Study on Intergovernmental Fiscal Transfers

For Federal Nepal

2017

Presented by

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Acknowledgement

The new federal constitution of Nepal has provisioned for some grant transfers and revenue sharing among the levels of government in its article (60). On one hand, as there exist differences in resource endowment, revenue mobilization capacity and the expenditure need among the jurisdictions, it leads to the horizontal fiscal imbalances. On the other hand, there appears vertical fiscal imbalances resulted due to the difference in revenue capacity and expenditure need of the province/local government compared to the central government. So, there is need of role of fiscal transfers from higher levels of government to the lower levels of government. In a new federation, Nepal is in need to formulate an appropriate intergovernmental fiscal transfer system, including a proper legal and the institutional provision in it. There is a need to extend the constitutional provisions with a contextual framework of intergovernmental fiscal transfer consisting of appropriate basis and formula, on which Nepal is undergoing to do. To contribute to this, this study has reviewed national and international practices (11 major countries) and studies on them, and suggested some variables those may be appropriate for Nepalese intergovernmental fiscal transfer formula.

In this regard, I would like to thank Local Body Fiscal Commission (LBFC) for providing me this opportunity to perform this study and to put forward some suggestions. I am very grateful and would like to thank to the joint secretaries of Nepal government, Pursottam Nepal (former Member-Secretary of LBFC) and Gopi Krishna Khanal (Member-Secretary of LBFC) for their valuable assistance and comments for this study. Lots of thanks and gratitude goes to the deputy secretaries of Nepal Government- Baldev Joshi, Bishnu Dutta Gautam, Rajesh Gautam and Pashupati Babu Puri, and Pankaj Pokhrel and Mahesh Acharya (scholars of Tribhuvan University) for their valuable suggestions and help. I am indebted from my dear colleague Hem Raj Lamichhane, fiscal decentralization expert of LBFC, for his precious comments and support in each and every step of this study, hearty thanks to you. I would like to thank the officials and employees of LBFC including section-officers- Surya Prasad Upadhyay, Shukra Devi Rai, Chandra Thapa and accountant-Govinda Prasad Bhattarai and other staffs including Rabin, Durga Das, Jayant, Sanjila, Bhim Maya for their supports during this study. Lastly, I hope this study will contribute to the government of Nepal in framing the appropriate intergovernmental fiscal transfer system and formula for equalization grants.

26 March, 2017

Krishna Raj Panta, PhD
Researcher
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Chapter One: Introduction

1.1 Background

There is difference in geographic, demographic, level of development and resource mobilization, and the fiscal capacities of subnational governments of a country that results in the vertical and horizontal fiscal imbalances among those subnational entities. The intergovernmental fiscal transfer is an important tool of central government in order to correct these fiscal imbalances and reduce the disparities in local service delivery among the subnational territories. In other words, the federal government, by using this fiscal tool, addresses its responsibilities of reducing the fiscal deficit and fiscal disparities faced by its subnational (state and local) governments by strengthening the fiscally weak state and local governments. However, achievement of the central government on this objective of correcting fiscal imbalances among the subnational governments depends on the design of intergovernmental fiscal transfers adopted. Hence, it is more important task of the federal government to structure an appropriate design of a transfer system according to the country context.

The Constitution of Nepal 2015 has also provisioned the equalization transfers in different forms of grants (i.e., conditional, complementary or special grants) to the state and local governments (as provided by the federal laws) in its article 60 as the objective of reducing regional imbalances, poverty and inequality among the subnational territories. However, such types of transfer systems are yet to be designed. In this context, it is in need to suggest for the basis for a good transfer system for the new federal Nepal which is the objective of this study.

The study will review the practices and studies on the intergovernmental fiscal transfers in Nepal. Likewise, it will review the practices in intergovernmental fiscal transfer in some important federal countries. On the basis of these reviews, the study will suggest the possible variables as the basis for an appropriate transfer system in the country context of Nepal.
1.2 Objective of the Study

This study has carried following objectives:

- Review the intergovernmental fiscal transfer system in federal countries.
- Review the horizontal and vertical fiscal transfer practice in Nepal.
- Recommend the basis for the formula for vertical fiscal transfer system in new federal context of Nepal.

