ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDIES

CENTER FOR REGIONAL AND LOCAL DEVELOPMENT STUDIES

FISCAL EQUALIZATION PERFORMANCE OF FISCAL TRANSFER IN ETHIOPIA

(THE CASE OF FEDERAL GOVERNMENT AND, OROMIA AND SNNP REGIONS BLOCK GRANT TRANSFER)

A Thesis Submitted to the School of Graduate Studies, Addis Ababa University in Partial Fulfillment of the Requirement for the Degree of Master in Regional and Local Development Studies (RLDS)

Advisor: Tegegne Gebre-Egziabher (Prof.)

BY: Bereket Fesehastsion

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DECLARATION

I, the undersigned, declare that this thesis is my original work, has not been presented for a degree in any other university and that all sources of materials used for the thesis have been duly acknowledged.

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Table of Contents

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Acronyms

BoFED: Bureau of Finance and Economic Development

CSA: Central Statistical authority

CV: Coefficient of Variation

DLDP: District Level Decentralization Program

EFY: Ethiopian Fiscal Year

GDP: Gross Domestic Product

GTZ: German Technical Cooperation

HoF: House of Federation

Max: Maximum Values

Min: Minimum Values

MoFED: Ministry of Finance and Economic Development

OLS: Ordinary least Square

SNNPR: South Nation, Nationalities and peoples Region

SPSS: Statistical packages for Social Scientists

WB: World Bank

List of Tables

List of Figures

Abstract

This study aims at evaluating the fiscal equalization performance of the federal and, Oromia and SNNP regions block grant transfer. In order to achieve this, actual implementation of the block grant allocation at the federal and in the two regions were first evaluated based on normative theory of fiscal transfer.

The review suggests that the federal government allocation mechanism has been evolved towards equalizing both expenditure needs and revenue raising capacities of regional governments. while in the two regions, in spite of the effort to link the block grant transfer with expenditure needs and revenue raising capacities of local governments, the transfer mechanisms have suffered with several shortcoming in its actual implementation due to lack of appropriate data of expenditure needs and revenue raising capacities of their respective local governments.

In order to achieve the stated major objective, i.e. to evaluate the equalization performance of the federal and the two regions block grant transfer, the per capita before and after block grant transfer revenue variation and the relationship between per capita block grant with expenditure needs and revenue raising capacities has been analyzed using coefficient of variation and regression estimation techniques respectively. Both analyses suggest, the block transfers have been equalizing over the period. However, the result of regression analysis suggests, the federal block grant allocation has been both revenue raising capacity and expenditure need equalizing, whereas, the two regions block grant allocations have been reinforced the federal government equalization effort only in equalizing expenditure needs of local governments.

Chapter One: Introduction

1.1 Background

In recent years, the subject of fiscal decentralization has received enthusiastic attention from academic analysts and policy makers alike. Genuine decentralization involves devolution of political, fiscal and administrative power from the higher level of government to immediate lower level government. Fiscal decentralization involves the assignment of expenditure responsibilities and revenue power among different level of government. Assignment of expenditures and revenues power to different levels of governments does not necessarily lead to a balance between revenue and expenditure assignment. Due to several political and economic rationales, mismatch between expenditure and revenue assignment is inevitable. This mismatch between revenue and expenditure assignment and also differences in revenue raising capacity and expenditure need among the same level of government necessitates intergovernmental fiscal transfers from the immediate higher level of government. In fiscal federalism theory it is pointed out that successful decentralization cannot be achieved in the absence of a well designed fiscal transfers program (Shah, 2007).

However, no uniform pattern of transfers is universally appropriate and transfers must be designed so that those receiving (i.e., local government units) need to have a clear mandate, adequate resources, sufficient flexibility to make decisions and are accountable for results (Bahl, 1999). Hence the key issue in the design is to match the intergovernmental transfer system with the objectives of the decentralization model. The normative theory of fiscal federalism also provides a good summary of the central issues that arise in designing intergovernmental fiscal transfers (Bird and Smart2002). In the normative theory of fiscal federalism, to address the horizontal imbalance among sub national governments at different level, equalization grant based on expenditure need and revenue raising capacities of sub national governments has been advocated in order to provide equal fiscal capacities to sub national governments thereby to enable comparable provision of service throughout a given country (Boadway, 2002).

Fiscal transfer from the intermediate level government (provincial, regional or state) to local government has the same rationale as of the federal/center-intermediate fiscal transfer in most cases. The existence of vertical and horizontal imbalance at the regional level, as well as regional policy choices necessitates regional local fiscal transfer in many countries.

The dependence of local governments on regional or provincial level of government is much higher than that of the intermediate level governments' dependence on central to regional transfer (Shah, 2007). Information regarding local governments is scanty in most cases especially in developing countries. The lack of appropriate information regarding local governments' expenditure and revenue capacities constrain the potential of objective fiscal transfer from regional/state to local governments. Furthermore, the legal frameworks as well as institutional arrangement of the provincial/state–local fiscal transfer in different developing countries are not well established, which in turn leads to ad hoc determination of the resource pool and allocation among local governments (Ibid).

Whether knowingly or unknowingly, the type of grant, allocation criteria adopted and other political, economic and demographic factors may determine the actual outcome of fiscal transfer. In some cases fiscal transfer from the intermediate level of government accentuate fiscal disparities and induce negative fiscal behavior on local governments (Bird & Smart, 2002). However some research shows that effectively designed fiscal transfer reduces fiscal disparities among local governments and creates desirable incentives on local government fiscal behavior. Furthermore, some empirical evidence in some federal countries identified fiscal transfer outcomes may vary between regions because of regional policy choice in actual implementation of fiscal equalization grant to address fiscal disparities (Martinez-Vazquez and Timofeev, 2006).

In Ethiopia with the devolution of power from the federal government to regional states as well as with the devolution of power from regional states to local governments, vertical and horizontal fiscal imbalance have become an observable fact of life. The vertical fiscal imbalances have been mainly associated with the assignment of major

expenditure responsibilities with insufficient decentralization of revenue power from the federal government to regions at the initial stage of decentralization and from regions to local governments during district level decentralization initiatives. While the horizontal fiscal imbalance is associated with the difference in economic base and expenditure need of various governments at same level, among regions or local governments.

Vertical and horizontal fiscal imbalance at the regional and local government tiers necessitates fiscal transfer from the next higher government to finance the expenditure responsibilities of governments. In relation to this, block grant transfer which has been allocating by the federal and regional governments is the major source of finance to cover highest proportion of expenditure responsibilities of regions and local governments respectively (HoF, 2007 and 2009; and Garcia and Rajkumar, 2008).

Both the federal and regional constitutions stipulates the right of each Ethiopians to equal access to basic public services and the government responsibilities in assuring equitable development among Ethiopians. These articles have been in use as a base to allocate the block grant among regional governments and among local governments with in regions (Ibid). In line with this constitutional stipulation fiscal transfer from the federal government mainly intends to provide equal fiscal capacity among regions to deliver basic services to their residences. Moreover, in the federal block grant transfer, it is implicitly assumed that the regional governments would in turn allocate the allocated resources to appropriate level of government based on the same principle of providing comparable fiscal capacities among governments in the regions.

In relation with this national objective, with the commencement of district (Woreda) level decentralization program in 2002, block grants to local governments were introduced in four regions: Amhara, Oromiya, SNNPR, and Tigray. Other regions implemented the district level decentralization later (Tegegne & Dickovick, 2010). The major aim was to replace the ad hoc and incremental budget allocation method with a transparent general purpose grant that gives autonomy to local governments (Garcia and Rajkumar, 2008).

To allocate the block grant among local government regions have been adopting different allocation mechanisms , since then regions are experimenting various type of block grant allocation to local governments. Some regional state block grant allocation mechanism has been evolving in similar pattern with the federal block grant allocation mechanisms while other are experimenting regionally oriented block grant transfer mechanism. (SNNP and Oromia BoFED, Block Grant Report, 2011).

As it was mentioned above, the block grant resource allocation from the next higher government level covers largest part of expenditure responsibilities of governments, and given its objective to handle both vertical and horizontal fiscal imbalance of governments, whether the allocation of the block grant equalizes expenditure needs and fiscal capacities among regions or local governments is a significant issue.

1.2 Statement of the Problem

Decentralization results in fiscal and economic disparities across subnational governments. These disparities are due, in the first place, to variations in sub national governments' fiscal capacities, that is, the extents to which spending needs may be financed from the subnational governments own source revenues. A second source of fiscal disparities is the difference in the demand for local services. Differences in demand for public services are a result of variations in the composition of the population and in the costs involved in the provision of public services. For example, jurisdictions with more school-aged children require more public schools, teachers and transport. Similarly, it is often more costly to provide local services in sparsely populated jurisdictions than in densely populated ones, due to economies of scale. Some jurisdictions have more sources of revenue than others. Hence, they are more capable of financing local services from their own source revenues.

Fiscal imbalances resulting from decentralization settings can be addressed by intergovernmental transfers either from the national government or from the intermediate higher level government or from rich subnational governments. These transfers are also used as a tool to correct spillover effects across jurisdictions and to achieve nationwide set standards for the provision of public services. Transfers to subnational governments

are divided into two categories: conditional and unconditional ones. Equalization grants can either be unconditional or they can take the form of block grants. Whatever form they may take, these grants aim at correcting fiscal disparities across subnational governments (Ladd, 1994). This is done by allocating resources in such a way that jurisdictions with low fiscal capacity and/or higher spending needs receive more transfers from national governments or from relatively more affluent jurisdictions.

In Ethiopia it is contended both the federal and regional governments block grant allocation has been implemented to create equal fiscal capacities among regions and local governments in order to benefits all Ethiopian in an equitable and fair manner as stipulated in both the FDRE and regional constitutions.

The federal block grant allocation covers on average more than 80 % of the regional expenditure between 2003/04 and 2009/10 Ethiopian fiscal year (MoFED 2003/04 and 2009/10). However some regions like Tigray, Harari and Dire Dawa city administration cover more than 20 % of their expenditure form their own revenue. Similarly in regional governments the share of regional block grant from local governments (Woredas and Zones) expenditure covers more than 90 % of their expenditure between 2005/06-2009/10 EFY (GTZ-Selam,2005 and WB, 2010). Hence block grant from the next higher level government is very important to finance provision of basic public service at different levels of governments in Ethiopia.

Moreover, when the allocation of block grant among regional governments and local governments analyzed in per capita terms, a significant variation in the federal block grant allocation among regions is observed. In 1996/97 EFY the per capita block grant allocation among regions vary between 51 and 526 birr for Oromia and Gambella regional states respectively. In 2009/10 the per capita grant variation between these regional states was 288 and 1232 birr respectively. While the proportion of maximum to minimum per capita allocation has been reduced through the period, the variation remains significant among regional states. Hence it is easy to deduce that, the per capita allocation of the federal block grant allocation among regional states significantly vary in per capita terms throughout its implementation. Similarly in regional states the per capita

block grant allocation among woreda and zonal governments vary significantly. The 2005 "woreda city benchmarking survey" shows, the per capita block grant allocation among woreda governments in Oromia, SNNP, Tigray and Amhara Regional states vary significantly among local governments.

As it was elaborated above, in normative theory of fiscal federalism, equalization or unconditional grant like that of the federal and regional unconditional block grant should be based on fiscal capacity and expenditure needs of regional and local governments in order to disperse the given resource in an equitable manner among different levels of governments. Thus the per capita block grant allocation of the regional or local governments should be determined by the difference in revenue raising capacity and expenditure needs among regions or local governments. However, whether the block grant actual implementation has been fiscal equalizing or not among regional or local governments has not been studied up to now.

As far as this research is concerned, research concerning the equalization effect of the federal and regional government block grant allocation is not undertaken by any researcher. Most of the previous researches have concentrated on explaining the fiscal imbalance between the federal and regional governments, evaluating the federal allocation mechanisms based on normative theories and analyzing the effect of the federal fiscal transfer on regions finance and socio economic development (HoF, 2010; Getachew, 2011). The only research concerning intraregional fiscal transfer is Meskerem (2010), which deals with the intraregional fiscal transfer in SNNP regional state. In this research Meskerem explored the operation of fiscal transfer at the regional level using qualitative analysis. However her research is not comprehensive and has not provided any evidence regarding, the equalization performance of the regional block grant transfer.

Given the importance of block grant transfer in financing the large part of regional and local government's expenditure in Ethiopia and the wide variation in per capita block grant allocation among regional and local governments, it is important to evaluate the mechanisms of the block grant allocation and also important to analyze what have been determining the horizontal allocation of the block grant throughout its implementation

period, at the federal as well as at the regional level. Furthermore whether the federal government equalization effort, in terms of revenue raising capacity and expenditure equalization of regions has been reinforced or impeded by the regional block grant allocation has not been studied. Therefore this requires empirical inquiry to evaluate the block grant transfer overall performance in providing equal fiscal capacity to the different levels of governments.

In general, the purpose of this study is to evaluate the equalization performance of the federal and two regional states (SNNP and Oromia) block grant allocations in Ethiopia. The purpose therefore centers on examining the relationship between per capita federal or regional grant allocation with fiscal capacities and expenditure needs of regions, and local governments within the two regions.

1.3. Research Objectives and Questions

1.3.1 Research Objectives

The main objective of this research is to study the equalization performance of the block grant allocation of the federal and the two regional states (Oromia and SNNP Regional States) block grant allocation to local governments.

The specific objectives include:

- To analyze the size and trend of the federal and regional-local block grant transfer;
- To review and normatively evaluate the federal, and regional block grant transfer mechanisms;
- To analyze and evaluate the equalization performance of the federal and regional block grant transfer.

1.3.2 Research Questions

The research questions that are going to be answered by this study are:

1. How the resource pool for block grant allocation has been determined at the federal and in the two regions level? Is the resource pool that has been allocated for block grant allocation increasing or decreasing throughout the periods.

2. What types of allocation mechanism do the federal and the two regional states use and are these consistent with the objectives sought to achieve?
3. Is the block grant allocation both revenue raising capacity and expendituire need equalizing? Is the allocation reducing or accentuating fiscal disparities among governments?
4. What are the areas of the block grant transfer system that needs reform?

1.4. Limitations of the Study

The concept of decentralization is multifaceted and sometimes vague. Therefore, it is difficult to grasp the real meaning of the concept in its entirety. Studying the equalization performance of fiscal transfer is difficult since there is no universally agreed upon measurement criteria. There are no clearly defined indicators against which transfer equalization performance could be measured. The effects of decentralization can also be influenced by different factors, which makes it difficult to conclude that the actual transfer mechanisms is the only factor responsible for all fiscal disparities outcomes and behavior of local governments.

There are also information constraints to fully assess the effects of fiscal transfer as data collection and analysis are poorly developed not only at local (woreda and zonal) level but also both at regional and federal levels. For example GDP, per capita income and different tax bases at the local level is important determinants in observing the fiscal disparities of local governments in the regions through time; however, these data are not available at any level in the country. Even the available data suffers from reliability since surveys data regarding socio economic indicators, which is disaggregated at the local government level, is poorly organized. At the same time decentralization is an ongoing process and it is difficult to get or collect all sorts of information and make an all-embracing and conclusive generalization.

1.5. Scope of the Study

The research examines the federal block grant allocation to regions and Oromia and SNNP regional states block grant allocation to their local governments. The major focus of the research is the block grant transfer from the federal government to the regions and

from the two regions to their respective local governments. This paper will not evaluate the impact of the block grant transfer in service delivery and development inequity among regions or local governments. Instead, it only analyzed the fiscal capacity equalization between regions and local governments in respective two regions through the block grant transfer. Sidama zone block grant transfer to woredas is also included to highlight the zonal to woreda block grant transfer in SNNP. Other transfers which have been allocated by the Federal or Oromia and SNNP regional states are not the subject area of this study.

The time of analysis for the federal governments dates back to 2003/04 EFY , while for the regional governments, due to data unavailability, of the descriptive and inferential analysis is undertaken after 2006/07 EFY. In this study it is observed that Data and information regarding local government financial performance and other socio economic data is not available at any level before the district level decentralization and in the initial year's DLDP implementation. Even in some cases woredas have separated, it is difficult to make comparison between before and after district level decentralization. Thus the time of analysis will only concentrates on the years where the available data is meaningful to undertake analysis.

1.6. Significance of the Study

The study will be significant for a number of reasons including:

- ✓ It will be an added value to the knowledge base on fiscal decentralization in general and regional level fiscal transfer in particular, and serve as an impetus for future research into similar areas in other regions.
- ✓ It could also serve as a guide to policy makers, development workers and other Stakeholders of decentralization in Ethiopia.
- ✓ It will provide a basis for other empirical researchers regarding the effect of block grant and other transfer on regions and local governments.
- ✓ It will provide information and policy issues to the federal government, Oromia and SNNP regions, about the functioning of the block grant transfer and its performance in ensuring equitable distribution of public financial resources to different levels of governments.

Chapter Two: Literature Review

This chapter is about equalization transfers. The researcher shows the importance of intergovernmental transfers, in particular those aiming at equalization, for enabling decentralized countries to achieve their fiscal objectives. It is also shown how decentralized governments can use financial resources to address inefficiencies across sub national governments and to promote both social and economic development. In addition, it is pointed out various shortcomings that countries may encounter in trying to achieve the decentralization benefits through the use of intergovernmental fiscal transfers, in particular equalization grants.

In the economic literature, there are three rationales for equalization: equity, efficiency and stabilization. As far as equity is concerned, some national governments aim at ensuring that equals are treated equally nationwide. Depending on the national context and policy objectives, equality can take different forms (Bramley, 1990). For example, it can refer to equality of public expenditure or that of government services minus taxes paid. Sometimes, it refers to equality of final income, equality of the use of public services or equality of outcomes.

The efficiency rationale for equalization relates to people's mobility and to the behavior of recipient subnational governments. Normally, differences in government services minus taxes paid (i.e., net fiscal benefits, NFBs) provide incentives for mobile factors of production to migrate. Migration occurs from jurisdictions with higher fiscal pressure, that is, higher taxation and lower services, to those with lower fiscal pressure and higher net fiscal benefits (Oates, 1999). People's and firms' migration leads to a sub-optimal allocation of resources. Equalization programmes may help to correct these fiscally induced migrations and to enable recipient jurisdictions with lower NFBs to provide public services at lower tax rates.

The stabilization role of equalization relates to the insurance the programmes provide to jurisdictions in case of asymmetric financial shocks. Due to changes in tax bases, jurisdictions may have short term financial deficits. In the presence of equalization,

decreases in tax bases are compensated by rises in grants (Shah, 2007). Therefore, jurisdictions that are exposed to short term deficits in their own revenues are insured against risks by receiving compensating equalization transfers. This enables them to provide certain levels of services even during shortfalls in their own source revenues.

Equalization is often achieved by means of intergovernmental transfers. Therefore, in the next section, the researcher describes various roles and types of grants. This chapter is organized as follows. In section two the researcher starts with a discussion of the roles of intergovernmental transfers, followed by the rationale for equalization grants. In section three, the researcher provides a discussion of different types of intergovernmental transfers, with a focus on equalization. Then, in section four, the researcher turns to a discussion of various drawbacks of equalization that some countries face when implementing these types of programmes. Section five, the researcher reviews empirical researches regarding the equalization performance of fiscal transfer from various empirical researches.

2.1 The Rationale for Equalization Grants

2.1.1 Introduction: the Roles of Transfers

Most decentralized countries depend on transfers to finance the provision of local public services. For example, intergovernmental transfers finance about 60 percent of subnational expenditures in developing countries and about a third in OECD countries (Shah, 2007). The form of intergovernmental transfer that the country opts for is a good indicator of the level of decentralization that is being achieved.

There are various reasons which support the allocation of transfers to subnational governments. The first reason is that these transfers are used to address vertical fiscal imbalances (Shah, 2007). In many countries, national governments control major tax bases. This leaves insufficient resources for subnational governments to finance local services. Due to limited tax bases and low revenue autonomy, many subnational governments depend largely on grants from national governments to finance public goods provision within their area (Ibid).

The second reason is that intergovernmental transfers enable countries to achieve their national objective. Some countries set nationwide standards for the provision of essential public services across jurisdictions. In most cases, national governments are interested in achieving minimum standard levels across the country for those services that are of crucial importance for national development. Locally provided services such as health or education are of interest to national governments due to their importance and contribution to overall development. Therefore, transfers to subnational governments tend to be targeted at the provision of those services. National governments have to ensure that those services are provided according to nationwide set standards (Shah, 2007).

The third argument for intergovernmental transfers relates to their ability to address spillover effects across jurisdictions (Shah, 2007).Sometimes, jurisdictions may adopt policies that affect other jurisdictions. Such policies may lead public goods to have spillover effects or externalities across jurisdictions. Spillover effects may be positive or negative. For example, a positive spillover occurs when residents of a given jurisdiction use public services that are provided by other jurisdictions. The benefits to non-residents are usually not taken into account when costs of services are traded off against benefits. As a result, public services may not be provided up to the required standards. In order to address this problem, national governments may intervene through grants that are equal to the benefits to nonresidents (Oates, 1999). For example, road construction benefits both residents and non-residents of a given jurisdiction. As a result, the providing jurisdiction incurs the costs of road construction and maintenance, but the benefits that arise from the road usage are also enjoyed by non-residents. If the providing jurisdiction will not at least partly recover the costs incurred, this situation may create a disincentive for such a jurisdiction to invest in services that are also enjoyed by non-residents.

The fourth reason for intergovernmental transfers is to address horizontal fiscal imbalance (Shah, 2007). In a decentralized setting, jurisdictions vary in terms of resources and income available at the local level. These variations translate into differences in the jurisdictions' tax bases and in their ability to raise revenues. The

demand for public services and the costs to produce those services also differ across jurisdictions (Shah, 2007). These differences require national governments' intervention in the form of financial resources to compensate subnational governments with weaker revenue raising ability and/ or higher demand for public services. In other words, transfers are important to fill the gap between the jurisdictions' need for public services and their ability to raise their own source revenues, in order to finance those demands. Equalization grants can achieve this objective.

2.1.2 The Rationale for Equalization

There are three rationales for equalization grants: equity, efficiency and stabilization. Equalization schemes, if well designed, help national governments to achieve horizontal equity across sub national governments. These schemes are also advocated because of their ability to reduce inefficiencies caused by fiscally induced migration and to ensure locational neutrality of factors of production. In addition, they are used as a stabilization tool in case subnational governments face unexpected financial shocks. In the following sub-subsections, we discuss the equity and efficiency rationale for equalization programmes.

Equity

Many nations aim at achieving horizontal equity, that is, equal treatment of equals by the public sector throughout the country. However, the question remains what exactly should be equalised across jurisdictions. Le Grand (1982) lists five types of equality. The first type refers to equality of public expenditure, according to which every school child, for example, has the right to the same amount of government spending on his or her education. Notably, adults without children do not benefit from these types of transfers. A second equality concept is Buchanan's (1982), fiscal residuum, or net fiscal benefit: the benefit of government services minus taxes paid. If the net fiscal benefit is equalized, no income redistribution takes place. Everyone receives as many services from the government as he pays for. Equals are treated equally, irrespective of the jurisdiction where they reside.

On the opposite side of the political spectrum is the desire for equality of final income. In this view, public spending on services should be allocated in such a way as to benefit the

poor, so that differences in final income (private money income plus the net value of taxes, subsidies and public services received) are reduced. Income redistribution is the explicit goal here.

The fourth equality concept is equality of use, whereby the amounts of service used by all individuals are the same. This principle may, for example, apply to health care: equal treatment for equal needs.

A fifth objective is equality of cost: all individuals should incur the same private cost (money, time, etc.) per unit of that service used. This would imply that access to public services is equalized. Le Grand's last type of equality concerns outcome. Public expenditure should aim to promote equality in the outcome associated with a particular service. This could mean, for example, that individuals with the same intellectual capacities should attain the same level of education. However, in practice this is rather difficult to accomplish, because outcomes depend on many variables which the government cannot influence.

The application of horizontal equity nationwide involves a substantial value judgment (Broadway, 2004). Horizontal equity assumes that there is a consensus for social citizenship or solidarity to be applied on a national as opposed to regional levels. This implies that citizens are treated equally throughout the country. In a unitary state, nationwide horizontal equity may be taken for granted, but in a federation this is not so obvious.

To achieve horizontal equity, jurisdictions must apply resources to the standards that are set for nationwide redistribution. However, this notion seems to conflict with the principles of federalism, whereby different preferences for redistribution might apply in different jurisdictions. For this reason, Boadway suggests that countries should choose equalization transfers that enable jurisdictions to meet national standards. However, such programmes, according to Boadway, should not compel jurisdictions to do so. Jurisdictions should enact their own standards that suit their preferences or the consensus

of their constituents. Nevertheless, his suggestion is controversial because it requires a high degree of nationwide solidarity between poor and rich jurisdictions, which might not be attainable in a country with heterogeneous jurisdictions (Ibid).

