it underscores the fundamental role that intergovernmental fiscal transfers play as a re-distributive instruments in evening out the relative fiscal capacity of sub-national governments (Boadway, 2019). These transfers not only enable county governments in Kenya to provide equivalent degrees of public goods and services to citizens at practically comparable tax rates, but also allows them to undertake development projects that have the potential to improve their fiscal autonomy in future and pull them out of fiscal distress. The theory also underlines the significance of fiscal federalism as a necessary precondition for the success of fiscal decentralization in Kenya.

2.2.2 Resource Dependence Theory by Jeffrey Pfeffer and Gerald R. Salancik (1978)

Jeffrey Pfeffer and Gerald R. Salancik (1978) formulated the Resource Dependence Theory (RDT) to expound how organizations' behavior is influenced by the external resources they utilize, such as raw materials, and the way their resource-dependency orients their inner organizational factors with environmental pressures for survival. They underscore the significance of an organization's capacity to deal with their external resources which determines an organizational competitiveness in the industry. That is, the ability of an organization to collect, improve and utilize raw materials faster than competitors is critical for its survival and existence. This postulation however, asserts that, the only means to authoritative organizational endurance, is its ability to gain and keep up with own resources as the ecological states of shortage, uncertainty and vulnerability persists.

One premise of resource dependency theory presupposes that environmental vulnerabilities and uncertainty threatens an organization's governance of resources, and compels them to seek resource alternatives that are dependence-lessening in nature. External resources are often under the control of other associations that influence their usage by other economic enterprises, compelling these enterprises to consider alternative techniques that maintain open access to these resources. As vulnerabilities, uncertainty and dependencies of external resources increase, the necessity for improved linkages to other organizations also increases in order for resource dependent organization to remain in existence. For instance, declining earnings may compel an organization to amplify its commercial activities through business diversification and tactical associations with other companies in order to survive the cut-throat competition from its competitors.

Various studies that have utilized the resource dependency theory have looked at some of the organizational adaptations to external resource-dependencies and established that these organizations adjust by striving to modify their environments. These adjustment techniques contrast sharply with the conventional thought of organizations, which deals with corporations as closed structures. Closed-structure frameworks hold that prudent utilization of resources, individual inspirations, and personal capabilities to a large extent dictate organizational success and that different actors in the environment figure negligibly. On the other hand, open-structure frameworks emphasize the effect of the environment, which comprises of other enterprises, institutions, the occupations, and the state. According to the open-structure point of view, an organization will be viable to the degree that it acknowledges changes in its environment and adapts itself to those possibilities.

The theoretical concept of resource dependence theory was significant for this study as it underscores the importance of county government's ability to generate and keep up with own source revenues in order to limit over-reliance on national government's fiscal transfers for efficient and cost-effective provision of public goods and services. It also emphasizes the need for county governments to have a solid revenue framework that enhances self-reliance and the importance of revenue diversification by county governments in order to inspire fiscal autonomy through more predictable access to own source revenues for efficient public service delivery and future budget cover.

2.3 Empirical Review

Taiwo (2021) explored the 'effects of unconditional intergovernmental transfers on subnational governments' own revenues in Nigeria. The study which employed the instrumental variables (IV) estimator in 2SLS and "Simultaneous Generalized Method of Moment (SGMM)" models, utilized the states panelized data with time and cross-sectional dimension between 2007 and 2013 to determine the effect of intergovernmental transfers' yearly variation` on own incomes of Nigerian federal states. The empirical study results revealed that a 1 percent increase in unconditional intergovernmental transfer prompted a 0.64 percent decline in state's per capita own revenues and concluded that subnational governments in Nigeria are transfers-dependent on central government unconditional transfers which are substitutory, instead of stimulatory in nature.

While investigating the 'effects of central government transfers on local revenue collection by urban local governments in Uganda', Mwanga, Maniragaba and Ariho (2020) applied the fixed effects regression model to analyze the patterns of national government fiscal disbursements on independently produced revenues by the municipal councils of Uganda over the period 2002 to 2017. The study showed that the slacked total of the national government disbursements had a huge adverse influence on the municipal revenues generated locally. The conclusion of these findings implied that the Ugandan administration ought to consider the administration formula for the national government disbursements to the performance of locally generated revenues as a motivation for raising own local revenue by the municipal councils in the country.

Panao (2020) looked into the fly paper ramifications of unconditional transfers of central government on locally generated revenues in the Philippines to establish whether unconditional awards swarm out local revenues. The study used the progressive panel models containing both 'fixed effects' and 'random effects' to estimate whether intergovernmental disbursements swarm out efforts toward locally generated revenues for 144 cities and 81 provinces in the Philippines between the years 1992 and 2016. The progressive panel estimates findings infer that unconditional fiscal disbursements, swarm out locally generated revenues and discourages the subsidiary units in the Philippines from generating own revenues locally. The discoveries give empirical approval of questions raised in different investigations on the alleged government assistance initiating impacts of unconditional transfers on local own revenues across different jurisdictions.

Another study conducted by MIRI (2019), evaluated the 'effects of central transfers on local own-revenue' in Morocco. The inquiry which investigated the fixed and random effects of transfers using ordinary least square regression showed a critical and positive connection between transfers and own source revenues for the static model, implying that tax revenues generated by local governments from the management of central transfers aid in the generation of local own source revenues in Morocco. However, when the dynamic version in the generalized method of moments (GMM) model is taken into account, the lagged variables used as instruments in the regression model reveal an adverse and notable relationship between central disbursements and local revenues and those subsequent from State's taxes to complement central transfers. Taking all variables into account, the study concluded that an expansion in central transfers by 1 has a negative impact of - 0.10 on own revenue and - 0.15 on own incomes from taxes controlled by State for local revenues and from taxes and products managed by the Moroccan local authorities.