To achieve these objectives, the study focuses on the following issues:

- Defining equalization grants\(^1\).
- How is the divisible pool distributed among eligible units?
- Are the grant pool divided on an ad hoc basis or as a result of political negotiation?
- Identifying the variables used in the different transfer system.
- Suggesting the possible variables for an appropriate transfer system in the federal context.

1.3 Methodology

The study is completely desk review of national and international practice on intergovernmental fiscal transfers, including conditional, unconditional and special grants. During the study, the intergovernmental fiscal transfer system of Nepal and other eleven countries of the world, including nine federal countries (Canada, Australia, United States of America, Germany, Switzerland, Russian Federation, South Africa, India and Brazil) and two countries consisting of regional governments (China and Indonesia) has been reviewed. Basically, this study has reviewed the types, modalities, formula and indicators of different intergovernmental transfers of various countries. Documents from various government and non-government sources and national and international sources (published and unpublished) were studied. Feedback from some key officials of the related field was achieved. The findings of the study were shared in the forum created by LBFC.

1.4 Rationale of the Study

The Ministry of Federal Affairs and Local Development (MoFALD) has formed a technical team under the chairmanship of member secretary of LBFC to prepare the baseline for the

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\(^1\) The terms- grants and transfers are used interchangeably in some places in the text.
upcoming National Natural Resources and Fiscal Commission (NNRFC) to develop the formula of equalization grant distribution from the federal government to local government. It is hoped that this study would be the basic foundation for NNRFC for developing a grant distribution formula in the days to come. Moreover, the LBFC has already conducted various studies on the formation of the formula of equalization grant and revenue collection and utilization situation of local bodies in Nepal. The reports have recommended the needs of general and specific policy and capacity development interventions for reducing horizontal fiscal gap and capture the expenditure needs in the context of unitary system of governance in Nepal. The studies have recommended in different perspectives and different models of the grant equalization formula. However, it is found that there are several principles of grant transfer are in practice such as equal distribution, equitable distribution and need based distribution from the central level to local level. Therefore, in the new experience of the federal system in Nepal, it is important to prepare a very scientific and pragmatic equalization grant formula for Nepal to effectively implement the expenditure assignment to local level as provided by the new constitution.

1.5 Structure of the Study Report
The study is composed of five chapters. Among these, Chapter one introduces the subject, rational, objective and methodology of the study. Chapter two provides brief accounts of the concept and principle of intergovernmental fiscal transfer, which consists of the concept, types, allocation method and principle of grant design. Likewise, Chapter three discusses about the constitutional provision, practices and studies on the intergovernmental fiscal transfers in Nepal. Chapter four discusses about the international practices on the intergovernmental fiscal transfers, including the experiences of nine federal countries and two countries with regional governance systems. The last chapter, Chapter five provides some recommendations on the possible transfer systems and possible variables for formula transfers in the context of federal Nepal.
Chapter Two: Intergovernmental Fiscal Transfers: Concept and Principles

2.1 Concept of Intergovernmental Fiscal Transfers

The intergovernmental fiscal transfer is a significant source of revenue of the sub-national governments of most of the developed and developing countries. By definition, intergovernmental fiscal transfer is the mechanism of transfer of fund from higher levels of government to the lower level of governments through different public finance instruments like, tax sharing (Bahl et. al, 2001), intergovernmental grants, subsidies etc. There exists the difference in expenditure responsibilities and revenue authorities provided to the subnational governments. As the major taxes are kept under the criteria of central/federal government and more functions are devolved to the sub-national governments/state/local governments, there results the resource deficit for the sub-national governments that can be referred as the vertical fiscal imbalances and difference in resource availability among the lower levels of governments which is called as the horizontal fiscal imbalances. Mainly, to correct these fiscal imbalances and to reduce the disparities in service delivery among the lower governments, higher levels of government transfer some resources to the lower levels of government which mechanism is known as intergovernmental fiscal transfers.

2.2 Major Objectives of the Transfers

As mentioned above, central government has set some objectives in adopting the intergovernmental fiscal transfer system. Those objectives are briefly presented as follows:

- Closing the gap- Correcting the fiscal imbalance among the lower governments
  - Correcting the vertical fiscal imbalance: reducing fiscal deficit of lower governments to meet the expenditure needs for the designed functions being short of low own source revenue.
  - Correcting horizontal fiscal imbalances: equalizing the fiscal capacity of lower governments (with low revenue capacity and high expenditure needs) to
achieve the uniform service provision among the residents of those governments through equalization transfer.