Furthermore, horizontal equity assumes that persons who are equally well-off before enforcement of the government policy should be equally well-off after it. In other words, equals should be treated equally. To achieve this equity goal, Boadway, points out some problems that may be encountered. For example, it is problematic to assume that persons are equally well-off when their circumstances are different as a result of preferences, their needs and their family status. To avoid these problems, equalization assumes that persons have the same utility function. Therefore, there is no need for utility differentiation. What is important is that persons should be treated equally, regardless of where they reside. However, it is important to define the form of equity objective the government wants to achieve before the design of any form of equalization programme (Broadway, 2004).

It should be noted that, in order to achieve equity objectives, differences in both expenditure needs and in the jurisdictions' revenue raising abilities should be measured. Such differences should be fully or at least partly compensated by means of equalization transfers. One possible equity concept on which equalization can be based is to enable subnational governments to provide the national average level of public spending across all jurisdictions at standard tax rates.

Efficiency

Equalization is also important because of its ability to promote efficiency across subnational governments. As a result of decentralization, the benefits of government services minus tax paid (Net Fiscal Benefits, NFB) differ across subnational governments. These differences result in variations in fiscal pressure, that is, higher taxes and lower services across jurisdictions. Such variations might cause individuals and businesses to migrate from jurisdictions with lower to those with higher NFBs, because owners of factors of production normally migrate in the process of maximizing their total returns, including NFBs (Buchanan, 1950). Resources, including labor, normally respond to economic rewards determined by the market and to the fiscal balance. Migration

proceeds until a new equilibrium (not necessarily a desirable one) is attained. This equilibrium is the one that involves the larger population in jurisdictions with higher NFBs. Migration inefficiency should be corrected by specific public policy initiatives. In the presence of a well designed equalization programme, jurisdictions with lower NFBs are compensated by grants. Therefore, equalization transfers may reduce the fiscal pressure and allow for a better provision of public services or lower taxes in poor jurisdictions with a large emigration potential.

When the NFBs are equalized across jurisdictions, there will be locational neutrality of the mobile factors of production. In this case, the whole fiscal structure becomes geographically neutral and the efficiency benefits of decentralization may be achieved. However, to this end, it is important that only fiscal capacity and spending needs arising from demographic characteristics are equalized, not spending needs arising from regional differences in the costs of producing public services. Cost differences are, from an efficiency point of view, legitimate reasons for migration. Equalization of cost differences leads to an inefficiently high population in areas with high cost (Oakland, 1994). However, whether equalization improves efficiency is uncertain. It heavily depends on the specific programme that is evaluated and on the country's situation.

2.2 Types of Intergovernmental Transfers

There are two types of transfers to sub-national governments: conditional and unconditional ones. Depending on the national context, conditional grants are also known as specific purpose grants, sectoral, categorical or earmarked grants. Unconditional grants, on the other hand, are also known as untied or general purpose grants. In the following two subsections, the researcher provides a discussion on these types of transfers. Then, we discuss different forms equalization grants can take.

2.2.1 Conditional Grants

As a rule, conditional grants are used for specific purposes. Usually, these grants aim at financing services in earmarked sectors such as health or education. They are typically the key elements of most intergovernmental fiscal transfer systems (Searle and Martinez-Vazquez, 2007). Like other grants, conditional grants are usually mandated by law. In

some cases, they may be allocated on an ad hoc basis, or sometimes the allocations may be discretional. Conditional grants may define precisely the type of expenditure to be financed and require subnational governments to attain a certain level in service delivery. Conditional grants may also be less specific. Block grants are also considered as conditional grants that are targeted towards a more broadly defined policy area, like health or education. Conditional grants may be matching or non-matching. In turn, matching grants can be either open-ended or closed-ended (Shah, 2007).

In the case of open-ended matching grants, for a unit of money provided by the national government, local governments should also spend a certain sum on the provision of targeted services. For these types of grants, the amounts allocated to local governments depend on their spending behavior. The more jurisdictions spend on the provision of local services, the more money they receive from the national government. These types of grants stimulate local spending in the specified sectors, because when they spend more money on public services, local governments receive more grants from national governments (Searle and Martinez-Vazquez, 2007). However, local governments with enough resources are more easily capable of meeting the matching requirements and therefore attract more grants from national governments. As a result, jurisdictions with relatively few resources may be unable to attract sufficient funds from national governments, simply because they cannot meet the matching requirements (Shah, 2007). Sometimes, these types of grants create incentives for local governments to expand their tax bases and to spend more on the provision of public services by using their own source revenues (Ibid). For the closed-ended matching grants, national governments usually fix the maximum amount to be spent on grants in any of the given sectors, for instance, health or education. With these types of grants, national governments normally aim at controlling the budget.

Non-matching grants are lump sum grants which do not depend on local spending. Local governments in these cases are not required to match the contribution of national governments. The non-matching grants are preferred to fund services which national governments consider particularly important. As a result, the national government fully

funds that particular service and ensures that the allocated grants are spent on intended and specified purposes. For all types of conditional grants (i.e. open-ended, closed-ended and non matching grants), it is the national government that determines how financial resources should be spent (Boadway and Shah, 2007). As a result, these grants interfere with local spending patterns and priorities. These types of grants are often preferred by national governments, however, because they create incentives for funding priority areas, such as education and health. In this way, conditional grants provide sufficient resources to jurisdictions, so as to enable them to attain certain levels in service provision. However, national governments sacrifice part of the local governments' satisfaction by ensuring that the amount of money granted is not diverted from the purpose for which it was intended. Usually, this is achieved at the expense of interfering with local priorities among the existing alternatives. This means that local governments are limited in their choice of the types and levels of services to be provided.

2.2.2 Unconditional Grants

The second type of intergovernmental transfers consists of unconditional grants. These grants pose no restrictions to subnational governments on how resources must be spent. Unconditional grants may be spent according to priorities set by subnational governments. An important goal of decentralization is the tailoring of local services to local preferences, and this is what unconditional grants aim to achieve. They improve welfare over uniform spending levels (Oates, 1999). This can only work effectively if subnational governments have spending autonomy. Unconditional grants also enable national governments to correct both vertical and horizontal fiscal imbalances in the system of intergovernmental fiscal relations (Searle and Martinez-Vasquez, 2007). In many cases, unconditional grants are equalizing in nature. They aim at offsetting differences in the revenue raising abilities of subnational governments, and in their need for public services.

However, the distinction between conditional and unconditional grants is sometimes not very clear. For example, some conditional grants must be used for very specific expenditures. However, there are also conditional grants which can be used to finance different activities within a broad spending area (block grants). Unconditional grants can

be spent freely, but subnational governments are compelled to provide certain services (Boadway and Shah, 2007). Thus, these services are partly financed through unconditional grants. Despite their distributional role, unconditional transfers may induce subnational governments to underutilize their tax bases. We will discuss the adverse incentive effects of equalization grants in subsection of this chapter below. First, we provide a general explanation of the concept of equalization grants and of the different types that can be distinguished.

2.3.3 Equalization Grants

Equalization grants can either be block grants or unconditional grants allocated to subnational governments. Additionally, both types of equalization grants can take two forms: gross schemes or net schemes (Shah, 2007). A gross scheme involves transfers to sub national governments financed from central tax revenues (vertical). Countries such as Canada, Australia, the UK, Japan and Korea use this form of equalization. A net scheme involves self financing; an example of a using this type of scheme is Germany, where more affluent subnational governments distribute resources to those that are less well-off (Boadway and Shah, 2007). Whatever form they may take, equalization transfers aim at providing sufficient resources to subnational governments, in order to enable them to provide similar public services at similar tax rates. What is important in any of the equalization programmes is to ensure that these grants provide the intended and desirable fiscal outcomes.

In order to achieve these desirable fiscal outcomes, countries use different types of equalization programmes. Their effectiveness, comprehensiveness and implication for distribution, efficiency and stabilization also vary across countries (Boadway and Shah, 2007). Some forms of equalization programmes are more efficient than others. The variation in equalization programmes across countries can also be explained by differences in data availability, in the level of disparities existing among subnational governments and in countries' policies. The choice of a suitable equalization programme depends on what the country intends to achieve, the level of decentralization and on local circumstances (Shah, 2007).

In some countries, national governments equalize only fiscal capacity across subnational governments (Shah, 2007). Fiscal capacity equalization implies that the share of transfers to the local government is inversely proportional to its tax base. In this case, local governments with higher revenue raising capacities receive comparatively fewer grants. The explicit goal here is to enable local governments nationwide to attain similar levels of resource availability. Normally, these types of transfers are suitable for countries where jurisdictions have adequate sources of revenues of their own, and financial autonomy. Spending needs should not differ much across jurisdictions. The implementation of fiscal capacity equalization programmes requires accurate measurements of the jurisdiction's ability to raise revenue. Canada is an example of a country that uses this form of equalization (Boadway and Shah, 2007).

Apart from fiscal capacity equalization, some countries allocate resources to subnational governments according to their needs or demands for public services (Shah, 2007). This type of equalization is referred to as expenditure need equalization. With these types of transfers, jurisdictions are compensated for their differences in needs or demands for public services. The explicit goal here is to enable jurisdictions nationwide to attain similar levels of service affordability. Spending needs differ across jurisdictions. Therefore, implementing only this type of equalization may be useful when there are no substantial variations in jurisdictions' fiscal capacities. Spending needs equalization programmes are also useful in cases where jurisdictions have less tax-raising autonomy. These types of programmes are more common in less developed and transitional economies. For example, countries such as India, Nigeria, South Africa and Uganda use these types of equalization programmes (Boex and Martinez-Vazquez, 2007).

Devising a system of needs-based equalization can be complicated. These transfers are based on the cost of providing services to various types of demographic groups. Needs or demands for public services can be based on statistical estimations, such as in Australia, or on more ad hoc measures of costs, for instance in South Africa (Shah, 2007). Sometimes, equalization formulas are also complicated. The complexity involved in the formulation of equalization programmes may make the whole transfer system less

transparent and it may be subjected to criticism and manipulation. Simple equalization formulas are also useful because they can easily be understood by the public and hence they enhance transparency in resource allocation (Boadway, 2003). What matters is the extent to which these formulas are capable of achieving policy objectives.

Another type of equalization is aimed at narrowing the need-capacity gap. A jurisdiction's need–capacity gap is defined as the difference between its expenditure needs and its ability to raise revenues, both measured in per capita terms (Ladd and Yinger, 1994). In some countries, jurisdictions are compensated for the differences between their revenue raising abilities and their needs or demand for public services (i.e., need-capacity gaps). For this form of equalization, the explicit goal is to ease the burden of providing the standard quality of public services at standard tax rates. The term 'standard' is a policy parameter that must be set by policymakers. The importance of these types of transfers is that they fully or partly compensate jurisdictions for differences in their revenue raising abilities, and also for differences in their demand for public services.

The extent to which the need-capacity gaps for jurisdictions are closed depends upon the programme itself and upon the funds available for distribution. If it is only part of the gap that is to be closed, then transfers may be targeted towards subnational governments with negative need-capacity gaps. Thus, equalization enables those subnational governments to fully or partly move to a certain level in the provision of standard public services by using standard tax rates. Need-capacity equalization is widely used in different countries, for example Australia, China, Germany, Indonesia, Japan, Korea, Latvia, Russia, Uganda and the United Kingdom (Boex and Martinez-Vazquez, 2007).

2.4 Drawbacks of Equalization

Despite their usefulness in the fields of equity, efficiency and stabilization, equalisation schemes have also been criticized. Some criticism may be country specific, or may heavily depend on complexities associated with a specific equalization programme (Smart, 2002; Boadway and Hayashi, 2004). As mentioned previously, the effectiveness of equalisation programmes also differs across countries. In some countries, the inclusion

of many tax bases makes the grant allocation formulas complex, less transparent and amenable to manipulation. In other countries, equalization formulas are simple, but less capable of achieving the desired outcomes, because of the incentive effects these programmes impose on subnational governments. Equalization grants are also bound to be affected by political factors in some countries. We therefore discuss the drawbacks of equalization in the subsequent subsections.

2.4.1 Politics

Equalization theories assume that governments at all levels are basically benevolent. In practice, however, intergovernmental transfers are bound to be influenced, among other determinants, by political factors. The literature on grant determinants suggests that transfers to subnational governments are determined by equity and by efficiency considerations. In addition, there is also abundant economic literature suggesting that electoral mechanisms influence the way financial resources are in fact allocated to subnational governments. Political factors such as participation, party support, lobbying activities and jurisdictions' size may in some cases affect the way financial resources are allocated to subnational governments (Boex, 2003).

Even in the presence of equalization programmes, politicians are sometimes capable of directing funds towards jurisdictions where there are political advantages (Shah, 2007). In these cases, politicians normally use both direct and indirect spending (e.g. loans, guarantees or bail-outs) and allocate financial resources in such a way that they maximize the possibility of being re-elected. This might occur even in the presence of formula-based grant systems. Manipulation of equalization formulas to gain political advantage is common in some countries.

Thus, resources may be inequitably allocated to subnational governments, due to political interventions. However, if independent institutions are mandated to design the grant allocation formulas, free of political intervention, then this problem can, to some extent, be reduced (Shah, 2007). It is important to note that, for successful decentralization outcomes, countries should design political institutions that are capable of equalizing representation and participation in the political processes across jurisdictions.

2.4.2 Efficiency

As has already been discussed in previous sub-sections, equalization schemes may improve efficiency by assuring locational neutrality of public policy, thereby removing incentives for mobile factors of production to migrate for fiscal reasons. However, in some cases there are trade-offs between equalization and efficiency in public finances and economic growth. If there is poor administration of finances in jurisdictions with low income, equalization reduces efficiency in public finances. It is often found that rural jurisdictions are characterized by poor governance and administrative capabilities, especially in less developed countries (Boex, 2004). As a result, jurisdictions would be unable to identify suitable utilization of the additional financial resources resulting from the introduction of equalization formulas. Consequently, equalization might result in a decline in local government services, because it implies that resources are taken from local governments that are capable of efficiently transforming financial resources into public services, and transferred to those which are less capable of doing so (Shah, 2007). However, it is not expected that poor governance and administrative capabilities in jurisdictions with low income are permanent problems. For example, if countries introduce capacity building programmes for jurisdictions, these problems are likely to be reduced with the passage of time. Then, the country may gradually experience the overall efficiency benefits of equalization programmes.

A more fundamental problem is raised by, for example, Oakland, who argues that equalization programmes result in an inefficiently high number of people that migrate to high-cost compared to low cost areas. This will happen when cost differences, as opposed to demographic differences, are equalized. Therefore, equalization programmes in some cases result in an inefficient allocation of factors of production (Oakland, 1994).

2.4.3 Adverse Incentives

Apart from the other drawbacks of equalization, these programmes may also lead to adverse incentives for subnational governments. For example, they may induce subnational governments to change the way they tax economic activities and foster economic developments (e.g. see Dahlby and Warren, 2003). If these incentives are significant, some kind of compromise on equalization might be contemplated. In the

following sub-subsections, we will discuss specific types of incentives for jurisdictions in the presence of equalization programmes.

Base tax-back

A widely known incentive effect for equalization is base tax-back. This type of incentive occurs when the size of equalization entitlements is proportional to the size of the tax bases that are available for subnational jurisdictions (Shah, 2007). Tax bases may include income, payrolls, consumption, and capital and resources production. Other tax bases may be specific commodities or items that form part of the revenue for jurisdictions. Thus, reductions in any of these tax bases increase equalization entitlements; the extent of this increase depends upon the programme being used. In other words, when the jurisdiction's tax base increases, the tax revenue increases as well, but this increased revenue is then taxed back through the fall in equalization entitlements (Shah, 2007).

In countries where jurisdictions can influence the size of their tax bases, it is likely that they will do so, in order to attract more grants. Two different methods can be used towards that end. First, jurisdictions can reduce their tax bases. If these tax bases are fairly elastic, jurisdictions might be induced to set tax rates too high, because the decline in the tax bases is offset by an increase in equalization grants. A second method exists when jurisdictions are capable of directly regulating the size of their tax bases. Boadway, for example, shows that this is possible, especially in resource sectors, if regions can control the rate of resource development or in the case of gaming, where legality is at stake.

Rate tax-back

Rate tax-back may occur when the average tax rate is applied for equalization purposes. If the jurisdiction's tax rates can influence the average national tax rate, this might provide a disincentive for jurisdictions to increase their tax rates. The disincentive to increase tax rates occurs when the jurisdiction's equalization entitlement from that base is negative and vice versa. For example, when the Representative Tax System formula is used for equalization, differences in revenue-raising ability are equalized by the application of a representative tax rate. Normally, this is the average tax rate.

Equalization enables jurisdictions to raise the same amount of revenues by applying a representative tax rate to their tax bases. Consequently, equalization can provide disincentives for jurisdictions where a large part of the tax base is located to increase their tax rates because this would lower their grant revenue.

However, in countries where the size of jurisdiction is small this type of incentive might not pose a problem for most tax bases, because each jurisdiction is relatively small compared to the nation as a whole. Therefore, it is most unlikely that its base will affect the national average tax rate, and if it does, the effect will only be small. However, in countries with jurisdictions that have unevenly distributed tax bases (e.g. because of natural resources), any change in the tax bases might influence the average tax rate and hence the equalization entitlements. To remedy this problem, Boadway suggests the possibility of blunting the disincentive effects by reducing the extent of equalization on such bases (Boadway, 2004). However, this would also reduce the effectiveness of the equalization programme as a whole.

Need Incentives

Need incentives for equalization normally occur when spending needs are equalized. Sometimes, spending needs are determined by means of the actual expenditure data, for instance, by regression analysis this means that an increase in the jurisdiction's expenditures may give rise to future transfer entitlements. For this reason, some jurisdictions might have incentives to change their spending policies in such a way that they can attract more grants.

A second problem may arise because, in many equalization programmes, factors such as the number of 'clients' for a given public service determine the amount of equalization grants for jurisdictions. The higher the number of clients, the higher the amount of grants to those jurisdictions will be and vice versa. Therefore, this type of incentive occurs when jurisdictions are capable of controlling the variables that reflect the beneficiaries of services. If variables like the number of school-aged children and the elderly population are used, this will not be the case. But if, for example, the number of unemployed or the

number of poor households is included in the equalization formula, local governments will have a disincentive to combat unemployment or poverty. However, in most equalization programmes, factors that are included in the allocation formulas are specifically designed to be outside the control of local officials (Shah, 2007). If this problem occurs, it can be solved by avoiding frequent updates of the allocation formulas. In this case, even if jurisdictions increase spending on a particular service or sector it will take longer to influence the equalization entitlements. This is only relevant when jurisdictions are big enough to influence regression outcomes.

2.5 Criteria for Designing and Evaluating Intergovernmental Transfer System

According to theories of fiscal federalism in general and intergovernmental fiscal transfer in particular, the design of intergovernmental fiscal transfer should follow some predetermined criteria's in order to be effective. There is a clear consensus among policy experts that the design of sound inter governmental grant scheme involves adherence to a number of "universal" principles of transfer design (Shah and Qureshi, 1994: Ahmad; 1997: Mortrez-Vazquz and Boex, 2001). These Universal Principles provide a useful checklist or scorecard to assess whether the individual transfer mechanisms that comprise the transfer system are soundly designed. That means this principles can be used as a measuring and evaluation of once transfer system design as well as implementation. Even though there are slight variations between the principles forth by various authors, the principles typically include: Providing revenue adequacy, preserving budget autonomy, assuring stability, assuring simplicity and transparency, avoiding sudden large changes in allocation patterns and other.

According to Shah (1994) intergovernmental transfer system design should be meet at least seven basic criteria as shown in the table (2 below)

Table 2: criteria for designing and evaluating intergovernmental transfer system

Criteria	Definition
Autonomy	Local governments should have adequate revenues, including the incentive and capacity to generate own source revenues in order to finance service provision.
Equality	Transfers should vary directly with fiscal needs and inversely with taxation capacity of each subnational government
Predictability	Transfers should be predictable in the medium term 3-5 years
Simplicity	Transfers should be formula driven and the formula must be simple, easily understood and public.
Incentives	The transfers should provide incentives for sound fiscal management and discourage/prevent inefficient and corrupt practices.
Meet objectives	Grant design should permit meeting basic objectives of the grantor

Source: Shah, 1994

These principles will tell about weather transfer design is soundly designed or not. But this does not mean that the system should have to fulfill all the criteria fully, rather at least more than half percent so that it will accomplish the targeted goal of the system. In some cases the criteria's conflict each other so that it needs to tailor the criteria's to different circumstances in different countries.

2.6 Empirical Evidence: Equalization Effects of Transfer

There are plenty of empirical studies regarding the equalization effect of fiscal transfer in different countries. These empirical studies have undertaken using different methodology and provided contrasting evidence in different countries.

In China, Some past literature has described and analyzed these questions using provincial level data. Zeng (2000) compared inequality indices (such as the Gini coefficient and coefficient of variation) of per capita fiscal income and expenditure before and after fiscal transfers from 1994 to 1997 at provincial level. He found that indices have risen remarkably after the fiscal transfers, so he concluded that fiscal transfers lacked equalization effects. Also based on provincial data from 1988 to 1999,

Liu and Jiao also (2002) compared the Gini coefficient and coefficient of variation of per capita fiscal income across provinces, and then concluded that there are no obvious changes of disparities across regions after fiscal transfers. Liu (2006) used the coefficient of variation to analyze fiscal inequality from 1997 to 2003, and found an enlarging gap in the coefficient of variation before and after fiscal transfers. Cao and Qing (2006), as well compared the coefficient of variation of fiscal revenue and expenditure across regions from 1996 to 2003, which led to the conclusion that fiscal transfers narrow the fiscal gap across provinces.

Another research by Roy Bahl and Sally Wallace (2006), asked three research questions regarding the effects of grant; first they asked, the equalization effects of federal or national government grant in US, China and Russia , Secondly they asked the equalization effects and extents of provincial or state governments fiscal transfer as compared with the federal government in the above three countries and the last question was to analyze the uniformities of equalization polices of provincial or state governments within the same countries. Regarding the first question they found the effects of the federal grant on provincial fiscal disparity outcomes in all the three countries were equalizing. The cross sections own source revenue income elasticity is greater than the expenditure elasticity in all three countries. Their finding to the second research question provided supportive evidence about the reinforcement of the federal equalization policy by the provincial governments. However, the actual equalization reinforcement intensity among the three countries provincial governments differs. Regarding the third question, that is, the actual difference between provincial governments policy towards fiscal equalization, they found in US and China a significant difference in the equalization policy and effects among provincial and state governments. However, they pointed out that, the actual sample that they have taken were not comprehensive to generalize about the actual outcomes of fiscal equalization at provincial level in the sample countries.

The other empirical research by Martinez-Vazques and Timofeev (2006), on regional local fiscal transfer in Russia could be used as a background for further analysis in other countries especially in the developing countries around the world. In this research they analyzed fiscal disparities between and within region in the Russian federation. Based on

their analysis they found, wide variation in per capita revenue among local governments from their own sources, this variation according to them driven from the within region inequality than the between inequality. They also found the within fiscal disparities among local governments showed a decline trend after the regional local fiscal transfer, which shows a significant equalization of the regional local fiscal transfer in Russia's regions.

In the research they found relatively lower fiscal equalization in regions where local governments raise and retained a significant portion of regional revenue. Hence, regions which have a centralized tax administration by the regional government had higher equalization outcome than regions with a decentralized tax assignments among local governments (Ibid).

Furthermore in regions where local governments were responsible for large amount of public expenditure, Martinez-Vazques and Timofeev found, the equalization extent was higher than those which did not. This is in relation to, in regions were significant public expenditure and service is delivered by the regional governments, the regions retain higher amount of region revenue for itself in contrast, in regions were local government undertake various public service delivery to its localities in an independent way, the mismatch between revenue and expenditure should be financed by the immediate higher level government.

In addition to the expenditure assignment political, factors like pro communist regions were undertaking higher equalization than those regions which were significantly departed from the pro communist political and economic objectives (Ibid). At last the research by Martinez-Vazques and Timofeev covered almost all local government and regions of Russia; it confirmed findings of Bhal and Wallace (2003).