Shai (2017) investigated the 'effect of the Local Government Equitable Share (LGES) on Own Revenue Generation in South African Municipalities' in the years between 2003 and 2013. Utilizing the conventional least squares (OLS) estimation technique, and the Census shock instrumental variable approach, the paper found a statistically significant adverse consequence of the LGES on the metropolitan own revenues when controlling for fiscal capacity and fiscal effort. The study concludes that a percentage increase in the LGES results in a 0.95% decrease in municipal own revenue in South Africa. However, when operating expenditure is taken into account in the model, the effect of the LGES is close to zero and statistically insignificant. These results are compatible the results of another study conducted by (Mogues & Benin, 2012) which investigated the effects of intergovernmental transfers on subnational governments' motivation to mobilize revenues and funds (IGF) generated internally in Ghana. The analysis of the study employed the Hausman–Taylor estimation method and the "fixed-effects 2SLS estimation technique to correct inconsistencies in the model estimates emerging from possible relationship of unobserved attributes within the study variables. The findings conclude that external grants and fiscal transfers taken wholesomely does not prompt more revenue generation internally, highlighting an adverse and statistically significant correlation between intergovernmental transfers and districts' internally generated incomes. The study concluded that transfers appear discouraged rather than encouraged internal revenue generation in Ghana.

Dash and Raja (2013) examined the 'impact of composition of intergovernmental fiscal transfers on the assessment endeavors of Indian states' for the 1981–1982 to 2008–2009. The study which sought to investigate the link between Indian states' tax direct and indirect collection and intergovernmental transfers, applied the "Hansen's J test" to test the legitimacy of the variable instruments and employed the FGLS to estimate the relationship. The estimation results showed that the impact of aggregate fiscal transfers on Indian states' tax revenues is detrimental and critically important. The findings of the study indicated that, while contingent transfers do not affect local tax collection significantly, unconditional fiscal transfers prompted significant rearrangements in the Indian states' tax collection. Aggregately, the expansion of total transfers was found to significantly substitute the collection of indirect taxes in the Indian states. For conditional transfers, the connection between the transfers and collections in the indirect taxes was found not to be statistically significant. The study concluded that all forms of transfers were adversely correlated with the Indian states tax collections, confirming that the application of transfer restrictions is associated with a decrease in indirect tax revenues; while, the increase in total and unconditional transfers appeared to substitute indirect tax collections of the Indian states.

However, not all empirical studies carried out within the framework of the existing empirical literature have concluded on a negative correlation between transfers from the central government and the local government that generates income from its own sources.

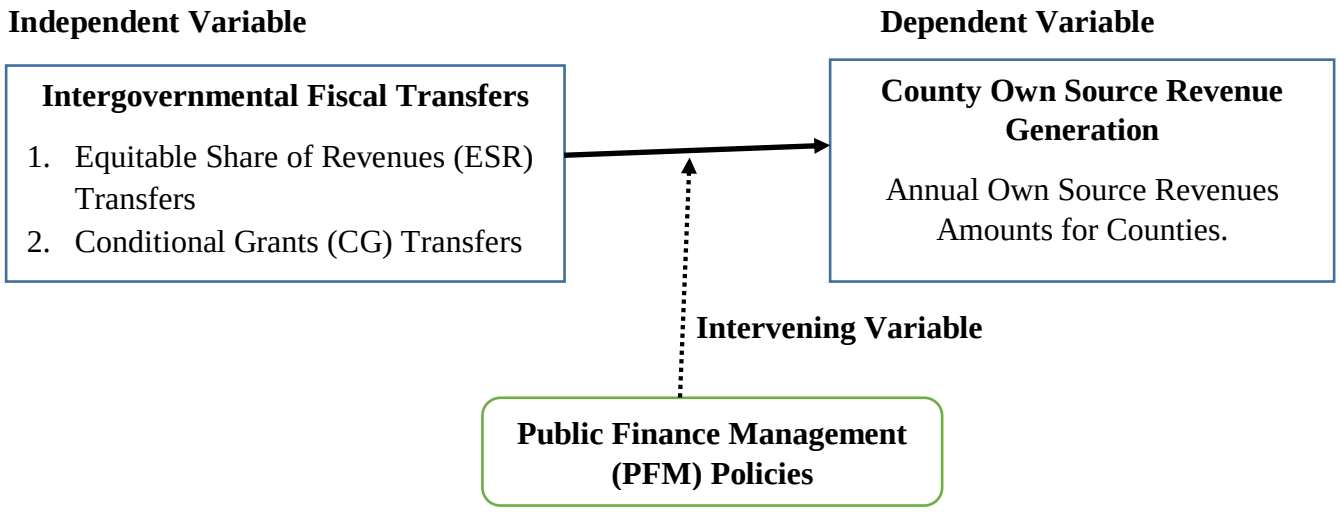
A study by Brun et al. (2016) employed the use of fixed and random-effect and Hausman–Taylor estimation techniques to investigate 'the incentive effects of conditional and unconditional transfers on local own source revenue generation by Moroccan Municipalities'. The results of the study showed that unconditional fiscal transfers have a significant catalytic effect and a less powerful effect of restrictive transfers on the mobilization of local per capita own income in Morocco, implying that unconditional per capita transfers from the national government positively influenced the municipalities' own source revenue generation in Morocco. These findings are supported by the works of Masaki (2018), who explored 'the impact of intergovernmental transfers on local revenue collection by the rural districts of Tanzania'. The study which employed the use of SGMM model to determine the relationship, concluded that intergovernmental transfers in Tanzania are stimulatory in nature and actually do facilitate local revenue generation by local government authorities (LGAs) instead of undermining it.

However, the study found out that the revenue-raising efforts by the districts were retrained severely by the political price of authorizing revenue collection through the elected public officers who sought to limit their constituents' taxation burden. This proved to have a counter-productive effect on the stimulatory efforts of the intergovernmental transfers to the local governments.