- **Maintaining fiscal equity:** offsetting fiscal disabilities of the lower governments caused by the low revenue capacity and high expenditure needs, i.e., addressing horizontal fiscal inequity across the state or the inter-regional inequity.
- **Correcting spillover effects:** through matching grants federal government mitigates the positive or negative inter-jurisdictional externalities and spill-over effects during service provision of lower governments.
- **Achieving national priorities:**
  - Through conditional or unconditional grants, central government maintains the national standard of the public services provided through the lower governments by setting programs/activities of national priority required to achieve national redistributive equity.
  - Achieving national vertical equity: achieving the national redistributive objectives through the tax transfer system as the direct personal tax system and tax credits.
  - Harmonizing policy: coordinating, harmonizing and influencing the expenditure with the central government objectives/goals through various forms of transfers, e.g., conditional transfers.
  - Compensating the programs of national interest delegated by the central government to the lower governments.
- **Improving fiscal efficiency:** improving efficiency of lower governments on the revenue mobilization and expenditure management by stimulating them through the capacity building or performance based grant systems.
- **Providing space for macroeconomic stabilization:** through the transfer system, central government gets the room for adequate flexibility to maintain macroeconomic stabilization through lower governments as well and influence the overall activities of the lower governments.
- **Ensuring competitive equality:** stabilizing the horizontal competition (among lower governments) through the revenue payment and stabilizing grants to the weaker
lower governments, by reducing the gap of ability to compete among the governments.

*Table 1: Objectives and Design of Grants to Subnational Government*

<table>
<thead>
<tr>
<th>Objective</th>
<th>Grant Design</th>
<th>Better Practices</th>
<th>Practices to Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fiscal Gap</td>
<td>Reassign, tax base sharing</td>
<td>Canada</td>
<td>Deficit grants, tax by tax sharing</td>
</tr>
<tr>
<td>2. Regional fiscal disparities</td>
<td>Fiscal capacity equalization</td>
<td>Australia, Canada, Germany, Denmark, ECA</td>
<td>General revenue sharing with multiple factors</td>
</tr>
<tr>
<td>3. Setting national minimum standards</td>
<td>Block transfers, conditions on service standards</td>
<td>Ex-Indonesian roads and education, Chile</td>
<td>Conditions on spending</td>
</tr>
<tr>
<td>4. Benefit spillovers</td>
<td>Matching grant</td>
<td>S. Africa teaching hospitals</td>
<td></td>
</tr>
<tr>
<td>5. Influencing local priorities</td>
<td>Open-ended matching</td>
<td>Canada social assistance</td>
<td>Ad hoc grants</td>
</tr>
<tr>
<td>6. Stabilization</td>
<td>Capital grant with upkeep requirements</td>
<td>Political and policy risk guarantee</td>
<td>Stabilization without upkeep</td>
</tr>
</tbody>
</table>

*Source: Shah, 2004.*

2.3 Nature and Types of Intergovernmental Fiscal Transfers

Intergovernmental fiscal transfers can be classified into following major categories:

a) **General Purpose Transfers**: unconditional grants with full autonomy and policy discretion to lower governments. It can be further categorized as:

- Block grants: used for specific purposes or used for specific expenditure, such as: health, education, infrastructure development etc. but provided with full spending discretion under the defined area.
- Discretionary grants: fully discretionary grant or ad hoc in nature with spending autonomy to the lower governments

b) **Specific Purpose Transfers**: conditional transfers for spending on specific programs or activities, and regular or mandatory in nature and discretionary or ad hoc. In one hand, it possesses the input based conditionality that specifies the types of expenditure, such as, capital expenditure, recurrent expenditure etc. on the other hand, output based
conditionality as it seeks for the certain achievements (output) in service delivery. These transfers are also of two types of nature:

- Matching grants: recipient government should finance specified (by law) percentage of expenditure share from their own sources within two types of norms—open ended (providing the matching fund without the limit) and close ended (matching the fund only up to a pre-specified limit).
- Non matching grants: no requirement of matching fund, but funds are spent for a specific purpose.

c) Promotional or Performance Based Grants: incentive grants to the lower governments on the basis of their performance in complying the laws and regulations and in achieving the certain objectives. These are either conditional or unconditional.