Martinez and Boex (2005) reviewed different countries empirical studies regarding the equalization effects of fiscal transfer. In the review they showed that most of the empirical studies from different countries adopt the same variables to estimate the

relationship between per capita grant with expenditure need, revenue raising capacities, political factors and population. Countries included in their international comparison are Argentina, Australia, Brazil, Indonesia, Israel, Japan, Mexico, Nigeria, Russian Federation, Tanzania, Uganda and the United States. According to Martinez and Boex, the variables that were used to measure local expenditure need in different studies differ from country case to country case, but all studies include commonly used local expenditure need measures such as demographic variables (for instance, the size of the school aged population and the economically dependent population), population density or urbanization (with more rural areas typically presumed to have a higher level of local expenditure needs), poverty measure, as well as regional price variation. Despite the different types of proxies used for local expenditure needs across studies, the empirical literature broadly supports the normative notion that local governments with higher expenditure needs should receive larger transfer. They found that local expenditure needs generally have a positive impact on the level of intergovernmental grant received by local governments. Exception includes Nigeria where no relation was found between key expenditure needs measures and intergovernmental grants and Mexico, where higher levels of human development were associated with higher transfer levels.

Regarding revenue raising capacities, they also found that commonly used revenue raising capacity measure like gross regional product, household expenditure, and business profits. From the review they conclude that the impact of local revenue capacity on intergovernmental grant is generally positive. In most countries reviewed, wealthier local governments receive greater intergovernmental transfer, while poorer local governments receive smaller transfer, In fact a negative (equalizing) relationship between sub national fiscal capacity and intergovernmental grant levels is uncovered only in three cases (Argentina, Israel, and the Russian federation). In contrast, positive relationships between sub national revenue capacity and intergovernmental grants are found in 8 of the 9 remaining case studies (Including Brazil, Indonesia, Japan, Mexico, Nigeria, Tanzania, Uganda and the United States. According to Boex and Martinez, this suggest that in the majority of countries reviewed, either political considerations outweigh the impact of normative consideration of equalizing the fiscal capacity or the

allocation mechanisms is failing to perform as intended.

Vazquez and Boex, also reviewed the relationship between grant allocation and population based on various case studies in the aforementioned countries. They found impressive consistency between intergovernmental resource allocation and population. In every research they reviewed, population included as an independent variable, local government with larger population received fewer per capita transfer. In fact many formula based grant schemes are explicitly constructed to favor small local government by including an equal share component or fixed or lumpsum grant, so that local governments by construction receive the same amount regardless of their population size. Of course, in per capita terms this means that more populace local governments receive smaller per capita grant allocation. In the case of Nigeria where equal share accounts for 40 percent of the allocation formula, population is the singles most dominant factor in determining variation in per capita intergovernmental grants.

Chapter Three: Methodology and Design of the Study

Evaluating the equalization performance of any fiscal transfer system at any level requires identifying and thoroughly understanding the assignment of expenditure and revenue assignment of different tiers of government at the particular government level. Since how to settle the fiscal imbalance of different level of governments comes after real mismatch between expenditure and revenue assignment observed in any fiscally decentralized country. In some cases, fiscal transfer may be influenced by political ambition and motives and it might not necessarily follow the normative principle of fiscal transfer.

Given the above explanation, it is noteworthy to consider the expenditure and revenue assignment between the federal and regional, and also between regional and local governments in Oromia and SNNP regional states, before directly trying to study the equalization performance of the block grant. In doing so, the researcher will summarize and review different legal documents and researches in this respect.

Reviewing different research concerning decentralization in general and fiscal decentralization in particular at the national and sub national government level in this case will be a spring board to study the fiscal transfer from federal government to regions and from regions to local governments. Thus the researcher first will review theoretical and empirical researches related to the subject matter under study.

3.1 Research Strategy

The thesis aims to evaluate the equalization performance of the federal and SNNP and Oromia regional states block grant transfer in Ethiopia. In the process, first the scale of resource allocated and the mechanisms of block grant transfer that has been implemented at the federal level and in the two regions will be described and evaluated based on normative principles of fiscal transfer and in relation with the objective it sought to achieve. Finally the equalization performance of the block grant at both levels will be analyzed empirically based on data from the federal, regional and local government level.

3.2 Methods of Data Collection

3.2.1 Unit of Analysis

According to article (47) of the FDRE constitution Ethiopia has nine regional states and two city administration. Oromia and SNNP regional states are among the nine regional states. In this research with the federal block grant allocations the two regional state block grant allocations to its local governments have selected to conduct the study. There are various reasons why Oromia and SNNP regional states were selected:

- ✓ The two regional governments represent more than 50 % of the population in the country that live under different circumstances.
- ✓ Local government's zones and woredas in SNNPR is relatively autonomous than local government in Oromia regional states, this will enable the researcher to show the link between autonomy and fiscal transfer in the regions. Therefore, we have tried to observe Sidama zone fiscal transfer to woredas overall performance through the recent two years in which data available.
- ✓ Oromia regional state is relatively homogeneous while SNNP regional state is Heterogeneous in terms of language, culture and Autonomy of local governments.
- ✓ Both regional states have been implementing district level decentralization since 2002, thus it can be an easy case for comparison.
- ✓ The two regional states have various similarities and difference in their block grant allocation mechanisms to local governments, so that it will enable the researcher to analyze the existing data in various forms.
- ✓ Data regarding block grant allocation and different demographic and socio economic data of local governments is relatively available in these two regions than other regional states (WB, 2010).

3.2.2 Source of Data

The major sources of data for this research were both primary and secondary data sources. The primary data sources were key informants interview at the two regions. The major key informants were regional legislators, executives like regions Bureau of Finance and Economic Development official and experts who have been directly involved in the regional local fiscal transfer designing and implementation. In addition the Sidama Zone

Offices of Finance and Economic officials and experts have been interviewed to understand the operation of the block grant at the zonal level. Due to time and finance constraints the researcher only studied Sidama zonal block grant allocation to describe and evaluate the zonal to woreda block grant allocation.

The secondary source of data were, theoretical and empirical researches regarding evaluation, precondition ,instrument of fiscal transfer in general and equalization transfer in particular, federal and regional institutions financial accounts and reports, regional socio economic indicators, CSA surveys and census, MOFED closed accounts and budget reports, regional bureaus grant allocation formula documents, federal and regional constitution, proclamations and directives.

3.3 Methods of Data Analysis.

The block grant allocation mechanisms at the federal and regional level were evaluated based on normative principles of fiscal transfer and the objective it sought to achieve. Therefore in order to review the block grant allocation mechanism or formula, qualitative analysis based on several empirical, theoretical researches around the world and different official documents like proclamations, constitution and reports of regional states, and inputs from key informant interview have been used. On the other hand the equalization performance of the federal and regional block grant transfer was mainly analyzed by quantitative analysis using SPSS. In some cases the researcher has complemented the result and findings of the quantitative analysis with interview that have been undertaken with key informant at the regional and zonal level.

To empirically study the equalization performance of any fiscal transfer it requires several detailed information on revenue, expenditure, per capita personal income, GDP, population and other several socio economic and demographic information of various level of government in a given country. Given the non existence of some of the information at the national, regional and local level, in this research, the researcher have adopted pragmatic approach in order to use the available data to evaluate the equalization performance of the federal and regional local block grant in Ethiopia.

Since the major objective of this paper is to evaluate the performance of the federal and regional block grant transfer in equalizing expenditure need and fiscal capacities of regional and local governments, it is important to have expenditure needs and revenue capacities proxies which have the potential to reflect differences among regions or local governments in the regions. In this respect at the federal level population, per capita grant entitlement, per capita expenditure and own revenue, school age population, density, gross enrollment and other socio economic data of regions is collected and organized in a manner which is suitable for descriptive and inferential analysis. We have also collected and organized data from Oromia , SNNP and Sidama zone.

To evaluate the equalization performance of the federal block grant, the ten regional states population, per capita grant entitlement, population density, school age population proportion from the region total population, gross enrollment, own revenue as a percent of total regional expenditure data, number of agricultural land holders and number of peoples who have visited health institutions were collected between 2003/04 and 2009/10. This various expenditure need and fiscal capacities of regional governments were first analyzed using descriptive statistics, in order to show the performance of the federal block grant formula in achieving equalization among regional states.

The descriptive analyses were undertaken by evaluating the coefficient of variation in per capita fiscal resource available to regional governments before and after the federal block grant allocation. The coefficient of variation (CV) is one of the most widely used measures of regional inequality in the literature (Shah, 2008). The coefficient of variation is usually used as a measure of precision for the dispersion of data set and is also used to measure numerical distribution measured on different scales.This measure is standardized and can be used to make comparisons between countries and subnational governments over time. The per capita before and after block grant revenue variation is analyzed using the coefficient of variations. This measure the deviations' of the each regional states per capita own revenue from the mean per capita own revenue. These variations through time will reflect the extent or difference of revenue raising capacities of regional governments.

The per capita before block grant revenue refers to the per capita revenue raising capacities of regional or local governments in the region. Whereas, the per capita after block grant revenue is the summation of the per capita own revenue raising capacities and the per capita grant entitlements of regional or local governments. Hence, we intended to see the coefficient of variation trend through the period between the per capita before and after block grant revenue of regions/local governments.

In order to see, the per capita before grant revenue variation of revenue among regional states, the actual own revenue collection have adjusted for the regional tax efforts between 2003/04-2009/10 fiscal year. Therefore, we have divided the actual own revenue collection of regions with their respective tax effort. This was undertaken to see the real revenue raising disparities of regional governments, to avoid the possibility of wide per capita actual revenue disparities among regions due to the tax collection efforts of regions[1]. Due to this the per capita own revenue of regions with low tax effort will be higher, while region with tax effort above 1, the per capita own revenue raising capacity will be reduced. However since all regions have a tax effort below one, there will not be any reduction from the per capita actual own revenue collection (See HoF, 2009).

The per capita after block grant revenue coefficient of variation of regional states between 2003/04 and 2009/10 is used to evaluate the performance of Federal block grant in achieving equalization among regions. This per capita after grant coefficient of variation compared with each year per capita before block grant revenue coefficient of variation in order to examine the trend of the federal block grant in achieving fiscal equalization objectives.

We have also undertaken similar descriptive analysis for Oromia, SNNP and Sidama Zone block grant allocation. Oromia regional state currently allocates block grant to 301 woreda governments, from which 262 are rural and 39 are urban woredas (Oromia, 2010/11). The per capita before and after grant revenue coefficient of variation of all

[1] The tax effort index is adopted from HoF estimation of potential revenue of regional governments during the fiscal gap formula (2009/10).

woreda level governments between 2007/08-2010/11 EFY analyzed using descriptive statistics in order to see the equalization extent in reducing the disparity in per capita fiscal resource among woreda governments. Since data regarding potential revenue raising capacities of woreda governments is not available in Oromia we have forced to use the actual own revenue collection of woreda governments 2007/08-2010/11.

In SNNP the block grant has been allocated to zones and zones in turn allocate to woredas, SNNP currently allocates the block grant to 22 zones/Special woredas. The regional block grant, fiscal equalization performance has evaluated based on zonal data and we have taken Sidama zone as a case to evaluate the zonal block grant equalization performance[2]. The descriptive statistics evaluation of SNNP's block grant allocation is undertaken by using the per capita before and after grant revenue coefficient of variation of zonal/special woreda governments between 2007/08-2010/11 EFY. The per capita before block grant revenue is the per capita own revenue coefficient of variation among zones /special woredas. The after block grants coefficient of variation is the sum of per capita own revenue and per capita block grant entitlements of each zones. Furthermore in SNNP, the descriptive statistical analysis in the per capita variation of before and after grant revenue has been undertaken for Sidama zone block grant allocation to woredas for 2000/11 and 2011/12 fiscal year.

After analyzing the federal and the two regions block grant performance in achieving equalization using descriptive statistics, empirical model has been adopted on the basis of international studies to evaluate the equalization performance by including both revenue raising capacities and expenditure needs of regional and local governments (Bahl, 1999; Vasquez and Temoteeve, 2008; Boex, 2008).

To estimate the relationship between the per capita block grant allocation with major expenditure needs and revenue raising capacities of regions, ordinary least square (OLS) regression estimation is undertaken by pooling data between 2003/04-2009/10, 2006/07-2010/11 and 2010/11 and 2011/12 for the federal, SNNP and Sidama Zone respectively. This regression estimation intends to see the relationship between; the per capita grant

[2] I have briefly discussed, how the block grant allocation in SNNP operates in chapter Four of this papers.

with population, population density, own revenue, school age, gross education enrollment, total cultivated land and no of health center visits in regions and local governments. For Oromia regional state, since data regarding the above socio economic indicators of woreda governments are not available for successive years, we are unable to undertake pooled regression for oromia- woreda level block grant allocation. Therefore we only took 2009/10 fiscal year data in order to estimate the relationship between per capita grant with various socio economic indicators of woreda governments in Sidama zone.

The model specified as;

$$\mathbf{PCFALLOC= \beta_0 +\beta_1 P+\beta_2 PSGRr+\beta_3 PSORTE +\beta_4 D+SAPSRP+ \beta_5 NH+ \beta_6 HINV+U_i}$$

Where

PCFALLOC=per capita Federal Block Grant Allocation

P =population,

PSGRr= Primary and Secondary Education Gross enrollment

PSORTE=, % share of each region own revenue from each regional/woreda expenditure

D= Density

SAPSRP=school age population proportion from each region population

NH=Number of Agriculture land holders

HINV=Health institution number of visits

The above model is adopted to estimate the relationship between per capita block grant entitlements and the explanatory variables for the Federal, Oromia, SNNP and Sidama zone governments. We estimated the regression coefficient for these explanatory variables using different methods. First to look the overall relationship between per capita block grant allocation with expenditure need and revenue raising capacities all the explanatory variables where included and then we have undertaken stepwise regression estimate in order to the see importance of this variables in explaining the per capita block grant allocation among regional and local governments.

The researcher has adopted the aforementioned explanatory variables due to the fact that if the allocation of any fiscal transfer intends to create equal fiscal capacities of different levels of governments, the transfer allocation should consider expenditure need variation and revenue raising capacities of sub national governments. Therefore, estimation between the per capita block grant transfer with expenditure need and fiscal capacities of regions or local governments have enabled the researcher to analyze the extent of equalization at both federal and regional levels.

Expenditure need proxies were selected based on historical expenditure trend of regional governments. Historical expenditure trend of regional governments show that administration and general, education, health and agriculture sectors cover more than 80 % of regional expenditure. Due to this the selected variables, which are included in the regression estimation are mainly intended to reflect the expenditure needs of this sectors (see table 1).

Table 1: Share of regional expenditure sectors from total regional expenditure (2006/07-2009/10)

Expenditure sectors	**Share from total regional expenditure**
Administration and General	29
Education	35
Urban Development	3
Rural Road	3
Water	5
Health	12
Agriculture	12
environment	1
Small scale enterprises	1
Total	100

Source: HoF (2011/12)

Administration and general services are mainly related with providing security and overall administrative services in the regions, this expenditure need sectors easily captured by including the population and population density variables. Inclusion of population (P) in the regression enables to see whether scale economies were considered as a factor in allocation block grant resource among regional or local governments, with larger populations to receive lower per capita allocations. We included population density

in the model due to the fact that, density significantly affect the unit cost of providing services and hence we assume that those regions/local governments which have sparsely populated population will receive more in per capita terms and thus the population density should show a negative relationship with per capita grant entitlements of regions.

Education sector expenditure need of regions captured by the overall school age population and gross enrollment of regions the gross enrollment and school age population were specified in order to fully capture the performance of the block grant allocation in equalizing the recurrent and capital expenditure need of this sector, since equalization of educational expenditure need should consider the actual service provision and the gap in enrolling students from the school age population. Since primary and secondary education is the main expenditure responsibility of regional and local governments in Ethiopia, the school age population proportion from each region population (SAPSRP) and Primary and Secondary Education Gross enrollment (PSGRr) were included as an additional expenditure need indictor in the model. In addition, this expenditure sector covers almost 50 % of the regional expenditure, it is very essential to include variables which could explain the expenditure need fully. Thus if the system of block grant allocation is meant to equalize the expenditure need of regional governments, then needier regions or local governments should receive greater allocation.

The agriculture expenditure needs of regions also included in the model by considering no of agricultural land holders of regional governments throughout 2003/04 and 2009/10. The inclusion of number of agricultural land holders in the model intends to see whether agriculture sector expenditure need difference among regions/or local governments has positive relationship with percapita grant allocation. With an increase in the number of agricultural land holders, region/local governments should receive more block grant in per capita terms.

In order to include expenditure needs for health sectors, the researcher has included number of health center visits in regions in similar period. The number of health institution visits in each year also included to see the relationship between per capita grant and health sector expenditure need equalization. If the block grant allocation was supposed to equalize the health sector expenditure need, the relationship between number

of health institution visits and per capita block grant allocation would be positive. Therefore regions would have received more in per capita terms with a thousand increases in health institution visits.

Next, regional and local governments fiscal capacity approximated based on actual revenue collection of regional governments. This potential own revenue of regions and local governments as a proportion of total regional expenditure (PSORTE) is included in the model[3]. Thus if the block grant allocation is equalizing, more specifically if the federal block grant allocation intends to equalize fiscal capacity of regional governments; then we should find an inverse (negative) relationship between per capita federal block grant allocation and the proportion of own revenue from the total each regional expenditure.

In addition in this paper it is assumed that the woreda and zonal governments expenditure trend follows similar expenditure pattern like that of regions and we have considered similar expenditure need proxies to estimate the regional local block grant transfer equalization effect.

This method has adopted by many empirical researchers in different countries and it is believed that the equalization performance of any transfer should follow such type of approach in order to analyze the relationship between per capita grant allocations and various expenditure need, revenue raising capacities and political factors (Boex and Vasequez, 2006). However due to inconsistency of data such kind of estimation of the equalization performance of fiscal transfer in many developing countries has been questioned by many researchers. It is also observed that, the data inconsistency in this research and in some cases it restricts the researcher to compare the results between the two regions and the federal government block grant allocation. Nevertheless, the researcher has used the available data to its maximum potential in order to analyze the block grant equalization performance.

[3] For the federal block grant regression estimates, the regions actual tax collection were adjusted for regional tax effort as estimated on HOF (2009) block grant allocation. However the woredas and zones revenue capacities were approximated using actual tax collection. This is due to the fact potential revenue raising capacity proxies are not available at woreda and zonal level in both Oromia and SNNPR.

CHAPTER FOUR: REVIEW OF BLOCK GRANT TRANSFER IN ETHIOPIA

Evaluation of any fiscal transfer system requires understanding the rationale, legal framework, institutional arrangement, the allocation mechanisms and the resource pool growth available for a particular transfer. Therefore, in this chapter the researcher provides a review of the rationale, legal and institutional arrangement, and the block grant allocation criteria as well as the overall growth of the resource pool allocated for block grant allocation in Ethiopia.

This chapter is organized as follows. In section one of this chapter, the legal, institutional and legal framework of the federal-regional block grant transfer is discussed. In section two, it is shown that how the federal block grant allocation mechanism/formula has been evolved through its implementation period by outlining each formulas shortcoming in addressing its objective. In section, three the researcher discusses, institutional and legal framework of the regional-local block grant transfer in Oromia and SNNP regions. In section four we discuss the allocation mechanisms/formulas that have been implemented in the regions by outlining the shortcoming that each formula suffered in conceptual and technical terms. Finally the researcher observes and analyzes the growth of resource pool that has been budgeted for Federal, Oromia, and SNNP regions block grant transfer throughout different periods.

4.1 The Legal Framework and Institutional Arrangement of the Federal- Regional Block Grant in Ethiopia

According to the FDRE constitution every citizen has the right to equal access to publically provided basic public services irrespective of the place of his/her residence. To this end the constitution maintains that the responsibility of the government to distribute government financial and other resources in a fair and equitable manner among the different levels of government. The federal constitution explicitly states two level of government i.e. the federal and the regional governments. In addition, the constitution stipulates the right of citizens to participate and decide their own issues and it also maintains the responsibility of the regional government to establish appropriate level of government in order to enable citizens to participate and decide their own affairs.

The constitution stipulates the function and responsibilities of the federal and regional governments. Responsibilities related to the overall national affairs, and those with a spillover nature assigned to the federal government. Accordingly defense, money printing, overall socio economic policies and strategies, national standards and basic policy criteria for public health and education, foreign policy, inter-State and foreign commerce are assigned to the federal government. To the regional states the constitution assigned responsibilities related to formulation of social and economic policies under its own jurisdiction (FDRE Constitution, Article 52). Based on this we can simply argue that, most of the expenditure assignment related to basic public service delivery like provision of education, health, security and administration are the responsibilities of the regional governments. And the current practice of service provision follows the above explanation in the nine regional states and in the two city administrations (Addis Ababa and Dire Dawa). The constitution also maintains the responsibility of the federal and the regional governments to bear the financial expenditure of their reasonability by themselves unless it is delegated by one of the governments. Thus on article 95 of the constitution it states;

"The Federal Government and the States shall respectively bear all financial expenditures necessary to carry out all responsibilities and functions assigned to them by law. Unless otherwise agreed upon, the financial expenditures required for the carrying out of any delegated function by a State shall be borne by the delegating party. "

Given the above assignment of expenditure assignment among federal and regional governments and the responsibilities of these levels of government to bear their own expenditure, the FDRE constitution recognized the need to assign the various revenue sources among the federal and regional governments in order to enable the regions to finance their expenditure responsibilities effectively. Thus, the constitution stipulates four types of taxation power i.e., federal, regional, concurrent and undesignated power of taxation. Major tax related to custom duties of import and export, income tax from federal employees, income, profit, sales and excise taxes on enterprises and houses

owned by the Federal Government are assigned to the federal government. Taxes related to income taxes on employees of the State and of private enterprises, land use fee from agriculture, agricultural income tax from private farmers, income from private houses, profit and sales taxes on individual traders and business owned by the regional states assigned to the regional states. Profit, sales, excise and personal income taxes on enterprises jointly established by the federal and regional government, profits of companies and on dividends due to shareholders and incomes derived from large-scale mining and all petroleum and gas operations, and royalties are stipulated as a concurrent taxation power of the federal and regional governments.

In addition to the above assignment of expenditure responsibility and revenue power, the constitution stipulates the power of the federal government to provide budget subsidy to the regional states. On article 94 of the constitution it states "The Federal Government may grant to States emergency, rehabilitation and development assistance and loans, due care being taken that such assistance and loans do not hinder the proportionate development of States. The Federal Government shall have the power to audit and inspect the proportionate development of States". This seems the federal government is not obliged to provide budget subsidy or grant to the regional governments and only the federal government gives grant by its own consent irrespective of regions interests. However on article 89(4) of the constitution, it strictly stipulates the responsibility of the government to provide special assistance to Nations, Nationalities, and Peoples least advantaged in economic and social development.

In terms of allocation of the budget subsidy, henceforth called as grant, the constitution clearly stipulates the institution which determines the allocation of the federal grant among regional governments. On article 62 (7), the constitution it is proclaimed that, the House of Federation has the responsibility to determine the formula for the budget subsidy which is going to be distributed among regional governments. The article states that "The House of Federation shall determine the division of revenues derived from joint Federal and State tax sources and the subsidies that the Federal Government may provide to the States". This article, not only considers the allocation of grant but also the

allocation of the concurrent power of taxation which listed in the above as the revenue power of the federal and regional governments. However the constitution does not clearly stipulate which institution is going to determine the resource pool for the block grant distribution. Nevertheless, the actual pool for determination undergoes various processes with the annual budget preparation between the executives and the House of People's Representatives[4]. Thus the resource pool determination for regional grant allocation is more of political process unlike objective or predetermined determination in the constitution of some federal or unitary countries.

The vertical imbalance between the federal and regional government is largely determined by the assignment of expenditure and revenue assignment. In this regard many researchers argue that in relation to the assignment of major or buoyant source of taxation power to the federal government, the existence of vertical imbalance is an observable fact of life. Accordingly these researchers boldly argue that the responsibility of the federal government to decentralize its financial resources to the lower level of government in terms of tax sharing, reassignment of revenue power or through annual increment of the federal block grant, which has been takes place at the federal level (Getachew, 2011).

Since the resource pool determination for the block grant has been practiced and performed by the House of People representative, the issue of dealing with vertical imbalance in Ethiopia mainly influenced by the annual budget approval of the federal government. Thus once the resource pool is determined the House of Federation role is to allocate the grant horizontally among regional governments[5].

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[4] I have been working at the House of Federation Secretariat since 2008, in the department which is concerned with the preparation of Federal Regional block grant transfer formula, and my analysis regarding the federal block grant is based on practical experience that I have gained throughout this period. I have also used various secondary data to support my argument.