Zhang (2013) examined 'the impact of intergovernmental transfers on the fiscal behavior of local governments in China' between 2000 and 2005, when Beijing used generous outlays to push for tax and tariff reforms in rural areas. The study's cross-county analysis estimated the county governments' responses to various types of fiscal transfers namely; 'tax returns' (TRs), fiscal capacity transfers (FCTs), and special-purpose transfers (SPTs), either by activating local tax burdens through the "stimulating effect" or by lowering the local taxation rate through the "substitution effect". A straightforward linear regression model was applied in the study's statistical analysis. The results of the quantifiable research showed that the TRs were profoundly stimulating in all types of local tax spending and income-generating activities; FCTs were modestly surrogate in their impact on local fiscal spending and extra budgetary income, suggesting that the main strategy of using tax transfers to reduce the monetary burden imposed on taxpayers achieved little. SPTs had a stimulatory effects on local fiscal expenditure only, exhibiting the force of local units coordinating with prerequisites of the focal government. In general, intergovernmental fiscal transfers in China were found to be stimulatory in nature, which is an intriguing finding from a universal similar point of view.

2.4 Conceptual Framework

Figure 2.1: Conceptual Framework



In the conceptual framework above, Intergovernmental fiscal transfers' variable was be proxied by Equitable Share of Revenues (ESR) transfers and Conditional Grants (CG) transfers to form the independent variable of the study, whereas annual own source revenues generated by the 47 county governments proxied the study's dependent variable. The causal effects of ESR and CG on the generation of country own source revenues was assessed in light of the existing public finance management (PFM) policies which represent the intervening variable of the study.

2.5 Summary of Empirical Literature Review and Existing Knowledge Gaps

This segment provides a synopsis of the main empirical findings from the reviewed literature and points out existing knowledge gaps that this study sought to fill.

Table 2.1: Summary of Literature Review

Author(s) and Year of the Study	Title of the Study	Study Methodology Used	Key research findings	Existing knowledge gaps	Focus of the current study
Taiwo (2021)	{Effects of unconditional intergovernmental transfers on subnational governments' own revenues in Nigeria.}	'Instrumental variables (IV)' estimator in 2SLS and SGMM models	Subnational governments in Nigeria are transfers-dependent on central government unconditional transfers which are substitutory in nature.	A study on The effects of unconditional transfers on county government's own revenues in Kenya has not been done.	This present inquiry aims to examine the effects of equitable share of revenues (Unconditional in nature) on county own source revenue generation in Kenya.
Maniragaba and Ariho (2020)	{The Effects of Central Government Transfers on Local Revenue Collection by Urban Local Governments in Uganda- A Case of Selected Municipal Councils.}	Fixed effects regression model.	Lagged total of central government grants had a negative effect on the local municipal revenues which was significant. Central government transfers adversely affect local municipalities' revenue collections in Uganda.	The Effects of conditional grants on county own source revenue generation in Kenya has never been done.	This current study seeks to investigate the effects of Conditional Grants on county own source revenue generation in Kenya.
Panao (2020)	{Beyond Flypaper: Unconditional Transfers and Local Revenue Generation in the Philippines, 1992–2016.}	The study used the 'hierarchical panel models' containing both FE and RE	Study findings revealed that unconditional fiscal transfers, swamp out local income mobilization and discourages local revenue creation among local units in the Philippines.	The effects conditional grants transfer on county own source revenue generation has not been determined in Kenya.	This present study will use the combined fixed and random effects models to analyze the effects on conditional grants transfers on county own source revenue generation in Kenya.
MIRI (2019)	{The Effects of Central transfers on Local Own-Revenue: The Case of Morocco.}	Fixed and Random effects methods and generalized method of moments (GMM) models.	A negative relationship exists between transfers from central government and Moroccan States local-own revenues.	The application if GMM models in the context of analysis in this area of study has not been applied in the context of Kenya.	This present study aims to estimate the effects of intergovernmental fiscal transfers (on the county own source revenue generation in Kenya using FE Model

Shai (2017)	{The Effect of the Local Government Equitable Share (LGES) on Own Revenue Generation in South African Municipalities.}	Simple Ordinary least squares (OLS) estimation method, and the Census shock instrumental variable approach.	Study findings revealed a statistically significant adverse 'effect of the LGES on municipal own revenues' when controlling for fiscal capacity and fiscal effort.	A study that employed the Hausman estimation test to decide between the FEM and REM and estimate for the effects of intergovernmental transfers on own source revenues in Kenya was lacking	This study investigated the effect of EESR transfers on county own source revenue generation in Kenya. The study employed the Hausman-Taylor test to decide on the optimal regression model between FEM and REM. FEM was preferred.
Mogues and Benin (2012)	{The effects of intergovernmental transfers on local governments' incentives to collect internally generated revenues and funds (IGF) in Ghana.}	Hausman–Taylor estimation method and the FE 2SLS estimation approach.	External grants and central transfers were proven to discourage internally generated revenues A negative relationship existed between intergovernmental transfers and districts generated revenues which was statistically significant	This kind of study has not been carried out in the context of Kenya, using the same methodology.	The current study applied the Hausman–Taylor estimation to decide on the optimal model between the FEM and the REM. FEM was preferred.
Brun, and Khdari (2016)	{The Incentive Effects of Conditional and Unconditional Transfers on Local Own Revenue Generation: Empirical Evidence from Moroccan Municipalities.}	FE, RE and Hausman–Taylor (HT) estimation models.	Unconditional transfers were shown to have incentive effects on local own- revenue per capita mobilization in Morocco. Conditional transfers had less robust impact on own- revenue per capita in Morocco.	There exist a gap in the investigation of incentive effects of conditional grants and unconditional equitable share of revenue transfers on the generation of county own source revenue in the context of Kenya.	The current study applied the 'Fixed effect, random-effect and Hausman–Taylor estimation' techniques in its analysis.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology used to determine the effects of intergovernmental fiscal transfers on aggregate county own source generation in Kenya. It highlights the research design that was employed, specifies the analytical model used, highlights the estimation and diagnostic techniques utilized, describes the data used and their sources and points out the statistical software that was used to analyze the panel data.

3.2 Research Design

A correlational research design was endorsed in the determination of the effects of equitable shares of revenue transfers and conditional grants transfers on county own source revenue generation in Kenya.