2.4 Equalization Grants

Equalization grants are the grants provided by the higher level of government to the lower levels of government to overcome the fiscal imbalances and equalize the fiscal conditions among the subnational governments. These are the multi-sectoral and discretionary grants. By nature,

- These are unconditional general purpose transfers.
- Amount (divisible pool) of equalization grants is typically determined by some funding rules.
- Equalization grants are distributed among the eligible subnational units on the basis of formula composed of fiscal (revenue) capacity and fiscal (expenditure) need of the corresponding subnational units.
- As being a redistributive tool, through this mechanism, resources taken from the well-off region and distributed to the poorer region.

The implications of equalization grants are,

- Equalization grants minimize the resource deficit of the subnational unit to perform the assigned responsibilities (vertical fiscal imbalances).
- These grants reduce the horizontal fiscal imbalances or regional disparities and inequities by supporting the subnational governments suffered by the negative fiscal gap.
• These help to achieve some complementary objectives of the governments and stimulates the fiscal effort of the subnational governments.

2.5 Determining the Transfer Pool
The transfer pool comprises the total fund available for the distribution among subnational governments. Mainly two types of practices can be found in determining the transfer (divisible) pools:

• Rule based approach: determining the size of transfer pool as the fixed proportion of the central government revenue.
• Ad-hoc based approach: determining the total transfer pool by Centre as the part of the budgetary decision.

2.6 Approaches to Distribution of Transfers
There are some approaches practiced during the implementation of the equalization transfer system:

• Derivation approach: determining the transfer pool as the share of national tax and the share of subnational government will be based on the collection of that tax in their jurisdictions.
• Ad hoc distribution: the transfer is distributed to the subnational governments in an ad-hoc manner according to the decision of the central government.
• Formula based approach: transfers distributed according to the formula that consists of fiscal need variables (including population size/service users, poverty levels and geographical condition) and fiscal capacity (including tax effort). The equalizing power of the formula grants depends on the appropriateness of variables used and their respective weightage.

2.7 Principles for Design of Intergovernmental Fiscal Transfer
There are some principles those should be considered during the design of the intergovernmental fiscal transfer system (Steffensen, 2015)

1. Keep the objectives clear and transparent and design the system accordingly, and keep the number of objectives behind each grant to the bare minimum;
2. Contribute adequately to the funding of the vertical fiscal imbalance between assigned tasks and own revenue sources;
3. Address the differences in fiscal capacity and the expenditure needs of the subnational governments and equity concerns;
4. Preserve budget autonomy: A transfer system should preserve budget autonomy at the local level within the constraints provided by national priorities,
3. Support, not undermine, decentralization and subnational revenue raising;
4. Ensure a reasonable number of different systems of transfers and transfer modalities;
5. Transparent, formula and needs-based allocation across local governments enhancing horizontal equity (pro-poor);
6. Ensure stable, predictable and timely transfers. As part of this, grants should be announced in due time to fit into the budget cycle;
7. Enable subnational government flexibility & initiative within national policy;
8. Involve and strengthen the whole subnational governments structure and consider various types of units;
9. Ensure upward, downward & horizontal accountability. This will include simple, targeted, and consolidated reporting systems;
10. Achieve public participation and transparency;
11. Base the system on the availability of data and keep it as simple as possible;
12. Ensure proper incentives to improve on administrative performance and service provision, e.g. through rewarding proper initiatives and penalizing inefficiency;
13. Link the transfer reforms to other subnational governments reforms and initiatives, especially the subnational governments finance system (taxes, user charges) and the capacity building activities;
14. Keep track on the actual implementation of the system, i.e. the transfer flow;
15. Adjust the system to new subnational governments structures, tasks and responsibilities and ensure proper transitional schemes;
16. Keep the overall system and the criteria for allocation as simple as possible to ensure understanding, support and administrative feasibility.