[5] In most countries the institution which is concerned with allocation of grant among sub national governments mainly distribute grant based on equalization principles. In this case the institutions are mainly concerned with the horizontal distribution of financial resources. The vertical allocation of resources mainly determined by the annual budget allocation which might be based on ad hoc decision or expenditure needs indictors. In some cases the vertical allocation pre determined by different laws and acts, it is not influenced by the political budget decision or technical issues of budget preparation. For instance in Australia the goods and service tax, 2/3 proportion is determined to be allocated among state governments

Based on the above constitutional mandate, the House of Federation has been determining and deciding the type of formula used for block grant allocation at the federal level in Ethiopia. Even though the constitution does not stipulate the type of grant to be allocated by the formula prepared and decided by HoF, however it is customarily assumed that, the grant is general purpose grant, in which the regional government could prioritize its allocation among sectors irrespective of the federal government policies. Therefore regional governments have been prioritizing the use of this block grant among sectors independent of the federal government policies. However, this does not mean that, the only financial resource that has been transferring to regional states is the block grant resource. Several sector ministries have specific purpose grant based on the priorities of the federal government. The specific grant has been allocated using various ad hoc and formula allocations methods. In some cases line ministries like federal road fund and the new millennium development grant, administered and prepared by MOFED adopted House of federation block grant distribution formula to allocate the transfer among regions. Whether the use of general purpose grant formula to specific purpose grant allocation among regions are promoting fairness and equity or addressing the priorities of the federal government has never been studied and hence it needs further investigation.

4.2 The Evolution of the Federal-Regional Block Grant Allocation Mechanisms

An appropriate starting point for the discussion on regional local block grant transfer in Ethiopa is the country's federal regional transfer system. Not only does this system determine the level and scope of resources available for subsequent regional local distribution, but it also serves as an important model for formulating regional local transfer systems.

In Ethiopia grant allocation from the federal government to the regions date back to 1993, when the federal government started to allocate grant based on the project submission of the regional government. This mechanism had been used up to the

based on the intergovernmental fiscal agreement between the Australian common wealth and state governments

commencement of the FDRE constitution in 1995. After the ratification of the constitution in 1995, the House of Federation started to allocate the federal grant among regional states using objective mechanism (formula).

From 1995/96-2006/07 EFY the House of Federation adopted simple parameter formula, at that time this formula prepared and submitted to the House of Federation by MOFED. This simple parameter formula considers basic socio economic indicators of the regions and assigned subjective weight to the identified indictors to allocate the grant among regional governments (See table 3 below).

Table 3: Simple parameters Formula (1995-2007)

Year	**Variable**	**Weight in Percent**
1995	- Size of population - I - distance (index of development) - Regional revenue collection - Capital Budget allocation for EFY 1994 - Area	30 25 20 15 10
1997	- Size of population - Level of development - Ratio of regional revenue collection to budget	33.3 33.3 33.3
1998	- Size of population - Level of development - Ratio of regional revenue collection to budget - Area	60 15 15 10
2000	- Size of population - Level of poverty - Level of development - Revenue collection effort and sector performance	55 10 20 15
2004 - 2007	- Size of population - Level of development - Revenue collection effort	65 25 10

Source: HOF (2007/08)

As shown in the above table, the variables and the weight assigned to the variables have changed over the years. The number of variables used ranged from 3 to 5, while much variation is observed in the weights assigned to these variables. For instance, the weights assigned to the size of population, the major variable, ranged from 30 percent in 1995 to

65 percent in the years 2004 - 2007. On the other hand the weight for revenue collection effort and sectoral performance ranged from 15 percent to 33.3 percent.

From fiscal year 2003/04 to 2006/07 the allocation mechanisms of the federal block grant followed two- step allocation. First the allocation considers base year block grant entitlements of regions, for instance 2002/03 regions budget entitlements was used for 2003/04 fiscal year block grant allocation and then the formula allocates the difference using three parameter formula. This two step allocation was introduced to address the inadequate resources that would have been allocated to some regions where at the time its recurrent expenditure were increasing and its public facilities were expanding (HOF,2005).

The population component of the three parameter formula allocates the grant across regions on equal per capita basis. The development portion of the three parameter formula intends to address equity issues in the provision of basic public service delivery by considering the gap in infrastructure of less developed regions. This portion of the formula is independent of population and size of the regional governments. Thus two regions with equal development and revenue effort get the same per capita allocation irrespective of the size of population. This discriminates resource transfer towards rich and small governments from poor and mostly populated region. The revenue effort components reward those regions with greater revenue collection from its own sources.

Although, the three parameter formula was a simple formula to be understood by different stakeholders and decision makers, with the relatively low need of data to prepare the formula, it has several shortcomings when it is evaluated with the objective it sought to achieve. While, the major objective of the block grant is to allocate the transfer in an equitable manner among regions in order to enable the regional governments to deliver basic services to its residents, it did not considered the actual service provision or the recurrent cost of those regions which had relatively highest service provision at the time. In relation to this the simple indictor formula allocates highest per capita resources to regions which had an existing large infrastructure gap without considering, the maintenance of the existing service provision in regions. In addition, even when two regions have similar development level and revenue raising effort, regions which have

To address the adverse effect of the reduction in the share of the block grant due to the implementation of this formula, HoF decided to implement the formula in phases on the basis of percentage share of per capita equalization and the simple parameter formula (HoF, 2007). Accordingly in the first year the block grant was allocated using 25 % of the new equalization formula and 75 % of the three parameter formula of 2005/06 fiscal year. For fiscal year 2007/08 this formula was implemented in equal proportion i.e. 50 % with the simple parameter formula. However, after the implementation of this block grant transfer mechanisms for two consecutive fiscal years (2006/07 and 2007/08 fiscal years), several weakness of this formula identified in its implementation which has countered the objective the formula sought to achieve.

Even though all regions agree with the objectives and principles of this new equalization formula, they have opposed the approach and the data that have been used to calculate the per capita allocation of expenditure need and revenue raising capacity of regions. Regions with small proportion of population from the overall population, which had been receiving highest per capita grant during the implementation of simple indictor formula (the per capita entitlements of small regions were higher than big regions even in the new per capita equalization formula), strictly opposed the formula (see table 4 below). The regions justify their opposition to the formula by stating the historical marginalization of their regions and the need to consider highest per capita expenditure higher than the overall national per capita expenditure need

In addition, due to the non availability of data, in some revenue and expenditure estimates, actual per capita expenditure and revenue of regional states were used and this in turn raised equity and efficiency questions. This is due to the consideration of actual per capita expenditure of regional governments violates the principle of regional policy neutrality. In revenue side the actual revenue collection data would discourage regions which exert more effort to collect its revenue in an effective and efficient manner. This in turn violates the other principle of the formula i.e. effort neutrality during the block grant allocation. Furthermore, the equal per capita allocation of the base year significantly unaffected by the per capita expenditure need and revenue raising capacity difference of

regions from the national average, which at the end made regions with highest population percentage to receive highest share despite its per capita entitlement were lower than small regions. In this regard the main argument which was raised at that time was diseconomies of scale in providing basic public services in sparsely populated regions[10]. In relation to this, some regions reported budget deficit and in some cases they borrowed from the federal ministry of finance during this formula implementation period (Gambella, 2009)[11]

Table 4: Population and Block Grant Shares of Regions

Regions	1996/97		2007/08		2009/10	
	% Share from block grant	population	% Share from the block grant	population	% Share of from the block grant	population
Tigray	9.27	6.03	6.90	6.01	7.04	6.01
Afar	4.81	1.91	3.40	1.91	3.34	1.91
Amhara	24.35	26.59	24.07	26.49	23.33	26.49
Oromia	29.34	36.78	32.99	36.86	32.53	36.86
Somali	4.60	6.02	7.04	6.00	8.43	6.00
BGR	3.47	0.87	1.83	0.86	1.96	0.86
SNNP	19.39	20.64	18.91	20.69	19.90	20.69
Gambella	2.93	0.34	1.30	0.34	1.57	0.34
Harari	1.17	0.27	0.95	0.27	0.89	0.27
Dire Dawa	0.66	0.54	1.42	0.56	1.01	0.56
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: Own Computation based on MOFED and CSA

.After various consultations with different stakeholders at the regional and federal level, the House of Federation admitted the weakness of the formula in addressing the issue of emerging regions and in enhancing equity and efficiency of the federal transfer.

[10] Although per capita equalization formula considers Economies of scale, sparsely populated regions were not satisfied at the approach of economies of scale consideration in the formula.

[11] Gambella regional state submitted its budget deficit report to the House of Federation in Ethiopian fiscal year 1998 and borrowed around 80 million birr to pay the salary of its civil service.

However, the House of Federation boldly set out the major principle and the objective of the per capita revenue and expenditure need formula was in line with the constitutional stipulation, and the HoF decided the objective and principle to continue guiding the improvement of the per capita expenditure need and revenue capacity equalization formula[12].

Based on the above guidelines the House of Federation outsourced the technical preparation of the formula to independent consultants[13]. The new formula adhered to the major principles and objectives of the per capita equalization formula. However its approach to allocate the grant to regional governments switched to fiscal gap approach form the per capita difference equalization approach. In this formula the allocation is undertaken based on each regions relative share of fiscal gap from the overall fiscal gap of regions. Fiscal gap is the difference between the estimated expenditure need and revenue potential of regional states. In addition based on the consensus of the House of federation, in this formula 1 % of the block grant has been allocated separately to the four emerging regions based on simple indictors.[14]

This formula strictly followed the overall country development policy, Plan for Accelerated Development to Eradicate Poverty (PASDEP), in addressing the gap in infrastructure and service provision of regional governments. Thus national targets in education, road, and water and agriculture sector were considered to estimate the capital expenditure need of the regional governments. The recurrent expenditure also addressed the maintaining of service provision in the regions.

In this formula revenue raising capacities estimation of regional governments has also improved. The revenue raising capacity of regions has been estimated using

[12] I was the part of various consultations with the regional governments, federal and academic institutions.
[13] Lecturers from Addis Ababa University, who have an extensive experience in the field of economic, public finance and regional developments were in charge to prepare the formula based on house of Federation terms of reference
[14] 1 % of the block grant was allocated to four regions which include, Gambella, Afar, Benishangul Gumuz and Somali Regional States. The House of Federation considers the special need of these regions to address the existing gap in service delivery and capacity. Whether this supports significantly address the special needs and gaps of these regions remains unexplored, though it has been implemented for the last three years.

representative tax system[15]. This technique significantly diverted from the previous per capita equalization revenue raising capacity assessment in two aspects. First it has used potential proxies to estimate the potential revenue except in some revenue categories[16]. Secondly it estimates the potential revenue of each region irrespective of the national average. This enables to significantly equalize the fiscal capacities of regions.

In general this formula addressed the highest per capita need of smaller and big regions and it enables to deal with the weakness of the two formulas that was implemented in the previous years. Based on the decision of the House of Federation, this formula has been implemented since 2009/10 and currently the House is preparing improved version of the current formula to be implemented for the subsequent fiscal years[17] .

4.3 The Regional Local Block Grant Transfer In Ethiopia, the Case of SNNP and Oromia Regional States.

In the previous part of this chapter, the evolution of the federal block grant transfer mechanisms and its trend towards achieving its objective in relation to equalizing the fiscal capacities and expenditure need of regional governments was elaborated. In this chapter, we provide a discussion on the mechanisms of the regional- local block grant allocation, the strength and weakness of the block grant allocation mechanism in addressing the objective and its performance based on normative theory of fiscal transfer in Oromia and SNNP regional states.

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[15] Representative Tax System (RTS) is a method to estimate the potential revenue of sub national governments in many federal countries. This method considers major revenue categories, which cover main revenue source of sub national governments. After taking the major revenues of sub national governments, it identifies the tax rate and tax base of each categories and apply the representative tax rate to each revenue category revenue base to estimate the potential revenue of a particular level of government.

[16] Actual revenue from Payroll tax considered as the potential revenue from employees. This assumes that, since in regions major payroll tax payers are government employees and this tax category tax collection is unaffected by regions effort. However regional effort in deed affects payroll tax collection from private employees.

[17] I am a part of the technical team who are involving in the preparation of the undergoing Block Grant Formula Preparation.

4.3.1 The Legal Framework, the Institutional Arrangement, Objective and Principles of Oromia and SNNP Regional –Local Block Grant Transfer.

At this point like that of the federal to regional governments block grant transfer system, discussing the legal framework, institutional arrangement, objective and principles of the two region block grant transfer system is valuable in order to thoroughly understand how the system has been actually operating to accommodate the various needs of local governments.

Since regional governments are established as per the constitution, regional governments subsequently proclaimed their own constitution. As per their constitution, the major level of governments below the regional level was defined. However, at the initial stage of devolution of power, the major focus was to decentralize political, fiscal and administrative power from the federal government to regional governments. The devolution of genuine power to local governments was not realized up to the implementation of district level decentralization program (DLDP). DLDP is a sub-program of Ethiopia's capacity-building strategy. Its aim was to deepen the process of devolution by empowering the lower tiers of the regional governments, the woreda administrative units. In the program, particular emphasis had been given to woreda decentralization as a means of empowering local communities, developing democratization and improving delivery of public services (Towfik, 2010). Some researcher consider DLDP, which began in 2002- 2003 as the commencement of the second phase of devolution of state power to regional states after the adoption of the Transitional Period Charter and Proclamation No.7/1991 (Tegegne & Dickovick , 2010).

DLDP is initiated based on the federal constitution stipulation of the need to participate local residents and communities at different level. Accordingly the constitution stipulates the responsibility of regional governments to establish appropriate bodies of local government in order to enable the residents to participate on their affairs and to serve these local governments as democratic organs of the governments. Based on this legal framework the federal, capacity building ministry with different international donors initiated DLDP in 2002-03 fiscal years. The implementation of DLDP requires the constitution of the regional governments' amendment and hence, regions amended their

constitution to smooth the process by providing the required legal base. This program implementation not only devolves decision-making powers and functions but also transferred financial and human resources from regional states and zonal administrative units to local governments.

Oromia and SNNP are among the regions which pioneered the district level decentralization program with Amhara and Tigray regions[18]. Accordingly the two regions revised their constitution in 2001. This revised constitution established woreda administrations with necessary legal, institutional and financial powers. This was aimed at making local governments effective and efficient institutions of local government for democratic governance and economic development. The constitutions of regional states also provide for direct election of woredas and kebeles administrations (the council) by local people and also recognize woreda and kebeles institutions as institutions closer to the people.

With the initiation of the DLDP by the federal government line ministry and the harmonization of the constitutional devolution of power to local governments, the power and function assigned by the regional constitution government to local governments resembles similarity except in some regions like SNNP in which the power of the zonal administrations have not relinquished.

The revised constitution of Oromia (2001) defined the power and function of the woreda level government as follows;

- ✓ Preparation and implementation of annual woreda development plans and budgets,
- ✓ Collecting local taxes and levies, administering fiscal resources available to the woreda other than financial resources provided by the regional government,
- ✓ Maintaining peace and order in its jurisdictions.

Since preparation of the woreda development plans include different socio economic and political activities, major service provision to its residents and local economic

[18] The other regions implemented District Level Decentralization program after the pilot implementation of the program in the four regions mentioned in the above.

development could be considered as the function of the woreda administration. In this respect currently the woreda administration are functioning as a major provider of basic public services in Oromia and SNNP[19].

In SNNP while woreda level governments have similar power as of Oromia regional state, the Zonal governments have significant political power. In Oromia zonal governments have a coordination role of the activities of the woreda level government or it operates as a liaison of regional governments. However in SNNP, zones have the power to prepare and implement the annual zonal development plan.

With the above changes in the legal framework of the local governments in SNNP and Oromia, local governments are considered as the basic unit and important lower level local institution and centers of development because of their key role in prioritizing the provision of public services at the local levels. They are also considered as a strategic unit of government for the implementation of the regional development strategies such as rural development, expansion of educational and health services, and sustainable development and poverty reduction.

Given the above function and power of local governments in SNNP and Oromia Regional States, the local governments have the responsibility to provide basic services. Though it is not clearly listed what major expenditure responsibilities are the functions of local governments, it is easy to argue that the major primary basic public service have been provided by local governments since power and responsibilities devolved to them during DLDP. In general woredas have the responsibilities of administrating basic services like, primary and secondary education, primary health, constructing of low grade rural trucks, implementation of basic agricultural activities and maintain security and order of the woreda administration.[20]

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[19] Interview with Oromia and SNNP regional States Bureau of Finance and Economic development Head and Experts confirms the role of woreda and zonal administration in providing service to residents in the region. The region only concentrates on programs and issues that have spillover nature among local governments and by providing standards and regulation which are guiding the overall process.

[20] Interview with Oromia and SNNP, BOFED Heads, Ato Siraj and Ato H/Beherhan Zena

In the revenue side woredas have the power to collect own revenue from different sources unless and otherwise it has not stated as a regional revenue power (SNNP and Oromia, 2001). However the practice of revenue collection mainly concentrates on collecting the regional revenue on the behalf of the regional government as per the legally defined delegation in SNNP and Oromia regional States. In some respect urban local governments raise significant own revenue and some municipalities raise municipality revenue from municipality activities defined by law as a municipality revenue power[21].

The share of own revenue from woredas administration in Oromia and SNNP regional states covers a small portion of actual expenditure. In this respect the woreda city benchmarking survey III (2010), compares the share of own revenue from actual expenditures of woreda and found a deterioration in the share of own revenue between the first, second and the third benchmarking survey. In 2005, 21 % of Oromia regional states woredas covered more than 90 % their actual expenditure from their own revenue, while in 2010, it was found almost all woredas in Oromia covered less than 30 % of their actual expenditure form their own revenue. In SNNP in 2005, 11% of woredas covered more than 90 % their actual expenditure from their own revenue. On the other hand, in the third benchmarking survey 100 % of woredas in SNNP covered 90 % of their actual expenditure from regional block grant. Thus the dependency of local government in SNNP and Oromia regional states on regional block grant was further aggravated between year 2005 and 2010 (GTZ-Selama,2005; WB,2010).

The actual imbalance between revenue and expenditure responsibilities of local governments were expected at the initial stage of district level decentralization and thus block grant transfer system from region to local governments was one of the main instruments deployed to implement the program. This Block grants transfer from regional states to local government administrative units intended to be determined by formulae and with minimal conditionality (Towfik, 2010)

[21] Ibid

SNNP and Oromia regions constitutions replicate the equal right of residents in the regions to benefit from public services and the duty of the regional states to promote equitable development among peoples like that of the federal constitution (see Oromia and SNNP Revised constitution,2001). These articles implicitly stated the regional government's duties to support local administrations in order to enable equitable development as well as provision of equitable basic public services.

In SNNP and Oromia regional states, the objective of the block grant in the regions is more or less similar[22]. Accordingly the objective the block grant defined as, to enable the local government to deliver basic public service to their residents in an equitable manner and to promote local autonomy there by enhance local participation in major development activities and resource mobilization[23]. This objective is in line with the major objective of the federal block grant transfer in which the federal government sought to achieve equity in terms of basic public provision among regional governments.

In Both SNNP and Oromia regional states, executive council and regional council (legislative) institutions directly involve in the regional local block grant transfer system. The executive council prepare proposal for the allocation of regional resource among the region and local government level. Through the regional Bureau of finance and Economic Development (BOFED), the executive also proposes ways of allocation among local governments[24].

In Oromia the resource pool determination for woreda block grant has been determined through multiple steps. First based on MOFED budget ceiling to the region, the regional BOFED deduct specific and sector based budgets that the regional government has not the discretion to prioritize. After this deduction, the regional BoFED by including the

[22] As it was explained in the literature review part of this paper evaluating any fiscal transfer should be related with the objective it sought to achieve and the underlying institutional arrangement to implement the system

[23] Interview with Oromia and SNNP BOFED Bureau Head, Ato Siraj and Ato H/Michael Zena, Ato mubark Awel, Development plan senior expert at SNNP BoFED and Ato Tesfa Kegela an expert in Oromia BoFED as Woreda Block Grant Formula Preparation Expert

[24] Ibid

regional own revenue divides the pool of resource by 60/40 proportion for regional sector bureaus and woreda level block grant respectively[25].

In SNNP, Prior to 2006/07 fiscal year similar procedure like that of Oromia regional state was followed to determine resource pool to woreda block grant. However after 2006/07 budget year, the resource pool has been only determined for the regional government and zonal administration/special woredas, based on historical expenditure pattern. In SNNP since 2007/08 the block grant has been allocated to zonal and special woreda governments and zonal governments in turn have been allocating block grant to woreda local governments[26].

Decentralization of the woreda level block grant transfer from regional government to the zonal government in SNNP result in zonal governments to adopt its own method of resource distribution vertically between the zonal and woreda level government as well as horizontally among woreda level governments[27].While zonal governments are closer to the woreda level governments under their jurisdiction and better suit to closely identify the gap in resource availability and service provision among local governments, it increased the bureaucratic hierarchy that the woreda level governments has to pass. The regional government only limits its role in providing guidelines for resource allocation from the zonal to woreda level government. This decentralization of the block grant allocation of woreda governments from the regional level to zonal governments has the potential to create difficulties in harmonizing the objectives of the block grant allocation, due to the possibility that zonal governments might have been limited the availability of fiscal resources to woredas[28].

In general in both SNNP and Oromia, the actual regional vertical resource pool determination has been more of a political process than technical undertaking. The regional government has been exclusively determining the resource pool available for

[25] Interview with Ato Siraj Bureau Head Ato Tesfa Kegela an expert in Oromia BoFED as Woreda Block Grant Formula Preparation Expert

[26] SNNP BOFED Bureau Head, Ato mubark Awel, Development plan senior expert at SNNP BoFED and Ato Kasahune H/Geberael, Development plan Expert at Sidam Zone Office of Finance and Economic Development.

[27] Ibid

[28] It is observed that SNNP regional State BOFED has not a clear understanding of the zonal -woreda level block grant allocation.

woreda/zonal block grant allocation and the same is true for woreda level governments by the Zonal level governments in SNNP regional state[29].

4.3.2 The Evolution of Regional-local Block Grant Formula in SNNP and Oromia

While in both regional states the vertical resource allocation has been determined politically, the horizontal allocation among woreda/zonal governments has been undertaken using objective transfer mechanisms. Zonal Administrations have been also using objective criteria to allocate resource among woreda level governments in SNNP regional states[30]. The objective criteria or the formula that was/ has been adopted by regional government includes, the weight based or simple parameter formula which was used to allocate federal grant to regional states at the initial stage of Ethiopia's regional decentralization; the unit cost approach block grant formula that was first adopted by SNNP regional states and later adopted by others regions, and has been adopted by Oromia since 2008/09 EFY; the per capita expenditure need and per capita revenue raising capacity equalization formula of SNNP region which has been implemented in 2009/10 fiscal year to allocate the block grant among zonal and special woredas governments. The current practice of SNNP also shows, the region is implementing the federal fiscal gap formula mixing with the per capita expenditure and revenue equalization formula[31]. Below we provide a discussion on the major components of the block grant formula that has been implemented in the two regions and we also discuss the major problems and challenges that each formula encountered in the regions based on its objective and normative theory of intergovernmental fiscal transfer.

The Simple Parameter \ Weight Based formula

Simple parameter formula is the variant of the federal simple parameter formula, which was adopted by the federal government to allocate the federal block grant among regional government between 1996/97- 2006/07 fiscal year. This formula was adopted by SNNP

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[29] Since the next higher level government has the exclusive power to determine the vertical resource allocation in an ad hoc manner, local governments will not be able to predict their budget prior to the budget year.

[30] Interview with Ato Siraj Oromia BOFED Bureau Head Ato Tesfa Kegela an expert in Oromia BoFED as Woreda Block Grant Formula Preparation Expert, H/Behrahan Zena SNNP BOFED Bureau Head, Ato mubark Awel, Development plan senior expert at SNNP BoFED and Ato Kasahune H/Geberael, Development plan Expert at Sidam Zone Office of Finance and Economic Development

[31] Ibid

and Oromia regional states in 2003/04 fiscal year to allocate block grant among woreda level governments[32]. The simple parameter block grant formula was based on indicators that are proxies for measuring expenditure needs variations among woreda/zonal level governments in the regions. It includes three main (distinct) indicators, namely, population numbers, development disparity and revenue effort of woreda/ zonal governments in the regions.