3.3 Data Description and Source

Annual panelized data for the 47 counties for the period between 2013/14 and 2020/21 was utilized to estimate the study's analytical model and carry out the study's diagnostic tests. Secondary data was retrieved from the Office of the Controller of Budget (OCOB) reports, National treasury reports, county specific reports and statistical abstracts from Kenya National Bureau of Statistics.

3.4 Model Specification and regression fitness estimation

The study adopted a linear regression model specified by 'Caldeira and Rota-Graziosi (2014)' to analytically determine the effects of intergovernmental fiscal transfers on county own source revenues generation in Kenya. The analytical model was specified as follows.

$$OSR_{i,t} = \alpha + \beta_1 IFT_{i,t} + \gamma \boldsymbol{X}_{i,t} + u_i + v_t + \varepsilon_{i,t} \qquad (1)$$

Where $\boldsymbol{i}$ represents the individual county governments at time $\boldsymbol{t}$ on an annual basis. $\boldsymbol{OSR_{i,t}}$ is the aggregate county own source revenues, which is the sum total of all individual county annual own source revenues collected by counties from various revenue streams through taxes, user fees and charges. $\boldsymbol{IFT_i}$ denotes the size of individual intergovernmental fiscal transfers (either ESR or CG) to counties. $\boldsymbol{u_i}$ represents the county fixed effects controlling for time-invariant unobserved county characteristics, while $\boldsymbol{v_t}$ represents the year fixed effects which control for time-invariant unobserved year characteristics. $\boldsymbol{\varepsilon_{i,t}}$ denotes the random error term and $\boldsymbol{X}_{i,t}$ is a vector of all the observed control variables in the model, included to alleviate the biases in the omitted variables.

According to (Martinez-Vazquez & Searle, 2007), intergovernmental fiscal transfers are assigned on the basis of socio-economic characteristics, which, in turn, influence the level of local revenues. The vector $\boldsymbol{X}_{i,t}$ controls for these observed social-economic factors in the model. The control variables included in the model take into account the fiscal capacity determinants of own revenue generation in counties. County fiscal capacity refers to the revenue base within the individual counties, that is, the potential revenue that an individual county government could generate and includes factors such as economic activity within the counties, demographic factors such as the population size and income levels.

A simple pooled OLS estimation was performed to test for the fitness of the regression model.

3.5 Diagnostic Tests.

3.5.1 Serial Correlation and Heteroskedasticity

Given the fact that panel data combines the prominent feature of time series data, often associated with serial correlation problems, and cross-section data often associated with heteroskedasticity issues, the problems of serial correlation and heteroskedasticity that could cause the regression results to be less efficient had to be addressed in the model. The model estimation therefore tested for the presence of these linear panel model problems using the Wooldridge test for serial correlation and the Breusch-Pagan (BP) test for heteroskedasticity.

3.6 Estimation Techniques

3.6.1 The Hausman Estimation Test: Fixed Effects (FE) or Random Effects (RE)?

Equation 1 specified above was initially estimated using the Hausman estimation test (HT) to decide on the appropriate regression technique to use between the 'fixed effects model (FEM)' and the 'random effects model (REM)'. The Hausman test has a null hypothesis of no critical contrast in the estimator of the FEM and the REM. In the event that the null hypothesis is dismissed, the FEM qualifies to be a fitting model. Dismissing the invalid speculation implies that, the error term (ε_{it}) and dependent variables may be correlated. It was necessary to perform the Hausman estimation test to prefer an optimal linear panel model between the fixed effects model (FEM) and the random effects model (REM) that would effectively address the contrasts between counties that could affect the dependent variable. (OSR).

3.7 Data Analysis tool

The annual, panelized data was analysed using STATA version 14 and the empirical results of final estimation presented in graphs and tables.

CHAPTER FOUR: DATA ANALYSIS, ESTIMATION RESULTS AND DISCUSSIONS

4.1 Introduction

The estimation and diagnostic results of the study are discussed at full length in this chapter.

4.2 Descriptive Statistics

Descriptive statistics were performed on individual variables in order to provide basic information on the characteristics of each variable and also to highlight the possible correlation between them. The descriptive statistics results in "Millions of Kenya Shillings" is summarized by table 4.1 below.

Table 4.1: Descriptive Statistics Results

Variable	Obs	Mean	Std. Dev.	Min	Max
OSR	376	719.558	**1567.492**	27.417	11710.008
ESR	376	5794.772	**2342.376**	1500.755	19420.647
CG	376	491.487	417.457	0.0000	3250
BalBf	376	777.785	848.495	0.0000	6990
Rec Exp	376	4711.119	3034.683	609.18	24506.416
Dev Exp	376	1947.687	1202.552	32.241	6432.916

Source: *STATA Computations*

Each study variable recorded 376 observations, indicating a strongly balanced panelized data set. The highest amount of OSR in Millions of Kenya shillings in the data set was 11710.01 while the lowest was 27.42. The average county own source revenue generated within the period under review was 719.56 Million Kenya Shillings. However, individual county generation of own source revenues exhibited high variation between them, as indicated by the high standard deviation of 1567.5.5, inferring that county OSR was abnormally distributed in the data. This finding alluded to the potential existence of different level of fiscal autonomy across county governments in Kenya. The difference may be attributed to various factor endowments as some counties like Turkana, Kakamega and Kitui have natural mineral resources that accrue them sizeable amounts of revenues, giving them an advantage over the other counties without such natural resources.

Equitable share of revenue (ESR) transfers in the period under review appeared to be normally distributed (Std. Dev = **2342.376)**, as the central government unconditional transfers clustered around the mean allocation. The highest transfer of ESR in Millions of Kenya shillings was 19420.65M and the lowest being Kes 1500.

On average, Kes 5,794.8 M Kenya Shillings was disbursed to county governments in the period under review, with many counties appearing to have received less than this modest share in any one given fiscal year as indicated by the standard deviation (2342.376).

Conditional grants (CG) transfers from the national government peaked at Kenya Shillings 3,250M with some counties receiving none of it in some years for reasons best known to the National Treasury. CG standard deviation of 417.457 indicates that most counties received almost the same share of grants transfers that averaged around 491.487 Kenya Shillings for the period under review.

Balances brought forward from previous years by county governments recorded the highest amount of 6,990M Kenya Shillings, with some counties exhausting all of their revenues within one fiscal year, for the period under review. However, these balances showed large differences between counties as indicated by a high standard deviation of 848.495. On average, county balances brought forward from previous years amounted to 777.785.

When it came to county expenditure, the maximum county recurrent expenditure (Max = 24506.416) appeared to be almost 4 times much more than development expenditure (Max = 6432.916), with the least being Kes 609.18M and Kes 32.241M for recurrent expenditure and development expenditure respectively. On average, counties spent about Kes 4,711.1M and Kes 1,947.7M on recurrent expenditure and development expenditure respectively for the period under review. However, many counties spent considerably less than average on both recurrent and development expenditure as indicated by the low standard deviation of 3034.7 and 1202.552 for the respective recurrent and development expenditures.

Development expenditure across counties faired dismally, with the highest expenditure by a county being Kes 6,433M and the least being Kes 32.2M in any one financial year. This implies that some counties may be undertaking more development projects meant to boost the generation of their own source revenues than others, an hence the huge discrepancy (OSR Std. Dev = 1567.5) among county own source revenue generation in Kenya.

4.3 Diagnostic Tests

Diagnostic tests were performed to rule out any possibilities of outliers or unusual observations within the study data set, and also to ensure that the results of the analytical model were accurate and consistent. Before the diagnostic tests were performed, a simple pooled OLS estimation was performed to appraise the fitness of the study's analytical model. The estimation results are tabulated in table 4.2.

Table 4.2: Pooled Linear Regression Results

OSR	**Coef.**	**St.Err.**	**t-value**	**p-value**	**[95% Conf**	**Interval]**	**Sig**
ESR	-.3402	.038	-9.00	**0.000**	-.415	-.266	***
CG	-.4033	.091	-4.41	**0.000**	-.583	-.224	***
BalBf	-.2872	.045	-6.40	**0.000**	-.376	-.199	***
Rec_Exp	.6624	.022	29.49	**0.000**	.618	.707	***
Dev_Exp	.1790	.048	3.76	**0.000**	.085	.273	***
Constant	-356.748	101.691	-3.51	**0.001**	-556.713	-156.783	***

Mean dependent var	719.558	SD dependent var	1567.492
R-squared	**0.822**	Number of obs	376
F-test	341.428	Prob > F	**0.000**
Akaike crit. (AIC)	5961.987	Bayesian crit. (BIC)	5985.564

**** p<.01, ** p<.05, * p<.1* **Source:** *STATA Computations*

The linear regression estimation results yielded a p-value of (Prob > F = 0.000), confirming the fitness of the analytical model for the study's regression analysis. The implication of this finding was that further diagnostics and estimations using the study's data set were certain to produce consistent and accurate results. The effect of the ESR and CG (independent variables) on aggregate OSR turned out to be negative and highly significant with a significance level of 1%, while those of the control variables (Rec_Exp and Dev_Exp), apart from BalBf had a positive and significant influence on the OSR at 1% Significance level. All other factors outside the model had a negative and significant effect on the aggregate OSR with a significance level of 1%.

From the linear regression estimation results, at least 82% of variation (R-squared = 0.822) in OSR was capable of being explained by movements in the model independent variable. These findings confirmed with certainty that the model was fit for further estimation and diagnostics. With this confirmation, the study performed two diagnostic tests often associated with panel data estimation techniques of Serial Correlation and Heteroskedasticity.

4.3.1 Serial Correlation Results

The 'Wooldridge test for serial correlation' was performed to verify the presence of a serial correlation in the model. The test was preferred because of its robustness, as it makes fewer assumptions about the behavior of heterogeneous individual effects. The null hypothesis 'no serial correlation' was specified and tested. The decision criterion was that if the P-value coefficient exceeded 5%, the null hypothesis of 'no serial correlation' is reject the in the model. The test results are summarized in table 4.3

Table 4.3: Wooldridge Test for Serial Correlation Results

u	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
L	.669	.054	12.40	**0.0000**	.561	.778	***
Mean dependent var			-106.377	SD dependent var		643.184	
R-squared			0.427	Number of obs		329	
F-test			153.878	Prob > F		0.000	
Akaike crit. (AIC)			5015.344	Bayesian crit. (BIC)		5019.140	

**** p<.01, ** p<.05, * p<.1* **Source:** *STATA Computation*

(1) L.u = -.5
F (1, 46) = 469.67
Prob > F = 0.0000

The results of the Wooldridge test for serial correlation yielded a p-value of (Prob > F = 0.0000 < 0.05), confirming that at least two independent variables in the model were serially correlated. Therefore, the null hypothesis of 'no serial correlation' was rejected at a significance level of 1%. This finding confirmed the regression model exhibited problems of serial correlation, which posed a threat to the validity and consistency of the regression results. In order fix these problems, the model ran a robust regression to produce valid and consistent regression results.

4.3.2 Heteroskedasticity Results

The 'Breusch-Pagan test for heteroskedasticity' was performed in order to check for the presence of heteroskedasticity in the regression model. Heteroskedasticity occurs when the variance of the residuals is unequal across a spectrum of measured values. The Null hypothesis of "No Heteroskedasticity" was specified and tested. As a decision criterion, it was determined that if the p-value coefficient is greater than 5%, we do not reject the NULL hypothesis no heteroskedasticity in the model. The results of the Breusch-Pagan test are summarized below.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance
Variables: fitted values of OSR
chi2 (1) = 330.01
Prob > chi2 = 0.0000

The p-value of the Breusch-Pagan test for heteroskedasticity was found to be below the 5% threshold (Prob> chi2 = 0.0000), confirming the presence of heteroskedasticity in the model. Therefore, the null hypothesis of 'no heteroskedasticity' was rejected at a significance level of 1%. A robust regression thus was performed to eliminate the presence of heteroskedasticity problems in the analytical model.