The allocation to each locality (woreda) was based on the following formula:

$$\mathbf{B_{AI} = W_1 * P_I + W_2 * D_I + W3 * R_I}$$ Where,

B_{AI} = Budget allocation index

P_I = Population Index

D_I = Development Index

R_I = Revenue Index

W_i= weights assigned to each components

The population index apportions the budget based on each woreda share of population from the overall regional population adjusted for population components weight. This portion allocates the resource on equal per capita bases among woreda level governments in the region. The development component of the formula intends to address equity in infrastructures among the woreda level governments in the region. It does not consider the recurrent need of woreda level government expenditure needs. This component is also independent of population and locality size. Even two woredas have different population and size; they would get equal total allocation from this component. The revenue effort component considers the actual revenue collection of the woreda level governments (Rajkumar & Andrew, 2008).

[32] Interview with Ato Siraj Oromia BOFED Bureau Head, Ato Tesfa Kegela an expert in Oromia BoFED as Woreda Block Grant Formula Preparation Expert, H/Behrahan Zena SNNP BOFED Bureau Head, Ato mubark Awel, Development plan senior expert at SNNP BoFED and Ato Kasahune H/Geberael, Development plan Expert at Sidam Zone Office of Finance and Economic Development

The weights that were assigned to the three parameter formula had been changing in regions during its implementation (Ibid). The changes had been largely related with assigning different weights to the variables throughout years (See table 4 below).

Table 5: Changes in weights of indicators (in percent) in SNNPR between 1995-1998 fiscal years

Indicators	Weights (1995/96)	Weights in 1997/98
Population	33.3	60
Development gap	33.3	25
Revenue effort indicator	33.3	15

Source; The SNNPR formula for block grant allocation for weredas, towns and zones in May, 2005, Cited in Mesekerem (2010)

When the three parameter formula evaluated based on the objective it sought to achieve and on normative principles of fiscal transfer it has several shortcomings (see table 6 below to see the normative evaluation based on the criteria's of effective intergovernmental fiscal transfer mechanism in chapter three). The first shortcoming is, the formula is not sensitive to the service delivery needs of different localities, possibly creating a disincentive to expanding service delivery. For instance, two localities with: the same population, development level and own revenue effort, but where: one locality has substantially higher service delivery level in terms of sectoral performance, say, higher enrollment rate than the other, because of greater efforts made to increase its service delivery. Both will receive the same per capita allocation and total allocation. However, spending per student in the higher-enrollment locality would likely be lower than in the other locality and thus would be less able to fulfill its needs. In turn, this allocation system may reduce incentive to improve service provision by the woreda governments in the regions.

Table 6: Normative Evaluation of the Simple Parameter formula

Evaluation Criteria	Simple parameter Formula
Equity	✓ Allocated funds have not varied directly with fiscal need factors and inversely with the taxable capacity of each region/local governments and hence the actual allocation mechanism has diverted from achieving equity.
Efficiency	✓ The grant design is neutral with respect to regions or local government choices of resource allocation to different sectors or different types of activity.
Data Requirement and Use	✓ Relatively low data demanding and the data that was used have low opportunity to be manipulated by region or local governments.
Simplicity	✓ Simple to understand by policy makers and stakeholders
Predictability	✓ Difficult to predict the amount due to the fact that, the annual block grant resource pool determination has been undertaken on ad hoc basis. ✓ The share from the block grant is relatively stable due to non variability of the variables included
Stability	✓ While the variables have remained unchanged during its implementation, the weights assigned to the variables were heavily unstable.
Ad hoc decision	✓ Assigning of the weights to the variables is mainly an ad hoc undertaking.
Incentive	✓ Provide incentive in revenue mobilization

Source: Own evaluation based on Shah (1994)

In the three parameter formula small localities benefit disproportionately in per capita terms, in a manner that may not be equitable; a small and rich locality could get a larger per capita allocation than a large and poor locality. The "population" component of the total available funding provides an equal per capita amount to all localities, and so any

difference between localities in per capita allocations stems from the "development level" and "own revenue effort" components of the formula. The "development level" portion is problematic because it provides an equal amount of funding to two different localities that are equally developed, even if one has a much larger population than the other. This implies a lower per capita allocation for the larger locality (Rajkumar & Andrew2008). The "three-parameter" formula is being used to address different objectives simultaneously. In particular, the "development level" portion is attempting to address equity concerns, fixed cost concerns, and the possibly of greater costs of service delivery in less densely populated areas, in ways that do not meet these objectives. In addition the weight that was assigned to the variables are arbitrarily determined without using any objective criteria, the formula allocates the transfer inequitably among woredas. Moreover, the selected variables in the formula have not a clear linkage with expenditure need of woreda governments.

The above shortcomings of the block grant formula is also supported by evidences that were collected from the regional governments. In Oromia the major reason behind the shift to unit cost block grant allocation was related to the formula failure to encourage service delivery of woreda governments at a standardized basic public service provision, its failure to address the equity issue in a required manner and the formula was not associated with output or its was not output conditional, thereby creating negative incentive on local government expenditure behavior (Oromia, 2011). In relation to the above shortcomings i.e. the formula failure to explicitly include the expenditure needs of the local governments, during this formula implementation in SNNPR, it was mentioned that local governments which had higher expenditure need were unable to cover even the salary of the civil service servants, while other local governments which had small population have got significantly higher transfer in manner that is not equitable with that of big woredas.[33].

[33] Interview with Ato H/Behrahan Zena SNNP BOFED Bureau Head, Ato mubark Awel, Development plan senior expert at SNNP BoFED

The Unit Cost Approach Block Grant Formula

The shortcoming of the three parameter formula which discussed in the above led SNNPR to try out the "unit cost" approach to make allocations, starting from 2005/06. Oromia regional state also adopted the unit cost approach in 2007/08 after taking lesson from SNNP regional state implementation[34]. This formula is still in effect in Oromia region and it is implemented for the recent 2011/12 fiscal year in the region.

The unit cost approach of woreda block grant allocation only considers the expenditure needs of woreda level governments. It calculates the recurrent and capital expenditure needs of local governments separately. The split between the capital and recurrent parts of the envelope basis on historical capital and recurrent expenditure patterns of woreda level governments. In this formula the recurrent expenditure need of woreda level government for various sector and sub sectors is calculated based on performance target and unit cost of each woredas. A woreda's target unit cost for a fiscal year was set at a level somewhere in between the woreda's actual unit cost in previous years and the regional average unit cost[35]. Thus, target unit costs across woredas would get closer to each other in successive years, converging over time.

Target unit costs (for each district and subsector) were, in turn, computed from target values for "cost drivers"; "cost drivers" are key measures and ratios (such as the pupil teacher ratio in the case of education) that determine the unit cost. These target "cost driver" values were set individually for each woreda, with different values set for each woreda. The chosen target values were clearly specified for each district; each woreda knew exactly how its allocations were computed and which target "cost driver" values were used in the computations.

The setting of target values for the "cost drivers" was based on the principle that, in the longer run, all woredas should have the same values for "cost drivers". A woreda's target

[34] Interview with Ato H/Behrahan Zena SNNP BOFED Bureau Head, Ato mubark Awel, Development plan senior expert at SNNP BoFED ,Ato siraj, Oromia BOFED Bureau Head Tesfa Kegela an expert in Oromia BoFED as Woreda Block Grant Formula Preparation Expert

[35] *Ato Tesfa Kegela an expert in Oromia BoFED as Woreda Block Grant Formula Preparation Expert*

value for a "cost driver" for a fiscal year was set somewhere in between actual values in previous fiscal years and the regional average value for this "cost driver." Thus the unit cost approach to recurrent budget assumes those woredas which spend above the average regional sector or sub sector per capita expenditure because of its policy choice will not be rewarded, instead the standard cost driver applied on the average unit cost to discourage perverse incentives. While those woredas which have a lower per capita expenditure and low cost driver are not penalized. This in turn gives incentives to disadvantaged woredas to catch up with relatively well developed woredas (Oromia, 2011).

Moreover, in the unit cost formula the allocation for capital budget is undertaken using the existing infrastructure gap index for five strategic sectors. These sectors are Education, Health, Agriculture, Water and Road. The aim was to provide higher per capita allocations to woredas with low levels of infrastructure enabling them to expand services through accelerated investment[36].

The unit cost formula relatively enables the two regions to allocate the resource according to the needs of woreda level governments. Thus it helps the regional government to encounter the problem that was faced during the implementation of the three parameter formula. After the implementation of this formula local governments become able to pay the salary or operational expenditure fully[37]. The gap in development among woreda level government is also well addressed since the capital portion of the formula allocates based on existing infrastructure gap of woredas.

[36] Interview with Ato Tesfa Kegela an expert in Oromia BoFED as Woreda Block Grant Formula Preparation Expert

[37] Interview with Ato Siraj Oromia BOFED Bureau Head Ato Tesfa Kegela an expert in Oromia BoFED as Woreda Block Grant Formula Preparation Expert, Ato H/Behrahan Zena SNNP BOFED Bureau Head, Ato mubark Awel, Development plan senior expert at SNNP BoFED and

Table 7: Normative Evaluation of the Unit Cost formula

Evaluation Criteria	Unit Cost Formula
Equity	✓ Allocated funds are partially varied due to expenditure need factors. Therefore this formula promote equity in resource distribution
Efficiency	✓ This formula has been used regionally oriented service standards; it has the tendency to promote the regional policy priority in some respect. ✓ However the non consideration of revenue raising capacity of local governments in this formula will compromise the efficient distribution of fiscal resources among local governments
Data Requirement and Use	✓ High Data demanding and it has a tendency to be heavily affected by data manipulation and inconstancies.
Simplicity	✓ Too many variables with many technical undertaking which made the formula complex
Predictability	✓ Difficult to predict the amount due to the fact that, the annual block grant resource pool determination has been undertaken on ad hoc basis. ✓ Local governments could easily predict their share from the block grant based on its performance in various sectors by comparing with the national average.
Stability	✓ Stable and it has been functioning of subsequent years in regions
Ad hoc decision	✓ Resource allocation to capital and recurrent expenditure categories is mainly undertaken using ad hoc decision
Incentive	✓ Discourage high expenditure above the regional standard and also promote low performing local government to catch with well performing woredas.

Source: Own evaluation based on Shah (1994)

In spite of the above strength, the formula suffers from several weaknesses in achieving its objective and when it is evaluated on normative grounds (see table seven in the above). First the capital budget allocation to woredas basis in equity concern; gap filling using the infrastructural gap index of local governments might create negative incentive for woredas to increase its capital expenditure. This is due to the fact that the capital portion of the unit cost formula is not a specific grant, woredas which have received higher amount of grant due to its gap in infrastructure might not allocate the budget to the capital undertakings and thus would receive the higher amount of grant in the next year while the gap had been financed in the prior year. In addition the formula bases its allocation on the regional standard, local governments which needs special consideration and which have different expenditure needs would not be able to get equitable resources to finance its extra expenditure needs.

The second shortcoming of this approach is non affordability of the expenditure need estimated based on major cost drivers of woreda governments; this formula strictly considers the needs of woreda level governments expenditure need and fails to take in to account the resource availability. In relation to this throughout the implementation period the resource available for horizontal allocation has been lower than the expenditure need that has been estimated. This allocation mechanism would make the woreda level governments to develop unrealistic budget and would worsen fiscal discipline among local governments.

The unit cost approach has also a limitation of ignoring the revenue aspect of local governments. Although own revenue of local governments has covered a small part of local government expenditure. The exclusion of local government's revenue has the potential to worsen the dependence of local governments on the regional government block grant transfer and this in turn would accentuate the fiscal dependence of local governments.

Moreover the unit cost approach formula mainly uses administrative data which is collected by woreda governments; it has the possibility to be easily manipulated by woreda government data. In this respect in Oromia region experts of BoFED, maintained that the regional government always prepares data deliberation workshop which includes woreda governments and regional sector bureaus before the annual block grant determination of woredas in order to avoid the possibility of data inconsistency from woreda governments.

III. The Per Capita Expenditure and Revenue Equalization Formula in SNNPR

In Oromia regional state, the unit cost approach block grant formula is still in effect. However in SNNP since 2009/10 budget year a new formula based on per capita revenue and per capita expenditure need equalization has been adopted to allocate the block grant among zones and special woredas. Since then in SNNP the regional government decentralizes the block grant allocation from the region to zonal governments and hence the region currently allocates block grant to woreda governments through zonal governments[38].

This formula allocate the regional block grant to zones using similar procedures of the per capita expenditure and revenue equalization formula that was adopted for 2007/08 and 2008/09 fiscal year by the federal government. The region allocates the grant using the regional average per capita expenditure and revenue capacities. Hence zonal governments get additional positive and negative value in its difference from the regional per capita expenditure need and revenue raising capacities.

The per capita equalization formula has several strengths: the formula tries to equalize both revenue capacity and expenditure need of the local governments systematically; which in turn might lead to better equity in terms of fiscal capacity among zones and special woredas to deliver basic public service in an equitable manner. In addition this formula is relatively less data demanding as compared with the unit cost formula

[38] This formula follows the same approach with the Australian grant commission approach of grant disbursement to Australian states. The formula also had been used by the federal government to allocate grants to regional states in 2007/08 and 2008/09 of Ethiopia's budget year.

Moreover, the formula is not subject to local government data manipulation in relation with the use of the regional average per capita expenditure and revenue capacities. The formula has also calculates, the recurrent and capital expenditure needs of zonal/special woreda governments, reflects the expenditure need of needy zonal governments in a fair and equitable manner.

Table 8: Normative Evaluation of the Per Capita Equalization formula

Evaluation Criteria	Per Capita Equalization
Equity	✓ It considers both expenditure need and fiscal capacity per capita difference, this formula heavily promote equity in resource allocation.
Efficiency	✓ It has a very important implication in promoting efficiency, in relation with the use of national average to equalize both expenditure need and revenue raising capacity
Data Requirement and Use	✓ High data demanding but it has low room for data manipulation in relation with the use of national standard in both per capita revenue and expenditure equalization. Thus, a single region is too small to affect the actual allocation towards in what it likes.
Simplicity	✓ Complex
Predictability	✓ Difficult to predict the amount due to the fact that, the annual block grant resource pool determination has been undertaken on ad hoc basis.
Stability	✓ It has only served for two years
Ad hoc decision	✓ No room for ad hoc decision
Incentive	✓ Effort and policy neutral. However the actual implementation of the allocation discourages regions to raise more revenue due to the actual revenue raising proxies' usage.

Source: Own evaluation based on Shah (1994)

The weakness of this formula mainly relates with its assumption of revenue autonomy of zonal governments. As it was described in the above, zonal governments have not any significant revenue raising autonomy; they only collect revenue which is assigned by the regional government to them, taking this assigned revenue as potential revenue of zonal governments in the formula does not reflect the real fiscal position of the zonal governments[39]. Even zonal governments would have significant revenue raising autonomy, the practical use of actual revenue collection to estimate the potential revenue of zones during allocation has the potential to adversely affect the revenue raising effort of local governments.

Iv. The Fiscal Gap Formula in SNNPR

Since 2010/11 fiscal year, SNNPR has been implementing, the per capita equalization formula mixing with the fiscal gap formula. For fiscal year 2011/12, the allocation is undertaken by equally applying 50 % of the two formulas. The fiscal gap formula considers the same methodology as of the federal fiscal gap formula (SNNP, 2010). The share of each zones entitlement to grant determined by calculating the share of each zones fiscal gap from the overall zonal fiscal gap. The fiscal gap is the difference between the expenditure need estimated and the potential revenue of each zonal government. The fiscal gap formula calculates the zonal expenditure needs based on the national targets disaggregated to zonal levels. The revenue potential assessment in the fiscal gap formula basis its estimation on the actual revenue collection of the zonal government in the prior year (Ibid). This formula enables the regional government to relate its fiscal resource allocation with the overall regional and national policy objectives. Through the inclusion of extra expenditure need categories in the sectors it also enables the region to address the expenditure needs of urban local governments as well as special expenditure needs which force zonal governments to incur extra costs.

However this formula suffers a weakness in its estimation of the revenue potential of zonal governments both conceptually and technically. Conceptually since zonal

[39] From the Interview, with Ato H/Berhan Zena and Ato Mubarak, we are able to know that in SNNP, Zonal governments retain the revenue collected to the point where it is not more than the resource allocated by the regional block grant. When the zones collect revenue higher than the block grant allocation, zones need authorization of the regional government to use the extra revenue collected.

governments have not any significant revenue autonomy and the revenue collection does not reflect its autonomy, the revenue potential estimation should not be considered as a revenue potential of zonal governments. Technically, the estimation basis on actual revenue collection and taking actual revenue as a proxy of potential revenue create adverse effect on revenue raising efforts of zonal governments.

Table 9: Normative Evaluation of the Fiscal Gap Formula

Evaluation Criteria	Fiscal Gap Formula
Equity	✓ It considers both expenditure need and revenue raising capacities of regions and local governments; it has a better performance in equalizing fiscal capacities among regions or local governments.
Efficiency	✓ The usage of national service provision targets promotes efficiency. However gap filling will promote regional or local government dependence on the block grant transfer.
Data Requirement and Use	✓ High data demanding, it has no relation with actual data inconsistency and manipulation of subnational governments
Simplicity	✓ Complex
Predictability	✓ Difficult to predict the amount due to the fact that, the annual block grant resource pool determination has been undertaken on ad hoc basis
Stability	✓ It is stable and functioned for three years.
Ad hoc decision	✓ No room for ad hoc decision
Incentive	✓ Effort and policy neutral. Estimation of revenue raising capacities using potential revenue proxies could promotes resource mobilization highly.

Source: Own evaluation based on Shah (1994)

Moreover the data source for the expenditure need and revenue raising capacities estimation are zones, zonal governments could simply influence the block grant allocation in the way they would like. At the regional level key informant maintained that

the region BoFED cross-check the data collected from zonal level with regional sector bureaus in order to mitigate the possibility of data manipulation and inconsistencies of zonal data. However, even the actual practice follows such kind of crosschecking, the actual data source for the regional sector bureaus are also the zones governments, and this might not significantly reduce the possibility of data manipulation by zonal governments. Therefore, the regional government needs to consider other data sources, which would enable the region to reduce the adverse incentive and data inconsistency in the use of various expenditure need and revenue raising capacities.

4.4 Zonal-Woreda Block grant Transfer, the Case of Sidama Zone

In order to have a glimpse on the operation of the Woreda block grant transfer at zonal level, in this section we provide a discussion on Sidama Zone block grant allocation. As it was discussed in the above since 2007/08 fiscal year SNNP region limits its self in allocating grant to the zones, while in its annual budget proclamation stipulating the responsibility of the zonal governments to disburse the budget to Woredas using objective criteria (SNNP Budget Proclamation in 2010/11 and 2011/12). Based on this legal requirement, Sidama zonal administration has been allocating block grant to 19 rural and 3 urban Woredas. The zonal administration uses the same procedure like that of the regional government to determine the vertical allocation of the fiscal resource available in a given fiscal year.

In fiscal year 2010/11 and 2011/12, Sidama zone adopted the regional block grant transfer formula to allocate block grant to woredas. Accordingly the per capita equalization and the fiscal gap formula were used in 50 % proportion equally for the two specified fiscal years. In expenditure and revenue assessment of woredas in both per capita equalization and fiscal gap formula, similar sectoral categories of expenditure and revenue items have been included. The zonal government allocates the block grant to recurrent and capital expenditure separately and the woreda level governments do not have the discretion to prioritize the allocation between recurrent and capital expenditure categories (Sidama Zone Budget Regulation, 2010 /11). This guides the overall

expenditure patterns of the woreda governments and it enables the zonal administration to finance and undertake capital projects which has a priority at zonal level[40].

The block grant allocation in the zones seems relatively harmonized with the regional level block grant transfer mechanism. However the shortcoming of the formula that was discussed in the above also applied to the zonal level since the non availability of disaggregated expenditure, demographic and socio economic data further aggravated at the zonal and woreda level and hence, significantly affects the effective implementation of the formula.

To summarize, the regional block grant allocation in SNNP and Oromia regional state has been undertaking using objective criteria since the regional governments have started to disburse block grant to local governments. In SNNP regional state, the allocation criteria have been evolving with the federal block grant allocation criteria. In Oromia regional state the block grant allocation had been undertaken by the simple parameter in the beginning, however, since 2007/08 the region has been using the unit cost block grant allocation formula. This formula is a variant of expenditure equalization formula which has an objective of equalizing expenditure needs of local governments. In general the evolution of the block grant transfer in the two regions as reviewed in the above could be used as a spring board to analyze the actual implementation outcomes in the regions.

4.5 The Annual Growth of the Federal- Regional and Regional Local block Grant transfer

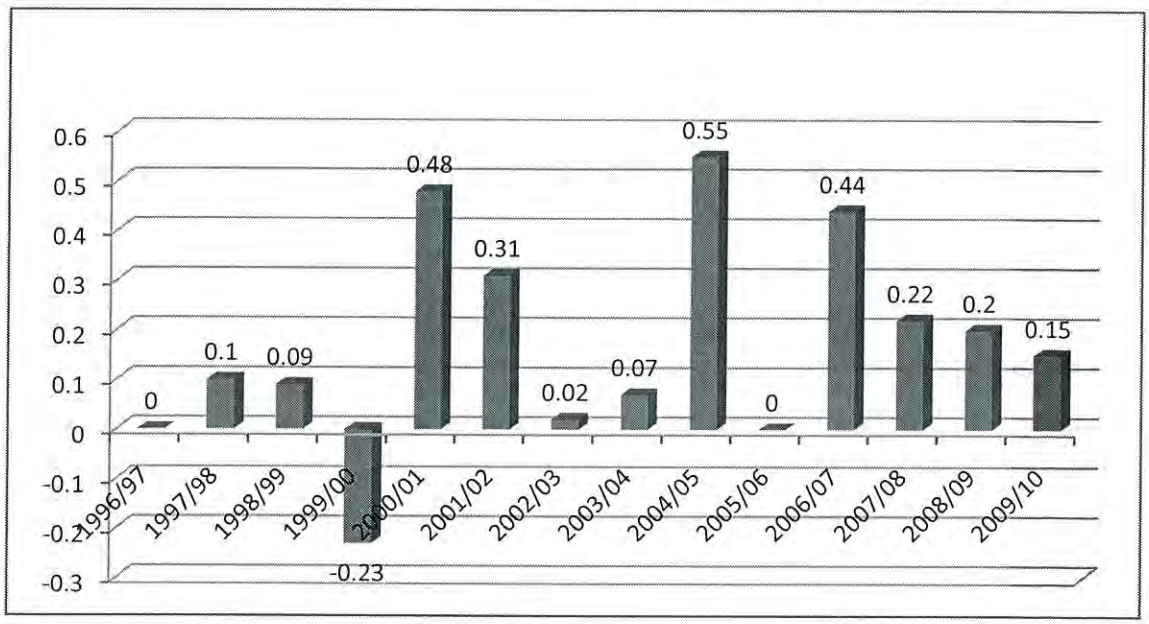
Observing the trend of resource available for horizontal allocation is very important to observe the extent of fiscal decentralization to regional and local governments. This chapter presents the extent of fiscal decentralization at the federal level and in SNNP and Oromia regional state by looking at the fiscal resource allocated vertically among level of governments.

[40] Interview with Ato Kasahune H/Geberael, Development plan Expert at Sidam Zone Office of Finance and Economic Development

The overall resource pool available for block grant allocation by the federal government has showed an upward trend between 1996/97- 2010/11. The overall financial resource in 2010/11 is more than seven fold higher than the 1996/97 overall financial resources (see table 10 below).

Taking 1996/97 fiscal year as a base year the annual growth of the financial resources available for the block grant distribution shows an increasing trend except in 1999/2000 fiscal year, which was the period of war with Eretria, and in which the federal government allocated highest portion of the resources to finance the war (HoF, 2009).

Figure 1: Growth Rate of the Federal Government Block Grant To regions



Source: Federal Government Budget Proclamation

However, the annual growth rate has not been increasing in an increasing manner throughout the analysis period. In some periods the annual growth rate is lower than prior year's annual growth and this made the growth rate of the block grant unstable for some fiscal years (see Fig. 1 in the above). The average annual growth of the federal regional block grant resource is below the inflation rate of the country, which shows the block grant overall resource has been growing only in nominal terms[41]. The annual growth rate of the block grant would have been higher than the inflation rate, if it was adjusted for

[41] CSA consumer price index shows, during 2002/03- 2006/07 the average annual increase in price was 12.1 %,

inflation throughout the analysis period. This fact clearly shows the deterioration of resource available to regional block grant allocation by the federal governments in real terms. This deterioration in the fiscal resource available to regional block grant allocation would significantly affect regional governments to finance its expenditure responsibilities since the own revenue share of regional governments from its total expenditure is not significantly increased throughout time. These reflect even if the per capita nominal block grant allocation is higher throughout consecutive period; its value in real terms might be lower, if it is not adjusted annually higher than the inflation rate. Hence the vertical allocation of resources for block grant needs to be linked with the overall macro economic performance of the country if it is supposed to reflect or finance the expenditure needs of regional governments effectively[42].

Table 10: The share of the Federal Block Grant from the Federal government budget (in million birr)

EFY	Regional subsidy	Total Federal Government budget	% of block grant from federal government budget
1997/98	3379	9576	0.35
1998/99	3652	10451	0.35
1999/00	4123	11076	0.37
2000/01	3120	13875	0.22
2001/02	4565	14904	0.31
2002/03	5928	17104	0.35
2003/04	5969	19260	0.31
2004/05	6364	22070	0.29
2005/06	9879	35444	0.28
2006/07	14261	43947	0.32
2007/08	17438	54277	0.32
2009/10	20932	64508	0.32
2010//11	24158	77227	0.31
Average	9520	30286	0.32

Source: Own calculation based on MOFED.

[42] In some Federal and Unitary countries like South Africa and India, the federal or the national government adjust the annual states/provinces grant resource pool to inflation in order to enable the sub national governments to finance its responsibilities in sufficient and predictable manner.

The share of the federal block grant from the overall federal government budget remains around 30 % between 1997/98-2010/11 fiscal year. At the beginning of the federal block grant allocation, the share was relatively higher. In the first three years, it ranges between 37 and 35 % of the overall federal government budget, while in the past recent three years the share from the overall federal government budget ranges between 28 and 32 %. (See table 10 in the above). The share of fiscal resources that is allocated for regional disbursement is relatively low since major expenditure responsibilities are undertaken by the regional governments. The overall resource allocated for regional allocation has the potential to significantly determine the equalization scale of the grant when it is allocated horizontally among regional governments.

The share of fiscal resource that has been allocated to local government's block grant as the proportion of regional government overall budget is relatively higher in SNNP than Oromia regional state. Between 2003/04-2010/11 fiscal year, in SNNP the overall share of woreda/zonal government block grant resource cover more than 70 % of the regional budget. While in oromia the woreda block grant covers less than 60% of the regional budget (see table 11 below). Therefore, SNNP regional state is more fiscally decentralized than Oromia regional states, as far as resource division between the regional and local government concerned.

As the data below, clearly shows the growth rate of the share of regional block grant subsidy to local governments as a proportion of the overall regional budget remains significantly unchanged throughout the period. In SNNP regional state the share remains between 60-70 % and in Oromia regional state it remains on 56 % in the same period.

Table 11: The share of regional local block grant transfer from regions budget between 2006/07-2010/11 (in million Birr)

	SNNP			Oromia		
Fiscal Year	Regional Total Budget	Budget allocated to zones	share of zonal budget from the regional total	Regional Total Budget	Budget allocated to woreda	share of woredas budget from the regional total
2003/04	1,366.24	1,045.32	76.51	2,400.57	1,260.59	52.51
2004/05	1,510.53	1,151.08	76.20	2,708.81	1,384.16	51.10
2005/06	1,236.61	1,049.65	84.88	3,116.77	1,621.53	52.03
2006/07	2,157.02	1,505.50	69.80	3,803.41	2,056.26	54.06
2007/08	3,084.27	1,900.00	61.60	5,549.54	3,054.00	55.03
2008/09	3,992.69	2,717.00	68.05	6,932.33	3,909.57	56.40
2009/10	5,014.68	3,465.73	69.11	8,308.38	4,686.95	56.41
2010/11	6,001.50	4,239.00	70.63	9,645.70	5,408.48	56.07

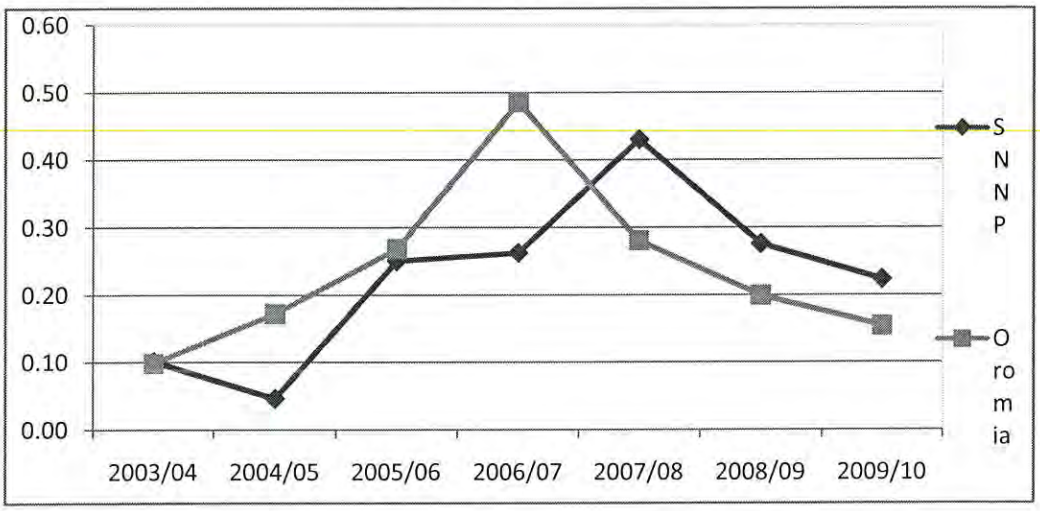
Source: own calculation based on data from Oromia and SNNP regional states BOFED

Taking 2003/04 fiscal year as a base year, the annual growth of the woreda/zonal block grant budget in Oromia regional state was higher than that of SNNP before 2006/07 fiscal year; however after 2006/07 fiscal year the annual growth rate is higher in SNNP region from that of Oromia. In both regions after 2007/08 fiscal year the annual growth rate of the woreda/zonal block grant show a declining trend (see Fig. 2 below). This is surprising because if the block grant was supposed to provide sufficient financial resources to the local governments, it should have been increased in real term adjusted for the regional level inflation at that particular period. This shows also the deterioration of the fiscal resources available to the local governments in real terms[43]. Like that of the federal vertical resource allocation to regions the regional block grant transfer at regional level in

[43] Interview with the key informant in both regions also confirms the argument that the resource available to the local governments in the regions throughout the analysis period was not adjusted for inflation.

SNNP and Oromia also needs to be linked with macroeconomic aspects of the overall economy, in order to enable the local governments a stable and predictable fiscal resources to finance its expenditure responsibilities effectively.

Figure 2: Annual Growth Rate of Blcok Grant to Woreda/zonal Governments in SNNP and Oromia Regional States



Source: Own based on SNNP and Oromia BOFED Data

In general the overall resource budget for block grant at the federal and in the two region levels has been increased in most years in nominal terms. However its annual growth in real terms has been significantly affected by the soaring of inflation throughout the analysis period.

Chapter Five: Analysis and Discussion

In this chapter the result of data analysis based on the methodology that was discussed in chapter two of this paper will be presented for the Federal government, SNNP, Oromia regional states and Sidama Zone block grant allocation. In the first part of this chapter, the researcher provides the result of the equalization impact of the block grant at the national, regional level and zonal level in SNNP based on descriptive statistical results. In the second part the researcher provides further analysis using multiple regression of the per capita grant allocation relationship with various demographic and socio economic data of regional, zonal and woreda level government based on the model that was specified in chapter two.

Some empirical evidences on the equalization effect of block grant transfer presented in tables 12 to 15 below. These tables show the dispersion of revenue per capita (coefficient of variation and range between maximum and minimum values for own revenue and block grant for regional, zones and woreda level governments in Ethiopia at the federal, regional and local level. The table also shows the dispersion in the per capita after grant revenue by adding the per capita own revenue and per capita block grant revenue entitlements of each level of governments.

Table 12 below presents the result of the federal level per capita before and after block grant revenue coefficient of variation through 2003/04 and 2009/10 EFY. As it is shown in the table, the average per capita revenue before and after the block grant notably increased in the period between 2004/05-2009/10 at the national level. This means the total transfer have become increasingly more important with respect to own revenue of regional states. The analysis also shows higher disparities in per capita own revenue of regions through these periods.

In 2003/04 Ethiopian fiscal year, the maximum and maximum per capita own revenue of regions ranges between 253 and 15 birr respectively. The average or national per capita revenue collection of regions at this time was 33 birr. Thus in 2003/06, the highest per capita own revenue raising capacity was ten times higher than the lowest per capita own revenue capacities. In fiscal year 2009/10, the highest and the lowest per capita own revenue capacities have ranged between 333 and 46 birr, at this period the average per

capita revenue collection of regions was 131 birr. On this fiscal year the proportion of maximum to minimum per capita revenue raising capacity of regions falls to seven to one proportion, which is a reflection of the narrowing of the gap between the highest and the lowest per capita own revenue raising capacities of regions.

However, the per capita revenue raising capacities disparities among all regions through the analysis period has not narrowed significantly. The coefficient of variation of per capita own revenue raising capacities has remained between 0.94 and 1.14 except for fiscal year 2006/07, in this year, the coefficient of variation significantly dropped to 0.58. The highest coefficient of variation in per capita owns revenue raising capacities at this period shows, the difference in the economic base of regions, which would enable to raise more per capita revenue in regions significantly varies and it is manifests the existence of a significant disparities in own revenue raising capacities of regions. Given this significant variation in per capita own revenue raising capacities of regions, if the block grant is supposed to equalize fiscal resources among regions, it should significantly reduce the per capita revenue variation among regions after the block grant allocation.

Table 12: Equalization impact of the federal regional block grant 2003/04-2009/10

Fiscal years	Fiscal Indictors	Per capita Own[44]	Per capita Grant	Per Capita Grant +Own Revenue
	CV	0.99	0.73	0.74
	Min	15.38	67.99	99.19
	Max	253.13	425.46	675.94
2003/04	Mean	70.11	193.42	263.52
	CV	0.8	0.7	0.68
	Mini	15.22	73.28	109.17
	Max	248.44	444.96	693.39
2004/05	Mean	89.04	202.63	291.66
	CV	1.03	0.68	0.72
	Mini	16.65	115.17	163.54
	Max	401.69	657.4	1059.09
2005/06	Mean	114.46	303.19	417.65
	CV	0.58	0.68	0.64
	Mini	20.92	115.17	165.46
	Max	168.08	657.4	825.48
2006/07	Mean	86.74	303.19	389.93
	CV	1.09	0.56	0.69
	Mini	32.46	173.25	222.54
	Max	493.32	740.25	1233.57
2007/08	Mean	159.57	367.38	526.95
	CV	1.14	0.47	0.64
	Mini	39.74	212.62	294.41
	Max	730.77	772.32	1503.08
2008/09	Mean	197.38	428.63	626.01
	CV	0.94	0.55	0.62
	Mini	85.44	250.05	361.69
	Max	834.98	1054.43	1835.34
2009/10	Mean	264.46	529.07	793.53

Source: Own Computation Based on MoFED and CSA (2003/04-2009/10)

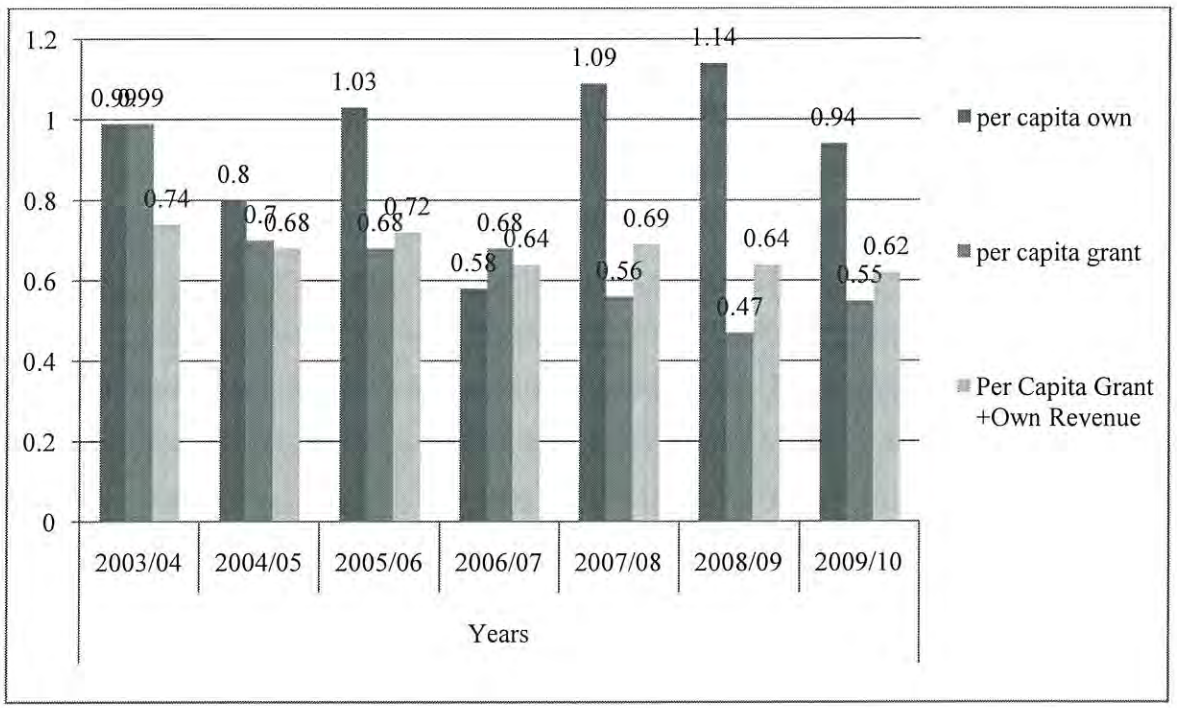
[44]Per capita own revenue collection of regional governments adjusted for tax effort of each regional governments to calculate the per capita own revenue raising capacities of regional governments through the analysis period.

The mean per capita grant entitlement of regions has increased from 193 to 529 birr between 2003/04 and 2009/10 EFY respectively. In addition, the proportion of maximum and minimum per capita grant entitlement of regions consistently fallen from 6 to 3 folds between 2003/04 and 2008/09 EFY. However, this trend slightly reversed in 2009/10 in which the proportion of the maximum and minimum per capita grant has risen to 4 folds. During the same period, the coefficient of variation of the per capita block grant entitlement of regions has also fallen from 0.75 to 0.47. Hence, between 2003/04 and 2008/09, the variations in per capita grant entitlements of regions have been successively reduced. This period reflects the implementation period of the simple parameter and the per capita equalization formula. On the other hand during the fiscal gap formula the trend towards reducing the per capita variation of block grant transfer entitlements of regions reversed, since the coefficient of variation showed a slight rise, form 0.47 in 2008/09 to 0.55 in 2009/10.

Given the above explanation regarding the per capita variation of own revenue and block grant of regions through different periods, it is now worthwhile to look at the per capita after block grant revenue and compare this with the per capita own revenue (per capita before grant) coefficient of variation in each year and throughout the analysis period, in order to look the effects of the federal block grant in equalizing the fiscal capacities of regions. The after block grant transfer per capita revenue of regions is the sum of per capita grant entitlements and per capita own revenue of regional states. From the table 6 in the above we can simply observe that the mean per capita after grant revenue is higher than mean of per capita grant and own revenue throughout 2003/04 and 2009/10, which is due to the fact that the after block grant revenue is the summation of own revenue and grant entitlements in each year. The proportion of maximum to minimum values of after block grant entitlement significantly lower than the proportion of maximum and minimum values of per capita own revenue, For instance in 2003/04 the proportion of maximum to minimum percapita revenue falls from 16 to 7 folds after the block grant and also it falls from 10 to 5 folds in 2009/10. This suggests that the per capita revenue between regions with lowest and highest per capita revenue raising capacity has been significantly equalized after the block grant transfer.

Moreover, the coefficient of variation of per capita revenue reduced after the block grant transfer in each successive year suggesting, the equalizing trend of the block grant allocation. The coefficient of variation of per capita revenue before and after the block grant has fallen from 0.99 to 0.74 and from 0.94 to 0.62 in 2003/04 and 2009/10 EFY respectively. Since the difference between the after and before per capita revenue variation is higher in 2009/10 than in 2003/04 fiscal years; the degree and the extent of federal block grant equalization is increasing throughout this period. In other words those regions which have lower fiscal capacities i.e. lower potential revenue were subsidized higher than those regions which have higher potential revenue in per capita terms. This has the potential of enabling regions to provide basic public service in an equitable manner to their residents (see figure three below).

Figure 3: Regions Percapita Own, Block grant and After Grant (Own+ Block Grant) Revenue Coefficient of Variation



Source: own illustration based on descriptive statistical analysis

In addition the extent of reduction in fiscal disparity by the block grant allocation reflected through the value in the difference between the before and after grant

coefficient of variation has been significant fallen between 2003/04 and 2009/10. The highest and the lowest reduction was 0.5 (1.14-0.64) in 2009/10 and 0.13 (0.80-0.68) in 2004/05. Furthermore, the after block grant per capita revenue variation has showed a successive reduction between 2003/04 and 2009/10, except a slight increase from 0.58 in 2004/05 to 0.64 in 2005/06 EFY.

The overall descriptive result for the federal government block grant transfer shows the tendency towards equalizing the per capita resource available to regional government's through time. This is shown through the consistent and successive reduction in the coefficient of variation of the after grant per capita revenue of regional governments between 2003/04 and 2009/10 Ethiopian fiscal year except in 2006/07 fiscal year.

Table 13 below shows, the disparities in per capita revenue before and after the block grant allocation of woreda government in Oromia. The variation in per capita own revenue collection of woreda governments in Oromia regional state has been fallen between 2005/06-2009/10 EFY. At this time the coefficient of variation of per capita own revenue among woreda governments in the regions falls from 0.9 in 2005/06 to 0.40 in 2009/10 EFY[45]. Through this time the average own revenue collection of woreda governments increased from 118 to 522 birr. This result shows that the own revenue raising capacities of woreda governments has improved and the per capita revenue collection disparities among woredas in Oroimia has reduced through time.

However the proportion between maximum and minimum per capita own revenue raising capacity has widened from 85 times to 465 folds in 2006/07 and 2010/11 respectively. Hence the highest and lowest per capita own revenue raising capacities of regions in Oromia has been widened through these periods. This might occurred due to two reasons, first since we have taken actual revenue collection of woreda governments, woredas revenue raising effort would significantly affect the per capita own revenue of woreda governments. The other reason might be due to significant own revenue raising capacities

[45] The variations in per capita own revenue collection of woreda governments is undertaken based on actual revenue collection of woreda governments. We have forced to take the actual collection due to lack of appropriate data to measure the fiscal capacities of woreda governments.

disparities between urban and rural woredas in Oromia. If the disparity occurred due to lack of economic base to raise revenue, this would reflect the need to orient the region block grant transfer towards equalization based on revenue raising disparities of woreda governments.

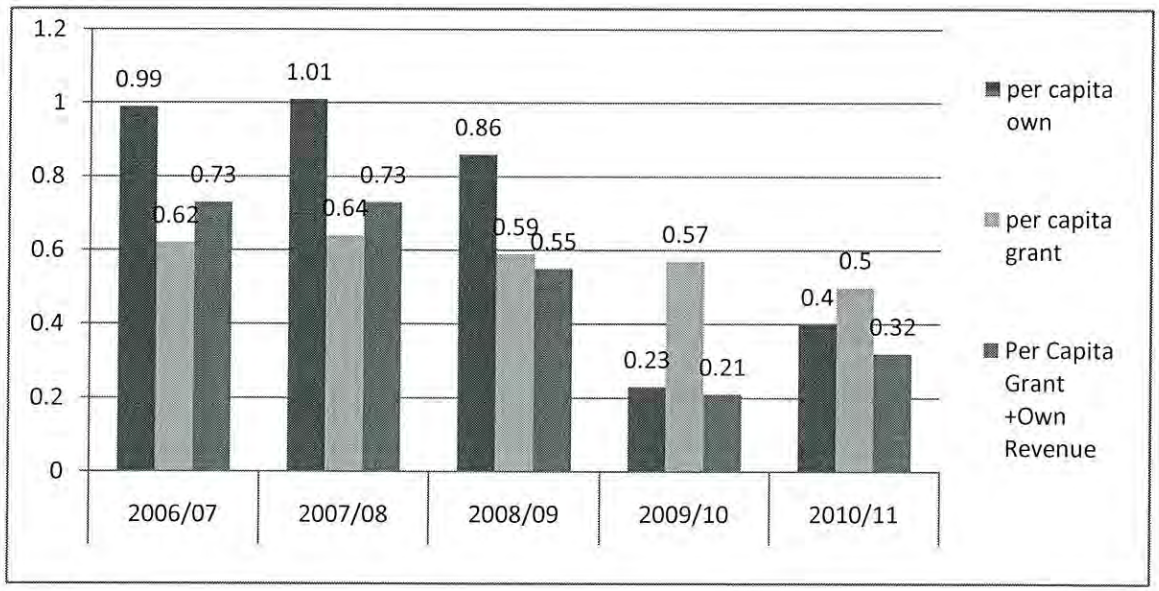
Table 13: Equalization Impact of Oromia Woreda Block Grant (2005/06-2009/10 EFY)

	Fiscal Indictors	Per capita Own	Per capita Grant	Per Capita Grant +Own Revenue
	CV	0.99	0.62	0.73
	Min	8.44	22.05	55.06
	Max	718.06	471.24	921.07
2006/07	Mean	118.48	94.67	206.7
	CV	1.01	0.64	0.73
	Min	15.33	27	54.09
	Max	799.34	706.28	889.89
2007/08	Mean	138.87	101.71	233.5
	CV	0.86	0.59	0.55
	Mini	18.68	17.02	35.7
	Max	972.34	930.38	962.61
2008/09	Mean	185.54	139.4	298.28
	CV	0.86	0.59	0.55
	Min	18.68	17.02	35.7
	Max	972.34	930.38	962.61
2009/10	Mean	185.54	139.4	298.28
	CV	0.4	0.5	0.32
	Mini	2.11	21.73	69.67
	Max	983.04	610.46	998.6
2010/11	Mean	522.7	197.17	629.83

Source: Own Computation Based on Oromia BoFED (2006/07-2010/11)

The per capita block grant coefficient of variation among woredas in Oromia region has successively fallen from 0.62 and 0.5 between 2006/07 and 2010/11 respectively. Hence the per capita block grant transfer among woreda governments in Oromia has been moving towards reducing the difference between the highest and the lowest per capita block grant entitlements of woreda governments. However the proportion of the highest and lowest per capita grant entitlement rose from 21 to 28 folds between 2006/07 and 2010/11. Therefore the block grant allocation in Oromia has widened the maximum and minimum per capita block grant entitlements of woredas.

Figure 4: Oromia Woredas, Percapita Own, Block grant and After Grant (Own+ Block Grant) Revenue Coefficient of Variation



Source: own illustration based on descriptive statistical analysis

The per capita revenue coefficient variations of Woreda governments after the block grant have been lower than the per capita before grant revenue (Own revenue) between 2006/07-2010/11. Therefore the block grant allocation to woreda governments was equalizing between 2006/07 and 2010/11, this is due to, the reduction in the per capita before and after grant coefficient of variation from 0.99 to 0.73 and from 0.40 to 0.32 in 2006/07 and 2010/11 respectively. However the extent of equalization of per capita revenue before and after the grant is large before 2008/09 fiscal year than in 2009/10 and 2010/11 EFY (see figure 4 in the above).

In SNNP the coefficient of variation of per capita own revenue collection of zonal governments shows a mixed trend towards reducing and increasing in own revenue raising collection of zonal/special Woredas through the analysis period. However in the last year of analysis that is 2010/11, the coefficient of variation is significantly reduced from that of 2006/07 Fiscal year (see table 14 below). Through the analysis period, the proportion of the maximum and minimum own revenue collection of zonal governments has reduced from 16 folds to 3 folds, which reflect the per capita own revenue collection has significantly reduced. The mean per capita own revenue collection of zonal governments has increased from 15 birr to 47 in 2006/07 and 2010/11 birr respectively.

The per capita own revenue collection disparity among zonal governments in SNNP is significantly lower than Oromia woreda governments per capita own revenue disparity through 2006/07-2010/11. This is due to the fact that in SNNP per capita own revenue variation is only calculated for zonal governments and this zonal governments are relatively similar in per capita own revenue collection during the period. In Oromia analysis urban governments are included as woreda governments and these urban governments have higher per capita revenue raising capacities than rural woredas. This made the disparities in own revenue raising capacities of Woreda governments in Oromia higher than SNNP region.