4.4 Model Estimation Technique (Regression Model)

When analyzing panel data, either the 'fixed effects model' (FEM) or the 'random effects model' (REM) is adopted, whichever gives the most valid and consistent results of the model estimation. Hausman estimation test is usually executed in order to appropriately decide on the optimal regression model to be adopted between the FEM and REM. Both the FE and the RE models were ran independently and their estimated results stored for comparison through the Hausman test, so as to decide which model between the two would be more fitting for the study's analysis.

4.4.1 The Fixed Effect Model

The FEM is mostly utilized when analyzing time-varying variables to check the causes of changes within a subject. When using the FEM, it is assumed that something within the variable may affect or distort the independent variables and therefore must be controlled for. The FEM was carried out and the model estimation results recorded and stored for comparison with the results of the REM estimation. The summary of the test results are provided by table 4.4.

Table 4.4: Fixed Effect Model Estimation Results

OSR	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ESR	-.009	.021	-0.42	0.673	-.04932	.032	
CG	**.170**	.037	4.60	**0.000**	.09723	.243	***
BalBf	-.043	.018	-2.38	**0.018**	-.07913	-.007	**
Rec_Exp	.019	.016	1.15	0.253	-.01332	.05	
Dev_Exp	.091	.018	5.06	**0.000**	.05586	.127	***
Constant	454.493	66.664	6.82	**0.000**	323.344	585.643	***
Mean dependent var		719.558	SD dependent var			1567.492	
R-squared		**0.182**	Number of obs			376	
F-test		14.456	**Prob > F**			**0.000**	
Akaike crit. (AIC)		5071.036	Bayesian crit. (BIC)			5094.614	

**** p<.01, ** p<.05, * p<.1* **Source:** *STATA Computation*

The result of the fixed effect model revealed that both ESR and CG had an effect on the aggregate OSR. However, only the effect of CG on OSR was found to be positive and significant. ESR had a negative, but negligible effect on OSR. The regression results led to the conclusion that a 1% increase in CG resulted in a 17% increase in aggregate OSR at a significance level of 1%. Development expenditure were also found to have a positive and significant effect on aggregate OSR at the 1% level of significance. A unitary increase in development expenditure led to a 0.09 increase in the OSR in Kenya. However, a unit increase in the county balances brought forward from previous years gave rise to a decrease in OSR by 0.043. Recurrent expenditures were found to affect OSR, but their effect was not significant. All the other factors outside the model were found to have a positive and significant effect on OSR at 1% significance level. The independent and observed control variables accounted for at least 18% (R-squared =0.182) of all the variation in OSR in the model. However, it is important to note that this was not the optimal model for the study, but had to be ran nevertheless, for purposes of conducting the Hausman estimation test, which would accurately indicate the optimal regression model between the FEM and the REM.

4.4.2 The Random Effect Model

The REM assumes that the discrepancy between entities is random and unrelated with the model independent variables. The model assumption is that the entity's error term in unrelated to the independent variables, which means that the time-invariant variables can act as independent variables in the model. The REM was also ran and estimated results stored for comparison with the FEM estimation results so as to arrive at the optimal model. The summary of the REM estimations are provided by table 4.5

Table 4.5: Random Effect Model Estimation Results

OSR	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ESR	-.125	.035	-3.53	**0.000**	-.194	-.055	***
CG	-.018	.068	-0.27	0.790	-.151	.115	
BalBf	-.154	.033	-4.62	**0.000**	-.219	-.089	***
Rec_Exp	.255	.026	9.76	**0.000**	.204	.306	***
Dev_Exp	.125	.034	3.72	**0.000**	.059	.191	***
Constant	124.356	131.281	0.95	0.344	-132.95	381.662	

Mean dependent var	719.558	SD dependent var	1567.492
Overall r-squared	**0.803**	Number of obs	376
Chi-square	188.208	**Prob > chi2**	**0.000**
R-squared within	0.079	R-squared between	0.948

**** p<.01, ** p<.05, * p<.1* **Source:** *STATA Computation*

The REM results revealed that both ESR and CG negatively affected the aggregate OSR. However, only the effect of ESR was significant at 1% significance level. A 1% increase in ESR was found to cause a 12.5% decrease in OSR. The effect of CG was found to be negligible. When it came to the model control variables, both the recurrent expenditure (Rec_Exp) and development expenditure (Dev_Exp) showed a positive effect which was significant on aggregate OSR with a significance level of 1%. It was found that a 1% increase in Rec_Exp and Dev_Exp resulted in an increase in OSR of 25.5% and 12.5 respectively. However, balances brought forward (BalBf) were found to have a negative and significant effect on aggregate OSR at 1% significance level. The regression results established that a 1% increase in BalBf resulted in a 15.4% decrease in aggregate OSR. All the other observed factors outside the model were found to have a positive but negligible effect on aggregate OSR.

From the results of the model p-value, (Prob > chi2 = 0.000), the REM was found to be fit and perfect in all respects, thus the results produced were valid and consistent. Based on the results of the r squared (Overall r-squared = 0.803), it was found that at least 80% of the variations in the OSR are influenced by changes in the model variable. However, it is important to note that this was not the optimal model for the study, but had to be ran nevertheless, for purposes of conducting the Hausman estimation test, which would accurately indicate the optimal regression model between the FEM and the REM.

4.4.3 The Hausman's Test

By focusing on the Hausman test result, the researcher can determine if there are significant differences in the coefficients by indicating which model between the FEM and REM is the most appropriate for the study analysis. Therefore, the Hausman estimation test was performed to evaluate the consistency of the FEM or REM estimators versus the alternative, less efficient estimator, which is already known to be consistent, and also to assess whether the statistical model matched the model data. The null hypothesis was that the preferred model was RE. The alternative hypothesis is that the model is FE. The decision criterion for the Hausman estimation test is that the determination of the test results of the coefficient (p-value) must be greater than 5% in favor of the REM. The results of the Hausman tests are presented by figure 4.1.