Table 14: Equalization Impact of SNNPR Zonal /special Woredas Block Grant (2006/07-2010/11 EFY)

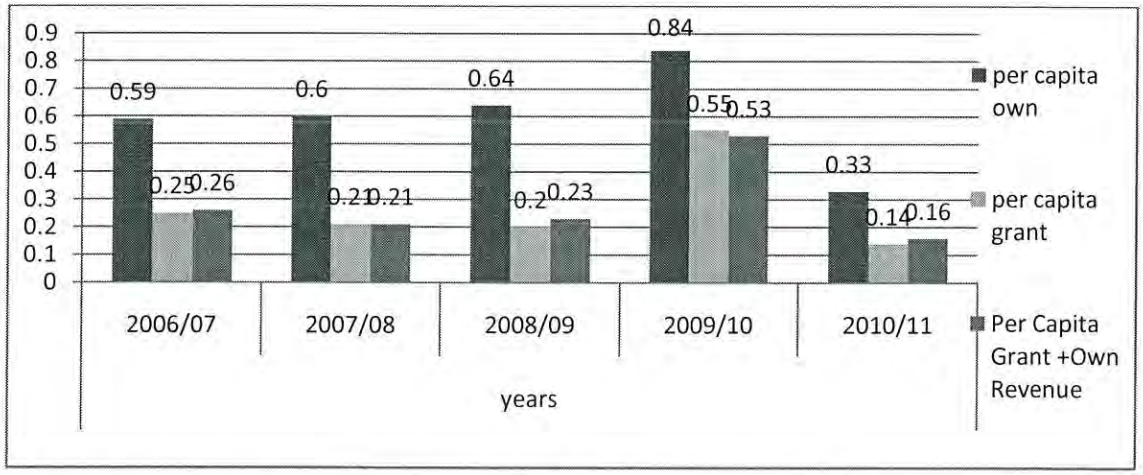
Fiscal years	Fiscal Indictors	Per capita Own	Per capita Grant	Per Capita Grant +Own Revenue
	CV	0.59	0.25	0.26
	Mini	3.13	64.99	77.78
	Max	43.15	158.14	191.41
2006/07	Mean	15.29	92.5	107.78
	CV	0.6	0.21	0.21
	Mini	11.72	80.52	96.88
	Max	71.43	176.08	214.02
2007/08	Mean	21.88	109.06	130.95
	CV	0.64	0.2	0.23
	Mini	18.9	109.8	132.3
	Max	119.75	241.9	299.89
2008/09	Mean	33.9	142.87	176.78
	CV	0.84	0.55	0.53
	Mini	11.49	45.92	57.42
	Max	197.83	462.8	555
2009/10	Mean	47.49	184.63	232.11
	CV	0.33	0.14	0.16
	Mini	27.34	160.7	193.2
	Max	99.41	250.19	338.53
2010/11	Mean	47.81	202.57	250.38

Source: Own Computation based on SNNP BOFED

The mean per capita grant to zonal governments in SNNP has increased from 92 birr to 202 birr between 2006/07 and 2010/11 fiscal year respectively. The Coefficient of variation of per capita grant among zonal governments has been declined, except in fiscal year 2009/10. In addition, the proportion of maximum and minimum per capita block grant entitlements has decreased throughout similar period.

In SNNP, between 2006/07 -2010/11, the per capita after block grant revenue coefficient of variations have been lower than the per capita before revenue coefficient of variations. The per capita before and after grant revenue have reduced from 0.59 to 0.26 in 2006/07 and from 0.33 to 0.16 in 2010/11. However the extents of equalization is higher in 2006/07 than 2010/11 fiscal year, since the difference between the coefficients of variation of per capita before and after grant revenue is higher in 2006/07 form that of 2010/11 (See figure five below).

Figure 5: SNNP Zones, Percapita Own, Block Grant and After Grant (Own+ Block Grant) Revenue Coefficient of Variation



Source: Own Computation based on SNNP BoFED (2006/07-2010/11)

The results of the descriptive statistics above shows, SNNP after grant allocation relatively well equalizing than that of the federal and Oromia regional block grant allocation. This is reflected through the lowest per capita coefficient of variation of the after grant per capita revenue among zones in SNNP throughout the whole period. This result might be because of the relative similarity of the region zones in various circumstances and this overstates the equalization impact of the grant, since woreda level governments is not considered in the analysis. The other reason could be the relative evolution of the allocation mechanism improvement for successive years in SNNP than Oromia regional States. To deal with this issue Sidama Zone block grant allocation in fiscal year 2010 and 2011 we analyzed using similar descriptive statistics that was undertaken for the federal and regional block grant allocation (See table 15 below).

The descriptive result of Sidama zones shows, the per capita own revenue of woreda's in 2009/10 and 2010/11 shows a reduction in the coefficient of variation from 1.24 to 1.15. And this coefficient of variation of the own revenue collection of Woreda governments in Sidama zone is higher than SNNP regional level variation in per capita collection of zonal governments. This shows the disparity in own revenue would be higher in SNNP if all woreda governments in all zones would have been considered in the analysis. In Similar periods, the mean per capita revenue of woredas rose from 36 to 76 birr in 2010/11 and 2011/12 respectively

The mean per capita grant to woredas in Sidama zone has increased from 173 and 232 birr in 2010/11 and 2011/12 respectively. The coefficient of variation per capita grant allocation among woredas in Sidama zone has slightly reduced from 0.68 in 2010/11 to 0.59 in 2011/12 fiscal year. The highest coefficient of variation at zonal level shows that, the per capita grant allocation to woreda governments is relatively higher from that of the regional block grant per capita variations.

Table 15: the Equalization Impact of Sidama Zone woreda Block Grant

Fiscal year	Fiscal Indictors	Per capita Own	Per capita Grant	Per Capita Grant +Own Revenue
2009/10	CV	1.24	0.68	0.71
	Mini	11.76	36.3	112.36
	Max	141.9	531.7	664.9
	Mean	36	173	209
2010/11	CV	1.15	0.59	0.69
	Mini	21.11	74.01	188.89
	Max	322.9	663.4	943.8
	Mean	76.5	232	308

Source: Own computation based on Sidama Zone office of Finance and Economic Development.

The per capita after grant coefficient variation of woredas revenues in Sidama zone has reduced in both fiscal years. However the scale of equalization is higher in 2010/11 than 2011/12 fiscal year. The per capita after grant block grant revenue variation of woredas is relatively higher than regional percapita after grant revenue variation of revenue in both years, which reflect the less equalization scale of the zonal block grant allocation among woredas, when it is compared with the regional block grant equalization scale.

In summary, the above descriptive result provide general evidence that, the federal, SNNP, Oromia and Sidama Zone block grant allocation have been equalizing throughout the analysis period. The extent of equalization based on this descriptive result is higher in SNNP region than Oromia region, reflected through the lower per capita after block grant coefficient of variation in SNNP than Oromia. However at zonal level Sidama zone coefficient of variation in per capita after grant revenue is higher than Oromia after grant per capita revenue coefficient of variation. Therefore, in order to generalize SNNP region has been equalizing more than Oromia region, we need to consider the zonal to woreda block grant allocation equalization effect in SNNP region. As the result shows, when Oromia's block grant allocation compared with Sidama zone block grant equalization performance, it has performed well in reducing fiscal disparities. Nevertheless, it is not still possible to conclude that Oromia block grant allocation to woredas has been performed better than SNNP, due to the fact that other zones in SNNP might have been equalizing more than the regional state. In addition, as we have discussed in chapter four, the highest equalization performance might be due to the successive improvement of the allocation mechanism in SNNP region.

An additional way to examine the equalization performance of the block grant is to study whether in reality the block grant allocation from the federal to regions and from regions to local governments in SNNP and Oromia regions live up its promise in promoting equity in resource distribution. To achieve this objective, multiple regression analysis has been estimated for federal, regional and also to local government allocation through various periods[46].

[46]I have discussed detail explanation about the data and methodology of the regression analysis in chapter two of this paper.

For the federal-regional block grant regression estimation, the independent variables i.e. the total population, population density, gross educational enrollment of regions with school age proportion from the total regional population, number of agricultural land holders, population who have visited health centers and percentage share of own revenue from the total regional expenditures explains 65 % of the variation in per capita federal grant among regional states. However multicolinerity were detected in population, agricultural land holders and no health centers visits variables, reflected through the very low tolerance of these variables (see Appendix 4).

After this detection of multicolinerity, the researcher has undertaken stepwise regression estimation in order to the see relative importance of these variables estimated and it is found again that the no health institution visits and number of agricultural land holders cultivated land suffers from multicollinerity (see Appendix 5). However in the stepwise regression estimate, it is found that the number of population has not affected by multicolinerity. Hence the researcher has estimated the regression equation by excluding number of health center visits and number of agricultural land holders, exclusion of variables which suffers from multicolinerity from the regression estimation enables the researcher to avoid estimation problems.

As table 16 below shows this variables explains 62 % of the variation in per capita block grant among regions. The table also shows these variables are not affected by multicolineraty, since the tolerance value is close to 1 for all the variables.

Table 16: Pooled OLS Multiple Regression Result; Dependent Variable, Federal, Per Capita Block Grant Allocation (2003/04-2009/10)

Independent Variables	Standardized betas	T statistics	Collinearity Statistics Tolerance
Constant	336.68*	-2.06	
Total Population	-0.55*	-6.98	0.94
Population Density	0.37*	-4.16	0.74
Gross enrollment	0.33*	-4.01	0.88
Percentage of school Age Population	0.42*	4.77	0.75
Own Revenue Proportion	-0.22*	-2.66	0.83
R^2	0.62		
No of Observations	70		

*Refers statistically significant at 0.05 significance level

Among the variables included in the model, total population is the highest determinant of per capita federal-regional block grant variation. Next to population, school age populations determine the variation in per capita revenue. Population density, gross enrollment and own revenue of regions explains, the per capita block grant variation in 3rd, 4th and 5th position respectively.

First, as suspected, the regression result of the federal block grant allocation suggest that perceived fixed costs (i.e. scale economies) are an important determinants in the allocation of the federal block grant among regions in Ethiopia. As a result regions with larger population indeed receive smaller allocation when measured in per capita terms. For every increase in population of a million residents, a regional government will receive 0.55 birr less per person.

Second, the result suggest that, contrary to a hypothesis of sparsely or less densely populated regions receiving higher block grant in per capita terms, our empirical result found a counter equalizing value as high densely populated regions receive higher per capita terms. For an increase of, a thousand populations per thousand square K.M, a regional government will receive 0.37 birr more per person. In the federal block grant allocation due to lack of data unit cost of each sector service provision in the formula have not considered, therefore, the formula would have not captured the overall unit cost difference in relation to population settlements. On the other hand positive relationship with density could be justified in other way since having high density would also have extra unit cost implication in some public service provision[47].

Third, the result suggests a positive relationship between gross enrollment and per capita block grant allocation. Similarly the proportion of school age population from the overall region population determines the per capita grant allocation positively. For an additional enrollment of a student regional government receive 0.33 birr more per student and also for a one percent additional school age population from the total regional population the regions will receive 0.23 birr more per school age population. These confirm the initial hypothesis that the block grant allocation is robust in considering the recurrent and capital expenditure need of regional governments in education sector. Since additionally enrolled student needs extra resource and thus it shows the allocation is equalizing. Accordingly it will enable regions to maintain the existing infrastructure and service delivery by providing extra resource for this. In addition, the positive relationship of the school age population share with per capita block grant is a manifestation of the system in considering major work load of the regional government, this is also equalizing since considering the work load of regional government in the block grant allocation is line with equalization principle.

Fourth, the allocation of the federal block grant is fiscal capacity equalizing since those regions which cover higher proportion of their expenditure from their own revenue (Adjusted for tax effort) receive less in per capita terms. This is reflected through the

[47] In some countries like Australia, the system of grant allocation in terms of per capita considers high density of urban areas because of its high unit cost implication in some service provision.

negative and significant relationship between revenue capacity and per capita allocation in our empirical model. With an increase in one percent coverage of regional expenditure from regional own revenue, regions will get less of 0.28 birr in per capita terms. The revenue raising capacity equalization performance of the federal block grant allocation shows that, the formula has been effectively considered the revenue raising capacity difference among regions.

In summary, the above empirical analysis for the federal block grant allocation provides the equalizing trend of the federal block grant transfer in Ethiopia. The analysis supported the official policy or objectives of fiscal equalization i.e. equalizing both expenditure need and revenue capacity of regional governments by the federal governments. So that regional governments will have equal fiscal capacity to deliver basic services to their residents. The empirical result only found a counter equalizing trend in the variable density, for the reason explained in the above this relationship might not create significant counter equalizing influence on the allocation of the federal block grant among regional governments.

For Oromia region block grant allocation among woredas, the variables included in the regression estimation, total population of woreda, density of the woreda population, gross education enrollment in each woreda, school age proportion from each woreda and own revenue share from the total expenditure explains only 49 % of the variation in per capita grant allocation among woreda governments (see table 17 below). Due to similar reason explained in the above we exclude no of population who have visited health institution and no of agricultural land holders from the regression from estimate to avoid estimation problem in relation to the occurrence of multicollineraty in these two variables[48].

Among the explanatory variables population and school age population explains the per capita block grant variations among woredas in highest first and second position. At third level gross enrollment in education explains the per capita variation in significant terms. The other variables have no relationship with per capita block grant variation among woredas in Oromia.

[48] (See appendix 6)

Like that of the federal block grant allocation, the role of fixed costs (Scale Economics) is important in Oromia block grant allocation, since the value of population in the estimation result in a significant and negative value. For each additional hundred thousand population, woredas will receive 0.49 birr less per person. Hence in Oromia regional state block grant allocation woredas which have big population has been received lower block grant in per capita terms.

Table 17: OLS Multiple Regression Result; Dependent Variable, Oromia woredas, Per Capita Block Grant Allocation (20010/11)

Independent Variables	Oromia		Collinearity Statistics (Tolerance)
	Standardized betas	T statistics	
Constant	42.75	-0.77	
Total Population	-0.49*	-7.65	1
Population Density	-0.03	-0.37	0.98
Gross enrollment	0.37*	-4.79	0.87
Percentage of school Age Population	0.43*	4.58	0.92
Own Revenue Proportion	-0.09	-1.36	0.94
R^2	0.49		
Number of Observations	203		

*Refers statistically significant at 0.05 significance level

School age population proportion from the total population and gross educational enrollment of woredas also found to be positively determining the per capita grant entitlements of woredas in Oromia. For each additional thousand enrollment of students from the total school age population, woredas would receive 0.37 birr more in per capita terms for each additional enrollment. And also for each increase in the proportion of school age population from the overall population woreda governments will receive 0.43 birr more in per capita terms. This result shows the block grant allocation in Oromia considers both the recurrent and capital expenditure of woreda governments to provide basic education to its school age population.

The population density and own revenue proportion relationship with per capita grant of woredas found to be negative but not statistically significant. Thus these variables have not determined the per capita grant variation in Oromia block grant allocation among woreda governments. The current unit cost formula in Oromia is only intend to address the expenditure need difference among woredas without considering the revenue raising capacities of woredas. Hence, the insignificant relationship between the per capita block grant and own revenue of woreda governments is related to the non consideration own revenue raising capacities of woreda governments in the block grant allocation. The insignificant relationship between density and per capita block grant might be explained in relation with the unit cost consideration in the block grant allocation; in the block grant unit cost is calculated based on a standard cost drives and these cost drivers are adjusted to regional standard, this made the difference in unit cost among local governments insignificant in the per capita block grant variation due to population density.

In general, the regression result for Oromia block grant allocation suggests that the allocation is more or less expenditure equalizing except insignificant role of density of woreda governments reflected in the allocation. In the revenue raising side the empirical estimate has not showed a significant relation with the per capita block grant variation. Therefore revenue raising capacity differences of woredas have not determined the per capita grant entitlements of woredas. The overall performance of Oromia block grant allocation seems only to equalize the fiscal disparities of woreda governments partially through expenditure equalization.

The regression result for SNNP regional block grant allocation suggests that, the variables included; total population of zones, population density of zones, gross educational enrollment of zones, and school age proportion from the zonal population and own revenue proportion from the zonal total expenditure explains only 27 % in the variation of per capita grant among zonal governments. Since R^2 is relatively lower than the federal and Oromia region block grant allocation, it is possible to deduce that, other than major expenditure need and revenue raising capacities of zonal/special woreda governments other factors have been determining the per capita variation in block grant entitlements in SNNP (See table 18 below). The diversity and the autonomy of zonal

governments might have influenced the per capita block grant allocation. In the Number of people who have visited health institution and no agricultural land holders variables multicollinerity have detected, so that, using similar method, the researcher excluded these variables from the regression estimate to avoid estimation problems.

Table 18: Pooled OLS Multiple Regression Result; Dependent Variable, SNNP zones, Per Capita Block Grant Allocation (2006/07-2010/11)

Independent Variables	SNNP		Collinearity Statistics (Tolerance)
	Standardized betas	T statistics	
Constant	-10.92	-0.26	
Total Population	-0.21*	-2.14	0.74
Population Density	-0.2	-1.90	0.69
Gross enrollment in Education	0.41*	-4.45	0.85
Percentage of school Age Population	0.25*	2.73	0.85
Own Revenue Proportion	-0.14	-1.34	0.65
R^2	0.27		
Number of Observations	110		

*Refers statistically significant at 0.05 significance level.

In SNNP gross enrollment explains the highest variation in per capita block grant, at the next level school age population and total population explains the per capita variation in block grant entitlements among woredas. This is relatively different from the Federal and Oromia block grant allocation, since population determines the per capita block grant variation at the first level in both block grant allocations. In SNNP, the other variables have no relationship with the variation in per capita block grant among zones.

Like that of the Federal and Oromia regional state block grant allocation the perceived fixed costs (Economies of Scale) of service provision also reflected in SNNP block grant allocation. For every increase in population of a million residents, zonal government will receive 0.21 birr less per person. Hence zones with big population have been receiving less in per capita terms when it compared with zones with small population.

The educational enrollments and school age population from the overall zonal total population positively related with the per capita grant allocation in SNNP. For each additional one percent increase in gross enrollment of students, zonal government gets 0.41 birr more per student. For each an additional proportion of school age population, zone gets 0.25 birr more per school age population. These reflect the regional block grant allocation to zones has been equalizing both recurrent and capital expenditure needs of educational expenditure.

Like that of Oromia regional state woreda block grant allocation, the relationship of density and own revenue proportion from the total zonal expenditure with per capita grant found to be insignificant. The insignificant relationship between revenue raising capacity and per capita block grant in SNNP is surprising, since the allocation mechanism has been intended to equalize revenue raising capacities of zonal governments and it shows the failure of the allocation mechanisms in addressing revenue raising disparities in resource allocation.

The overall result in SNNP shows, the per capita grant allocation is expenditure equalizing reflected through, a significant and perceived relationship with population, gross educational enrollment and school age population. In expenditure need side the insignificant value is only observed for population density. The fiscal capacity equalization has not a significant negative relation with per capita grant allocation, it is possible to say that, the grant allocation is not revenue equalizing among zonal governments.

As it was mentioned previously, in SNNP the regional government allocates grant only to zones and zones in turn allocates the grant to woredas, it is important to look empirically, whether the allocation of grant from zonal governments to woredas is also equalizing. To do so, the same variables that have been included for the federal, SNNP and Oromia regions block grant allocation have included in estimating, the equalization performance of Sidama zones block grant allocation to woredas.

The regression result for Sidama zones suggests that, the included variables i.e population of each woreda, population density of woreda, gross educational enrollment, school age

proportion from the total woreda and own revenue, no of agricultural land holders and no of population who have visited health institutions of Sidam zone woreda explains 34 % of the variation in per capita grant among woredas (See table 19 below). This low R^2 might be due to the fact that the number of observation is relatively smaller at zonal level than regional level. In addition we only pooled two years data; this would significantly affect the overall regression estimates.

In Sidama zone only own revenue proportion form the total woreda expenditure has a significant relationship with per capita grant entitlements of woredas. For additional more percentage proportion of own revenue from the total woreda expenditure, a woreda will get 0.61 birr less per person.

Table 19: Pooled OLS Multiple Regression Result; Dependent Variable, Sidama Zone woredas, Per Capita Block Grant Allocation (2009/10-2010/11)

Independent Variables	Sidama Zone		Collinearity Statistics (Tolerance)
	Standardized betas	T statistics	
Constant	257.89*	-4.48	
Total Population	-0.17	-0.86	0.57
Population Density	-0.04	-0.24	0.62
Gross enrollment	-0.25	-1.32	0.60
Percentage of school Age Population	0.06	0.31	0.67
Own Revenue Proportion	-0.61*	-3.17	0.5
R^2	0.34		
Number of Observations	40		

*Refers statistically significant at 0.05 significance level

The population variables relationship with per capita grant is not significant, which is a manifestation of the weakness of zonal block grant allocation in considering economies of scale in service provision of woredas in the zone. The density variable relationship with per capita grant is also not significant, which shows the weakness of the zonal block

grant allocation in considering the unit cost service provision difference of woredas governments. The overall result of Sidama zonal block grant allocation shows, the block grant allocation to woredas has not been undertaken in an expenditure equalizing manner among woredas.

In general, the block grant allocation is fully equalizing both in expenditure and revenue raising capacity at the federal level, partially equalizing in expenditure need of local governments in SNNP and Oromia Regional States and only revenue rising capacity equalizing in Sidama zone. The federal block grant allocation is full equalizing, due to the fact that, the empirical evidence of the federal grant allocation suggested a significant and perceived relationship with the selected expenditure need and revenue raising capacity proxies of regional governments except for population density.

In Oromia and SNNP regional level the block grant allocation is not fiscal capacity equalizing, it is equalizing only in expenditure need differences among woredas/zones in terms of population, school age population and gross enrollment. At Sidama Zone level the extent of equalization in expenditure need is not as it was perceived, and the selected expenditure need proxies have not influenced the per capita grant variation of woreda governments. While the revenue raising capacities of woreda governments significantly determine the per capita grant entitlement and hence, the block grant allocation at Sidama Zone level found to be only revenue raising capacity equalizing. To summarize, the two regions block grant allocations have only reinforced the federal government equalization effort partially in terms of equalizing expenditure need of local governments.

Chapter Six: Summary and Conclusion, and Policy Implication

6.1 Summary and Conclusion

In this paper the overall performance of the federal and two regions (Oromia and SNNP) block grant transfers in equalizing the fiscal capacities and expenditure needs of regions and local governments has been analyzed using both descriptive and inferential statistical analysis. In the process first both theoretical and empirical researches regarding fiscal transfer in general and fiscal equalization in particular were reviewed and its implication in designing appropriate fiscal transfer mechanisms to achieve various objectives in a given country has elaborated.

After reviewing the relevant empirical and theoretical literatures, the researcher describes the legal framework, institutional arrangement objectives and mechanisms of the fiscal transfer at the federal level and in Oromia and SNNP regional states in Ethiopia. For this purpose, the existing fiscal relations, including the government structure and the legislative framework have reviewed. It is further shown that how the responsibilities are assigned between the federal and regional governments and also between the regional government and local governments in SNNP and Oromia regions.

At the next level, the researcher assessed the rationales of fiscal transfer from the federal government to regional states and from the regional to local governments based on different empirical and theoretical literatures, key informant interview and legal documents. It is noted that over the years the major objective of the block grant allocation at the federal and in the two region have been defined to provide equal fiscal capacity to each level of government in order to enable provision of comparable basic service. This objective is line with the normative theory of fiscal equalization transfer in which grant is allocated to provide equal fiscal capacities among sub national governments. In relation to this, the researcher has reviewed the institutional arrangement for the division of the fiscal resources that have been allocated for block grant allocation among regions and local governments in the two regional states and the researcher has also discussed how the resource is allocated vertically among federal government and regional states as well as among the regional state and local governments in SNNP and Oromia and it is noted

that the resource pool determination is more of a political undertaking and it has been determined on ad hoc basis at both level.

The horizontal allocations have been done using objective criteria at the federal and in Oromia and SNNP regions. In SNNPR, it is observed, block grant allocation to woreda governments has been performed by zonal governments using objective criteria like that of the federal government and the regions. The federal government implemented three types of block grant formula since it started to allocate block grant transfer to regional states. First between 1996/97-2007/08 the block grant was allocated using the simple parameter formula, which includes population, Development level and Revenue Raising Effort of regional governments. Secondly for 2007/08 and 2008/09 the block grant was allocated using the per capita expenditure and revenue raising equalization formula and finally the fiscal gap formula, which is in effect since 2009/10 fiscal year.