Figure 4.1: Hausman Test Estimation Results

```
. hausman fixed random, sigmamore
```

	Coefficients			
	(b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
ESR	-.0087106	-.1245332	.1158225	.016872
CG	.1700557	-.0180982	.188154	.0171352
BalBf	-.0432878	-.1537757	.110488	.0093027
Rec_Exp	.0185853	.2550325	-.2364472	.0161714
Dev_Exp	.0914275	.1252023	-.0337748	.0062135

```
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
```

Source: *STATA Computation*

From the figure above, the FEM was found to be consistent in both hypothesis. The Null hypothesis of the preferred random effects model was thus, rejected at a significance level of 1%, endorsing the fixed effect model and the ideal model for the study. The summary result of the Hausman test are provided by table 4.6.

Table 4.6: Hausman (1978) Specification Test Results

	Coef.
Chi-square test value	268.379
P-value	**0**

Source: *STATA Computation*

The result of the Hausman test eliminated the random effects model, so the fixed effects model was identified and selected as the ideal regression model for the study.

4.5 Robust Fixed Effects Model Estimation Results

The robust 'fixed-effects model', suitably preferred by the Hausman test, was used to examine the effects of intergovernmental fiscal transfers on county own source revenue generation in Kenya. More specifically, the model was used to examine the effects of equitable share of revenue transfers and conditional grants transfers on county own source revenue generation in Kenya. The robust model was performed to solve the serial correlation and heteroskedasticity problems identified by the diagnostic tests. The estimation results of the robust FEM are summarized by table 4.7.

Table 4.7: Robust Fixed Effect Model Estimation Results

OSR	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval	Sig
ESR	-.009	.019	-0.46	0.651	-.047	.03	
CG	.170	.064	2.66	**0.011**	.042	.299	**
BalBf	-.043	.034	-1.29	0.203	-.111	.024	
Rec_Exp	.019	.016	1.16	0.252	-.014	.051	
Dev_Exp	.091	.029	3.11	**0.003**	.032	.151	***
Constant	454.493	79.21	5.74	**0.000**	295.052	613.934	***
Mean dependent var		719.558	SD dependent var		1567.492		
R-squared		0.182	Number of obs		376		
F-test		6.883	**Prob > F**		**0.000**		
Akaike crit. (AIC)		5069.036	Bayesian crit. (BIC)		5088.684		

**** p<.01, ** p<.05, * p<.1* **Source:** *STATA Computation*

The results of the robust FEM showed that ESR had a negative but insignificant effect on aggregate county OSR. A 1% increase in the transfer of equitable share central government revenues was found to have a less than proportionate decrease (0.9%) in aggregate county OSR generation in Kenya. Given the fact that county governments in Kenya rely heavily on equitable share of revenue transfers from the central government, these finding imply that ESR have a substitutory effect on aggregate county OSR generation in Kenya. These results are compatible with results from another study conducted by (Mogues & Benin, 2012) which investigated the effects of intergovernmental transfers on subnational governments' motivation to mobilize revenues and funds (IGF) generated internally in Ghana. The empirical findings of this study concluded that fiscal transfers taken wholesomely did not prompt the generation of more revenue internally in Ghana, highlighting an adverse and statistically significant correlation between intergovernmental transfers and districts' internally generated incomes. Since the effect of ESR on county OSR is not significant enough, the study did not put more emphasis on this empirical findings.

In comparison, Conditional grants transfers (CG) were found to have a significant positive effect on aggregate county OSR generation in Kenya at 5% level of significance. A 1% increase in national government's conditional grants transfers was found to bring about a 17% increase in county own source revenue generation in Kenya, underscoring the stimulatory nature of conditional grants on aggregate OSR generation in Kenya. These findings are compatible with those of Masaki (2018), who explored 'the impact of intergovernmental transfers on local revenue collection by the rural districts of Tanzania'. The study findings concluded that intergovernmental transfers in Tanzania are stimulatory in nature and actually do facilitate local revenue generation by local government authorities (LGAs) instead of undermining it. This empirical finding imply that the national government is able to effectively influence how county governments in Kenya, generate their own source revenues through conditionalities in the transfers of stimulatory conditional grants, and impact efficient and reliable service delivery at the county level.

From the control variables, a significant positive effect on the generation of aggregate county OSR was found at a significance level of 1% only for development expenditure (Dev_Exp). A 1% increase in the county development expenditures resulted in a 91% increase in county own source revenue generation in Kenya. County development expenditure related to that part of county spending that aids in the county's economic and social development by boosting the county's productive capacities and economic output, thereby generating more revenues for the county. Such expenditures are incurred in the creation of county assets that provide long term public goods and services such as roads, hospitals, schools, security and etcetera to county constituents in a cost effective and efficient manner. As such, many constituents are able to engage in productive activities that generate to them, revenues to pay for county taxes, charges and user fees, and in the process, county governments generate and expand their revenue bases from these income generating entities. County development expenditures were thus found to be stimulatory to county own source revenue generation in Kenya. However, county balances brought forward (BalBf) were found to have a negative effect but negligible effect on aggregate county OSR. County recurrent expenditure (Rec_Exp) were also found to have a positive, but insignificant effect on county OSR. Only 18% of the model variables accounted for county OSR variation in Kenya as indicated by the value of R-squared (R-squared = 0.182). Other factor outside the model accounted for 82% of OSR variations. The p-value of the regression model was highly significant at the significance level of 1% **(Prob > F = 0.000)**, which confirms that the results produced were very consistent.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the research findings regarding the study objectives, provides the study conclusion, suggests some policy considerations, and recommends areas for future research work.

5.2 Summary of the research findings

5.2.1 Effect of Equitable Share of Revenue transfers on aggregate County Own Source Revenue Generation in Kenya.

One of the objectives of carrying out this study was to establish the effect of equitable share of revenue transfers on aggregate county own source revenue generation in Kenya. A strongly balanced panelized data set, with 376 observations was empirically analysed, using a robust Fixed Effects Model in order to obtain valid and consistent empirical results in all respects. The robust FEM was employed in the study so as to alleviate the problems of serial correlation and heteroskedasticity that were identified in the data set. Thus the model was fit for analysis. The results of the robust fixed effects model revealed that the unconditional transfers of equitable share of revenues by the National Treasury had a negative effect on county own source revenue generation in Kenya. However, the effect was found not to be significant in nature. This finding gave the implication that ESR transfers had substitutory effects on aggregate county OSR generation in Kenya, due to their negative effects. As such, national government ought to employ the use of ESR transfers cautiously, so as not to inhibit counties from generating the own source revenues.

5.2.2 Effect of Conditional Grant transfers on aggregate County Own Source Revenue Generation in Kenya.

Another objective of conducting this study was to ascertain the effect of conditional grants transfers on county own source revenue generation in Kenya. A strongly balanced panelized data set, with 376 observations was empirically analysed, using a robust Fixed Effects Model in order to obtain valid and consistent empirical results in all respects. The robust FEM was employed in the study so as to alleviate the problems of serial correlation and heteroskedasticity that were identified in the data set. Thus the model was fit for analysis. Thus the model was fit for analysis. The results of the robust fixed effects model revealed that conditional grants transfers by the National Treasury had a positive and significant effect on aggregate county own source revenue generation in Kenya.

The empirical results showed that a 1% increase in national government's conditional grants transfers resulted in a 17% increase in aggregate county own source revenue generation in Kenya, underscoring the stimulatory nature of conditional grants on OSR generation in Kenya. These findings gave the implication that an intentional and targeted employment of conditional grants by the National Treasury to county governments can stimulate county own source revenue generation in the country. As such, the national government should consider using conditional grants as effective instruments of promoting county own source revenue generation in the Kenya.

5.3 Conclusion

The present study sought to examine the effects of intergovernmental fiscal transfers on aggregate county own source revenue generation in Kenya. Two specific objectives formed the basis of the inquiry to establish the effects of equitable share of revenue transfers on aggregate county own source revenue generation in Kenya, and determine the effects of conditional grants transfers on aggregate, county own source revenue generation in Kenya. The theoretical foundation of the study was underpinned by two theories; the theory of fiscal federalism by Richard Musgrave (1959) and the resource dependence theory by Jeffrey Pfeffer and Gerald R. Salancik (1978). Empirical literature was adequately reviewed and existing research gaps identified.

The study adopted a correlation design in estimating the effect of intergovernmental fiscal transfers on aggregate county own source revenue generation in Kenya. The robust fixed effects model was employed in estimating the two study objectives in order to obtain valid and consistent results due to the presence of serial correlation and heteroskedasticity in the data set. The empirical results of the robust FEM revealed that the unconditional transfers of equitable share of revenues by the National Treasury had a negative effect on the aggregate county own source revenue generation in Kenya. However, the effect was found not to be significant in nature. Given the fact that many county governments in Kenya depend heavily on unconditional ESR transfers from the national treasury to finance at least 75% of their budgetary needs (See figure 1.1), a negative effect of these transfers on aggregate county OSR generation in Kenya undermines the spirit of fiscal decentralization and inhibits county governments from enjoying the efficiency gains that come with mobilizing their own sources of revenues. It also undermines the fiscal autonomy of county governments and limits the full decentralization of fiscal responsibilities from the central government to the county governments. As such, national government ought to employ the use of ESR transfers cautiously, so as not to inhibit counties from generating the own source revenues.

The study's empirical results also revealed that conditional grants transfers by the National Treasury had a positive and significant effect on the aggregate county own source revenue generation in Kenya. The results showed that a 1% increase in national government's conditional grants transfers resulted in a 17% increase in county own source revenue generation in Kenya, underscoring the stimulatory nature of conditional grants on OSR generation in Kenya. Given the fact that the share of conditional grants transfers in Kenya over the last almost a decade contributed a dismal 6% to total county revenues for the period under review (See figure 1.1), their ability to stimulate county own source revenues in the country should prompt the national government to reconsider increasing the share of subsequent conditional grants transfers so as to support county governments in generating their own source revenues. This would also promote the fiscal autonomy of county governments in Kenya since they will be in a position to generate own revenues and undertake fiscal responsibilities without any undue influence of the national government in the long run. As such, the national government should consider using conditional grants as effective instruments of promoting county own source revenue generation in the Kenya.

County balances brought forward (BalBf) were found to have a negative effect on aggregate county OSR generation in Kenya, but the effect was not significant. County recurrent expenditure (Rec_Exp) were also found to have a positive, but insignificant effect on county OSR.

Development expenditure (Dev_Exp) was found to have a positive and significant effect on aggregate county OSR generation in Kenya with a significance level of 1%. A 1% increase in the county development expenditures resulted in a 91% increase in county own source revenue generation in Kenya. These expenditures which are solely incurred for the creation of county assets that provide long term public goods and services such as roads, hospitals, schools, security and etcetera, were found to stimulate aggregate county OSR in the country. As such, the national government should consider channeling a substantial amount of conditional grants to county development projects so as to allow county governments in Kenya to reap from the efficiency gains of increased own source revenues generated from increased productive activities of the constituents.

The empirical model used for the study was found to be fit at p-value of (Prob > F = 0.000), and as such the results produced were valid and consistent in all respects. However, the model variables accounted for only 18% of variations in aggregate county OSR variation in Kenya.

5.4 Policy Recommendations

The study recommends as a matter of policy that, conditional grants transfers by the National Treasury be preferred as effective fiscal instruments in promoting county own source revenue generation in the Kenya. This follows from the study's empirical finding which revealed that a 1% increase in conditional grants transfers brings about a 17% increase in aggregate county own source revenue generation in Kenya. The findings underscored the importance of using conditional grants as effective instruments that stimulated the generation of aggregate county OSR in Kenya.

The study also recommends that the utilization of conditional grants transfers to county governments be channeled to county development projects in order to foster more productive activities that translate constituents' economic activities to increased own source revenue generation for the respective counties. This policy recommendation follows from the empirical findings of the study which revealed that a 1% increase in the county development expenditures resulted in a 91% increase in aggregate county own source revenue generation in Kenya.

5.5 Potential areas for further studies

The study recommends further studies in to the effects of conditional grants transfers on individual counties own source revenue generation in order to calibrate specific policy recommendations to individual counties based on the specific effects of the transfers to individual counties.

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