The two regions initially adopted the simple parameter formula to allocate block grant to woredas. However since 2006/07 Oromia regions has been using unit cost formula. This formula was first adopted by SNNP region in 2004/05. Nevertheless, SNNP has shifted its allocation to per capita equalization and fiscal gap formula in successive years after 2007/08 and currently SNNPR is using both per capita equalization and fiscal gap formula to allocate block grant to zones and special woredas. The case study at Sidama zone level in SNNP also suggests, the zonal administration is using similar formula like that of the regional government to distribute the block grant to woredas.

In the process of describing the block grant allocation mechanisms at the federal and in the regions, the researcher has discussed the shortcoming of each block grant allocation mechanisms. It is noted that, the formula which have been implemented at both federal and in the two regional levels have violated the underlying principle of equitable resource distribution due to lack of appropriate socio economic and demographic data at the regional as well as local government levels. However, it is found that, the block grant allocation is evolving throughout the period in a way that would enable to achieve its objective at federal and regional levels.

The researcher has also observed the relative growth of the resource available for block grant allocation at the federal and regional levels. The resource available for block grant allocation by the federal government to regions, between 1996/96 and 2009/10 has been increased in absolute terms. However the annual growth rate after 2002/03 EFY deteriorating with the soaring of inflation at the national level. The share of federal block grant from the overall budget remains between 30-40 % of the federal government budget throughout the whole period. In Oromia and SNNP regions between 2003/04 and 2006/07, the resource allocated for block grant transfer has showed an increasing trend. However, after 2007/08 its annual growth rate have been declined, in relation to similar reason like that of the federal block grant resource pool; with the soaring of inflation, the resource available for local government block grant allocation have also deteriorated in both regions. In addition the actual share of the woreda/zonal block grant budget covers between 70 and 80 % in SNNP region and between 50 and 55 % in Oromia region. This shows the extent of budget decentralization is relatively higher in SNNP than Oromia regional state.

Finally the performance of the block grant allocation at federal and in the two region level has been evaluated using descriptive statistics and multiple regressions. The descriptive analyses have undertaken using measures of central tendency and measures of dispersion. This measures was adopted to analyze the variation in per capita own revenue, per capita grant and per capita revenue after the allocation of grant for the 10 regional states at the federal level and to local governments that reliable data have obtained in Oromia and SNNP regions. The coefficient of variation of per capita revenue of regional states and woreda governments in both regions showed a reduction after the block grant allocation for each year and throughout the whole analysis period. We have obtained similar result for Sidama zone block grant allocation to woredas. Therefore, the descriptive statistical analyses provide the researcher general evidence about the equalization trend of the federal, Oromia, SNNP and Sidama zone block grant transfers.

After observing the equalization trend using the descriptive statistical analysis, we have estimated, the relationship of per capita grant with major expenditure need and revenue raising capacities of regional and zonal/ woreda governments. Towards this end, we estimate the relationship between per capita grant with total population, population density, gross educational enrollment, school age proportion from the overall population, number of agricultural land holders, number of health institution visits, and own revenue proportion from the total expenditure at the federal and in two region level. We exclude number of agricultural land holders and number of health institution visits due to the occurrence of multicolinerity. Hence, we have estimated the regression equation by excluding these variables for the federal, Oromia and SNNP block grant allocation.

It is found that, the federal block grant allocation is both fiscal capacity and expenditure need equalizing, as a result of significant and negative relationship with total population and own revenue proportion from the total region expenditure, and positive relationship with gross enrolment and school age population proportion from the total regional population. The federal block grant is only counter equalizing in density reflected through positive relationship with per capita grant entitlements, hence, regions which are densely populated have been received higher grant in per capita terms than sparsely populated regions, this result has diverted from the expected negative relationship with per capita grant, due to the need for lower unit cost to provide service to densely populated service users..

For SNNP and Oromia block grant allocation, the regression results show that, the block grant allocation is only expenditure need equalizing reflected through a significant and negative relationship of the per capita grant allocation with total population and its positive relationship with gross enrollment and school age population proportion of zonal or woreda governments. The own revenue proportion and population density of zonal/woreda governments have not any significant relationship with per capita grant allocation in both regions , and did not explain the difference in per capita block grant among woredas in Oromia and SNNP.

Additionally, the similar regression estimation for sidama zonal governments has been performed, in order to analyze the equalization performance of the zonal to woreda block grant allocation. From the estimation, we have found, the zonal block grant allocation has not been expenditure need equalizing, since all variables have not significantly related with per capita grant variation. However, we have found a significant and negative relationship between per capita grant and own revenue of woreda governments. Therefore, the allocation at zonal level is revenue capacity equalizing.

In summary the two regions are reinforcing the federal government policy of fiscal equalization only in expenditure need side. Therefore, it is not possible to say that, the regional governments have been providing equal fiscal capacities in their block grant allocation to their respective local governments, in order to provide comparably equal basic public services.

6.2 Policy Implication

Since the empirical analysis show a mixed result in the equalization performance of the block grant at the federal, regional and local level, it is noteworthy to point out some of the policy implication that would enable to improve the overall operation of the fiscal transfer at each government level in the future.

At the federal government level

- The federal government effort in equalizing expenditure need and revenue raising capacities of regional government should be further strengthened to promote equity in the allocation of the federal- regional block grant transfer. In this respect, the federal government needs to consider the expenditure needs difference that would arise in relation to population density. This is important due to, provision of basic services to sparsely settled population force regional governments to incur extra unit cost.

- The federal government should create an enabling environment to coordinate the allocation of fiscal resources vertically and horizontally in regional states. Lack of

coordination in harmonizing the allocation fiscal resource at the regional to local governments has the potential to accentuate inter and intra regional fiscal disparities which in turn would affect the overall federal government effort in providing equitable basic public services to citizens.

- The mechanism of the block grant allocation should be updated with the changing circumstances of regional governments, in a manner which is not suitable for regional data and policy manipulation, in relation to this appropriate data which reflect fiscal disparities among regional governments should be organized in timely manner at national level in order to enhance the equity and efficiency of the block grant transfer.

- The determination of the overall resource pool of the federal government should consider changing circumstance in overall macroeconomic issues. In this respect, the block grant resource pool needs to be adjusted for inflation in order to provide sufficient fiscal resources for regional governments.

In Oromia Regional State

- The block grant allocation to woreda/zonal governments needs to equalize the revenue raising capacities of woreda governments. To achieve this objective appropriate woreda level governments own revenue, which have the potential to accentuate fiscal disparities among woredas and revenues which has the potential to reduce the dependence of woreda governments on the regional block grant should be thoroughly studied and included in the regional- block grant transfer system.
- The regional government needs to consider the unit cost difference among woredas governments that force woreda governments to incur additional unit cost in the block grant allocation to woreda governments. For instance population density and remoteness could be included to reflect the unit cost difference in service provision.

- The current practice of using woreda level administrative data to allocate the block grant to recurrent and capital expenditure sectors needs to be changed by establishing appropriate institution which permanently collects demographic and socio economic data based on scientific data collection methods. This would in turn reduce woreda government data inconsistencies and manipulation; thereby enable the regional government to track the fiscal and service provision disparities among woreda governments.
- The regional government needs to ensure the sufficiency of the resource pool allocated for block grant transfer to regional states by linking with the national and regional overall macroeconomic performance. In this respect, the region needs to ensure the growth of the available for block grant resource in real term in its annual budget determination.

In SNNP Region

- The regional government needs to harmonize the block grant allocation by zonal governments to woreda governments. Since there is no any policy document, which guides the zonal to woreda block grant allocation, the region needs to undertake various capacity building initiatives to zonal institutions which participate in the allocation of the block grant to woredas.
- The regional government needs to consider the unit cost difference in the provision of basic public services that arise in relation to population density.
- The block grant allocation to zones needs to consider appropriate revenue of zonal governments which has the potential to accentuate fiscal disparities among zones and also it needs to include those zonal governments revenue that has the potential to improve the fiscal position of zonal governments.
- Reliable and consistent revenue raising capacities and expenditure needs data should be collected by an independent regional institution. To do so appropriate institution which tracks the progress and position of different demographic and socio economic data of zonal and woreda governments needs to be established at the regional level.

In Sidama Zone

- The zonal block grant transfer to woreda governments needs to evaluate the allocation of block grant transfer in equaling expenditure needs of woreda governments. In relation to this, the zonal government needs to include the unit cost of providing basic public services in woredas, which have densely and sparsely populated population distribution. In addition, the grant allocation needs to be strongly linked with the workload of woreda governments in the provision of basic public services.
- Appropriate data needs to be collected from the woreda governments in the zones by zonal institution, which in turn reduces the potential of mistargeting and data inconsistencies of different demographic and socio economic indicators of woreda governments.

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Appendex 1: Regions Socio Economic and Demographic Data

Regions population (in Thousands)							
Regions	1996	1997	1998	1999	2000	2001	2002
Tigray	4113	4223	4335	4449	4538	4629	4721
Afar	1300	1359	1389	1418	1446	1475	1505
Amhara	18143	18626	19120	19624	20016	20417	20825
Oromia	25098	25817	26553	27304	27850	28407	28975
Somali	4109	4218	4329	4444	4533	4624	4716
benishan	594	610	625	640	653	666	679
SNNP	14085	14490	14902	15321	15627	15940	16259
Gambella	234	240	247	253	258	263	268
Harari	185	190	196	203	207	211	215
DireDawa	370	384	398	412	420	429	437
Total	68233	70159	72096	74070	75551	77062	78604

Block Grant to Regions (in Millions)

Regions	1996	1997	1998	1999	2000	2001	2002
Tigray	458.15	485.96	734.7	734.7	984.01	1861.386	1472.17
Afar	224.99	240.74	369.29	369.29	484.57	545.53	688.39
Amhara	1335.05	1449.7	2245.56	2245.6	3432.94	4326.76	4868.01
Oromia	1846.61	1990.2	3127.8	3127.8	4705.29	5774.32	6790.93
Somali	372.04	417.04	652.08	652.08	1004.15	1211.1	1722.75
BGR	177.51	185.24	254.34	254.34	260.95	301.45	408.2
SNNP	1138.92	1184.8	1855.5	1855.5	2697.27	3405.09	4155.52
Gambella	130.58	128.06	186.35	186.35	186.02	210.44	323.62
Harari	77.52	81.58	120.53	120.53	135.72	141.6	183.41
DireDawa	85.91	94.1	150.96	150.96	201.85	204.94	206.09
Total	5847.28	6257.4	9697.11	9697.1	14092.77	17982.62	20819.1

School age population between 2003/04-2009/10 (in millions)

Regions	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Tigray	1006	1033.927	1245.041	1280.547	1296.795	1333.862	1366.127
Afar	309.046	311.836	374.929	380.501	465.15	472.429	482.522
Amhara	4360.946	4485.922	5404.183	5563.642	5206.03	5390.226	5393.713
Oromia	6133.679	6326.81	6639.62	7881.349	8527.799	7426.925	9058.9
Somali	1020.473	1027.48	1232.577	1249.41	1479.749	806.617	1535.015
benishan	146.316	149.731	179.943	184.118	209.915	199.653	223.453
SNNP	3431.484	3541.121	4275.326	4318.158	4735.848	4524.893	5030.791
Gambella	51.538	52.184	62.892	64.504	94.69	82.197	103.134
Harari	35.045	35.776	44.411	46.173	52.273	50.849	55.182
DireDawa	72.053	74.089	92.259	96.401	97.966	82.424	103.206
Total	16566.58	17038.88	19551.18	21064.8	22166.22	20370.08	23352.04

Own Revenue of Regions 2003/04-2009/10 (in millions)

Regions	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Tigray	1518.91	2501.00	2804.17	2518.06	3581.21	3500.39	6678.40
Afar	261.99	410.87	473.42	464.15	510.00	609.27	900.00
Amhara	3181.59	3801.60	3995.88	3940.53	4449.88	5999.98	9051.21
Oromia	5493.75	6434.36	8855.10	8495.42	8442.46	10872.61	15174.53
Somali	434.75	430.23	470.59	591.27	917.23	1123.17	3567.01
benishan	213.51	271.24	223.81	279.31	368.04	414.70	540.00
SNNP	2408.96	4595.31	3666.86	3387.27	3476.97	5473.56	6872.50
Gambella	90.08	104.56	139.18	192.91	199.29	270.33	401.48
Harari	145.51	142.82	230.92	96.62	283.59	420.09	480.00
DireDawa	244.44	401.02	530.86	359.14	1044.88	1050.00	1298.66
Total	13993.49	19093.01	21390.78	20324.69	23273.56	29734.10	44963.79

Appendix 2: SNNPR Socio economic and Demographic Data

Zones Block Grant Entitlements (In millions)

zone or special woreda	2006/07	2007/08	2008/09	2009/10	2010/11
Amaro	12.07	16.64	21.99	26.17	36.38
Basketo	7.43	6.65	10.07	9.31	14.92
Bench Maji Zone	66.90	76.22	92.98	120.00	180.00
Burji	7.45	8.80	10.07	24.06	15.70
Dawro Zone	40.59	48.10	69.12	81.77	120.00
Debub Omo Zone	53.76	80.66	83.84	120.00	150.00
Derashe	10.72	12.31	18.26	12.60	32.04
Gamo Gofa Zone	120.00	150.00	202.26	250.00	320.00
Gedio Zone	69.12	83.57	112.59	140.00	160.00
Guraghe zone	120.00	150.00	222.81	240.00	290.00
Hadiya Zone	98.95	140.00	188.62	220.00	240.00
Halaba sp.Wereda	17.68	21.53	34.02	12.45	45.14
Hawassa City Adm.	0.00	0.00	0.00	0.00	0.00
Kefa Zone	75.34	92.92	123.49	140.00	180.00
Kembata Tenbaro	62.86	81.10	107.35	130.00	160.00
Konso	17.33	22.88	28.28	16.95	44.34
Konta	8.00	11.36	14.55	35.23	20.34
Sheka Zone	31.52	36.20	51.29	50.99	53.96
Sidama Zone	190.00	240.00	339.84	440.00	530.00
Silti Zone	67.77	86.59	118.91	150.00	170.00
Welayita Zone	120.00	160.00	221.32	260.00	320.00
Yem	8.09	7.31	10.94	39.19	19.97

Zones Own Revenue (In millions)

zone or special woreda	2006/07	2007/08	2008/09	2009/10	2010/11
Amaro	1.67	1.80	2.99	3.90	5.64
Basketo	0.18	1.30	1.70	12.25	3.44
Bench Maji Zone	9.69	13.60	23.25	26.91	42.49
Burji	0.96	1.30	2.52	4.30	3.47
Dawro Zone	5.17	10.50	17.85	22.82	26.64
Debub Omo Zone	6.20	9.10	16.92	21.78	30.36
Derashe	1.66	2.40	3.18	2.85	6.16
Gamo Gofa Zone	20.60	27.90	40.23	64.87	83.75
Gedio Zone	10.89	14.50	21.09	32.77	39.39
Guraghe zone	34.84	49.20	58.83	63.34	79.28
Hadiya Zone	16.56	20.70	37.07	46.93	62.59
Halaba sp.Wereda	3.13	4.80	6.24	3.12	10.15
Hawassa City Adm.	12.35	29.80	39.73	55.06	99.66
Kefa Zone	13.35	16.20	23.91	29.28	40.06
Kembata Tenbaro	8.70	11.30	20.02	26.47	36.05
Konso	0.96	3.10	4.71	3.40	7.20
Konta	1.38	1.70	2.68	6.46	3.42
Sheka Zone	6.63	7.80	12.30	15.53	22.43
Sidama Zone	42.87	49.20	69.78	78.06	106.49
Silti Zone	8.83	11.90	21.19	27.89	37.77
Welayita Zone	19.48	28.60	58.03	68.69	77.69
Yem	3.34	5.70	9.84	7.81	6.57

Zones population (In thousands)

zone or special woreda	2006/07	2007/08	2008/09	2009/10	2010/11
Amaro	149.23	153.58	158.06	162.68	167.43
Basketo	56.69	58.38	60.12	61.92	63.78
Bench Maji Zone	652.53	672.31	692.71	713.76	735.47
Burji	55.68	57.37	59.10	60.90	62.75
Dawro Zone	489.58	503.99	518.83	534.13	549.89
Debub Omo Zone	573.44	590.36	607.79	625.76	644.27
Derashe	142.76	147.02	151.41	155.94	160.61
Gamo Gofa Zone	1593.10	1640.86	1690.10	1740.89	1793.25
Gedio Zone	847.43	873.32	900.03	927.60	956.05
Guraghe zone	1289.24	1326.60	1366.25	1407.14	1449.30
Hadiya Zone	1256.43	1294.29	1333.34	1373.61	1415.16
Halaba sp.Wereda	247.97	255.45	263.16	271.12	279.33
Hawassa City Adm.	258.81	269.21	280.06	291.37	303.16
Kefa Zone	874.72	900.51	927.09	954.47	982.70
Kembata Tenbaro	680.84	701.86	723.56	745.97	769.10
Konso	235.09	241.86	248.83	256.00	263.39
Konta	90.85	93.55	96.35	99.23	102.19
Sheka Zone	199.31	205.58	212.05	218.74	225.65
Sidama Zone	2921.34	3006.39	3093.97	3184.18	3277.08
Silti Zone	753.50	775.54	798.24	821.63	845.72
Welayita Zone	1501.11	1546.59	1593.51	1641.92	1691.87
Yem	77.47	79.80	82.20	84.67	87.23

School Age Population of Zones between 2006/07-2009/10 (in Thousands)

zone or special woreda	2006/07	2007/08	2008/09	2009/10
Amaro	43.60	47.82	45.69	50.80
Basketo	12.56	13.78	13.16	14.64
Bench Maji Zone	123.00	134.90	128.89	143.30
Burji	16.95	18.59	17.76	19.74
Dawro Zone	111.27	122.04	116.60	129.64
Debub Omo Zone	132.99	145.86	139.36	154.94
Derashe	36.32	39.83	38.06	42.31
Gamo Gofa Zone	423.42	464.38	443.69	493.30
Gedio Zone	232.81	255.32	243.95	271.23
Guraghe zone	452.49	496.26	474.16	527.17
Hadiya Zone	430.92	472.60	451.55	502.03
Halaba sp.Wereda	58.31	63.95	61.10	67.94
Hawassa City Adm.	42.66	46.78	44.70	49.70
Kefa Zone	223.27	244.86	233.96	260.11
Kembata Tenbaro	234.07	256.71	245.28	272.70
Konso	63.04	69.14	66.06	73.45
Konta	22.46	24.63	23.53	26.16
Sheka Zone	48.65	53.35	50.98	56.68
Sidama Zone	839.13	920.30	879.31	977.62
Silti Zone	237.97	260.98	249.36	277.24
Welayita Zone	505.98	554.92	530.20	589.48
Yem	26.29	28.83	27.55	30.63

Gross Enrollments in thousands (2006/07-2010/11)

zone or special woreda	2006/07	2007/08	2008/09	2009/10	2010/11
Amaro	17,054.64	27,876.92	28,343.09	28,589.42	30018.89
Basketo	5,656.08	9,245.23	9,399.83	9,481.52	9955.6
Bench Maji Zone	70,783.51	115,700.28	117,635.06	118,657.41	124590.3
Burji	7,191.80	11,755.46	11,952.04	12,055.92	12658.71
Dawro Zone	53,302.80	87,126.92	88,583.89	89,353.76	93821.45
Debub Omo Zone	40,357.40	65,966.81	67,069.93	67,652.82	71035.46
Derashe	11,486.68	18,775.74	19,089.71	19,255.62	20218.4
Gamo Gofa Zone	179,445.87	293,316.03	298,220.96	300,812.75	315853.4
Gedio Zone	85,836.15	140,304.81	142,651.03	143,890.79	151085.3
Guraghe zone	220,211.36	359,949.91	365,969.11	369,149.69	387607.2
Hadiya Zone	197,386.01	322,640.36	328,035.67	330,886.57	347430.9
Halaba sp.Wereda	27,878.27	45,568.86	46,330.87	46,733.53	49070.2
Hawassa City Adm.	24,847.89	40,615.51	41,294.69	41,653.58	43736.26
Kefa Zone	110,589.07	180,765.08	183,787.90	185,385.17	194654.4
Kembata Tenbaro	118,049.51	192,959.66	196,186.40	197,891.43	207786
Konso	17,328.42	28,324.43	28,798.08	29,048.36	30500.78
Konta	10,170.84	16,624.91	16,902.91	17,049.81	17902.3
Sheka Zone	34,223.07	55,939.84	56,875.29	57,369.58	60238.06
Sidama Zone	368,343.91	602,082.26	612,150.49	617,470.59	648344.1
Silti Zone	110,687.46	180,925.91	183,951.41	185,550.10	194827.6
Welayita Zone	236,577.28	386,701.07	393,167.62	396,584.57	416413.8
Yem	12,584.36	20,569.96	20,913.94	21,095.70	22150.49

Appendix 4:

Pooled OLS Multiple Regression Result; Dependent Variable, Federal, Per Capita Block Grant Allocation (2003/04-2009/10)

Independent Variables	**Standardized betas**	**T statistics**	**Collinearity Statistics** (Tolerance)
Constant	-327.288	-1.85	
Total Population	-1.14	-3.9	0.07
Population Density	0.39	4.34	0.70
Gross enrollment	0.24	2.82	0.79
Percentage of school Age Population	0.44	4.83	0.68
Number of agricultural land holders	0.73	2.58	0.072
No of Health Institution visits	-0.11	-0.63	0.19
Own Revenue Proportion	-0.21	-2.48	0.76
R2	0.65		
Number of Observations	70		

*Refers statistically significant at 0.05 significance level

Appendix 5: Stepwise Regression Result for Federal-Regional Block Grant Allocation

Model	R2		Standardized Coefficients		Collinearity Statistics
			Beta	t	Tolerance
1	0.33	Constant	447.02	14.56	
		Total Population of each woreda	-0.57	-5.69	1.00
2	0.39	Constant	303.85	4.83	
		Total Population of each woreda	-0.58	-6.05	1.00
		Gross enrollment in Education	0.25	2.58	1.00
3	0.49	Constant	-257.41	-1.58	
		Total Population of each woreda	-0.62	-6.99	0.98
		Gross enrollment in Education	0.34	3.73	0.92
		Percentage of school Age Population	0.34	3.69	0.91
4	0.58	Constant	-487.63	-2.99	
		Total Population of each woreda	-0.58	-7.03	0.97
		Gross enrollment in Education	0.28	3.23	0.88
		Percentage of school Age Population	0.47	5.08	0.77
		Population Density	0.33	3.57	0.75
5	0.62	Constant	-344.18	-2.07	
		Total Population of each woreda	-0.55	-6.87	0.94
		Gross enrollment in Education	0.31	3.74	0.86
		Percentage of school Age Population	0.43	4.73	0.75
		Population Density	0.38	4.13	0.73
		Own Revenue Proportion from the Total Expenditure	-0.22	-2.54	0.82
6	0.65	Constant	-276.86	-1.71	
		Total Population of each woreda	-1.21	-4.52	0.08
		Gross enrollment in Education	0.26	3.17	0.81
		Percentage of school Age Population	0.42	4.89	0.75
		Population Density	0.38	4.35	0.73
		Own Revenue Proportion from the Total Expenditure	-0.24	-2.93	0.81
		Number of agricultural land holders	0.70	2.57	0.08

Appendix 6: Oromia regression estimates including no of population who visited health institution and No of agricultural land holders in regions

Independent varaibles	Standardized Coefficients	t	Collinearity Statistics	
	Beta		Tolerance	VIF
Constant	98.188	1.217		
Total Population of each woreda				
Population Density	0.029	0.402	0.885	1.130
Gross enrollment in Education	0.257	3.589	0.894	1.118
Percentage of school Age Population	0.175	2.500	0.934	1.071
Number of agricultural land holders	2.769	2.789	0.005	214.445
No of Helath Instsiturtion vists	-3.338	-3.355	0.005	215.165
Own Revenue Proportion from the Total Expenditure	-0.203	-2.815	0.887	1.128
R2	47			
Number of Observations	125			

Appendix 7: SNNP Pooled regression estimates including no of population who visited health institution and No of agricultural land holders in regions

Independent variables	Standardized Coefficients	t	Collinearity Statistics
	Beta		Tolerance
Constant	-46.66	-1.04	
Total Population of each woreda	0.41	1.69	0.12
Population Density	-0.35	-3.02	0.54
Gross enrollment in Education	0.44	4.80	0.85
Percentage of school Age Population	0.36	3.58	0.71
Number of agricultural land holders	-0.66	-2.23	0.08
No of Health Institution visits	0.02	0.10	0.23
Own Revenue Proportion from the Total Expenditure	-0.12	-1.33	0.86
R2	0.3		
Number of Observations	110		