On the other hand, the transfer system should not:
1. Base the size of the transfers on the existing infrastructure and services (service outlets), i.e. should not be a gap filling grant, as this provides disincentives to improve;

2. Bring about sudden and large changes (the system should consider whether the subnational governments should be held harmless during the transition);

3. Be subjected to political interference in the allocation of funds during the FY;

4. Cover deficit and financial mal-practice as this will create disincentives to improve on financial management;

5. Be solely based on an equal share approach (same amount per subnational governments) as this does not consider the different needs in the various subnational governments, e.g. variations in size of the population;

6. Be based on criteria, which can be influenced and manipulated by the subnational governments;

7. Establish multiple conditional grants, which undermine local autonomy and flexibility;

8. Be part of a strategy to transfer the fiscal deficit down from central to subnational governments.
Chapter Three: Intergovernmental Fiscal Transfers:
National Experiences

3.1 Constitutional Provision on Intergovernmental Fiscal Transfers in Nepal

Constitution of Nepal has endorsed the intergovernmental transfer system in Article 60. Para (2) of this article specifies about the equitable distribution of the revenues among all three levels of governments. However, para (3) and (8) depict about the provision of the institution and the basis, objectives of transfers and the need of laws about the intergovernmental fiscal transfers. Para (4) and (5) have mentioned about the basis of the distribution of equalization grants. Para (6) has realized need of federal law for distribution of different federal grants. Para (7) has mentioned about the manner of distribution of grants. Though the constitution has listed different types of grants: equalization grant, conditional grants, supplementary or special grants, it has not cleared about the unconditional grants.

Box 1: Constitutional Provision on the Intergovernmental Fiscal Transfers

<table>
<thead>
<tr>
<th>Article 60. Distribution of sources of revenue:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) The Federation, State and Local level may impose taxes on matters falling within their respective jurisdiction and collect revenue from these sources.</td>
</tr>
<tr>
<td>Provided that the provisions relating to the imposition of taxes and collection of revenue on matters that fall within the Concurrent List and on matters that are not included in the List of any level shall be as determined by the Government of Nepal.</td>
</tr>
<tr>
<td>(2) The Government of Nepal shall make provisions for the equitable distribution of the collected revenue to the Federation, State and Local level.</td>
</tr>
<tr>
<td>(3) The amount of the fiscal transfer receivable by the State and Local level shall be as recommended by the National Natural Resources and Fiscal Commission.</td>
</tr>
<tr>
<td>(4) The Government of Nepal shall, on the basis of the need of expenditure and revenue capacity, distribute fiscal equalization grants to the State and Local level.</td>
</tr>
<tr>
<td>(5) Each State shall, in accordance with the State law, distribute fiscal equalization grants out of the grants received from the Government of Nepal and revenues collected from its sources, on the basis of the need of expenditure and revenue capacity of its subordinate Local level.</td>
</tr>
</tbody>
</table>
(6) Provisions relating to distribution of conditional grants, complementary grants or special grants for other purposes to be provided by the Government of Nepal from the Federal Consolidated Fund shall be as provided for in the Federal law.

(7) Distribution of revenues between the Federal, State and Local level shall be made in a balanced and transparent manner.

(8) A Federal Act on the distribution of revenues shall be made having regard to the national policies, national requirements, autonomy of the State and Local levels, services to be rendered by the State and the Local level to the people and financial powers granted to them, capacity to collect revenues, potentiality and use of revenues, assistance to be made in development works, reduction of regional imbalances, poverty and inequality, end of deprivation, and assistance to be made in the performance of contingent works and fulfilment of temporary needs.


3.2 Some Practices and Studies on Intergovernmental Fiscal Transfers in Nepal

In Nepal, there are some practices of grant transfer system and different grant formula suggested by the studies on the grant systems in Nepal. Here are mentioned them in very brief.

a) Indicators Applied by Ministry of Federal Affairs and Local Development

Government of Nepal is currently using the following formula for the grant transfer according to the Resource Mobilization and Management Procedure 2069 prepared by Ministry of Federal Affairs and Local Development (MoFALD). The variables and their weightage given for the formula for the grant to the DDCs, VDCs and Municipalities are tabulated below (Table 2).

| Table 2: Current Formula of Grant Transfer from Central Government to Local Bodies |
|-----------------------------|-----------|---------|--------|
| Indicators                  | VDCs      | Municipalities | DDCs   |
| Population                  | 60        | 50      | 40     |
| Weighted poverty            | -         | 25      | 25     |
| Area                        | 10        | 10      | 10     |
| Weighted cost               | 30        | -       | 25     |
| Weighted tax effort         | -         | 15      | -      |
| **Total**                   | **100**   | **100** | **100**|

b) Formula Suggested by Ligal et. al (2005)

In a study carried out for the Decentralization Advisory Support Unit, titled as –“Fiscal Decentralization in Nepal: Status and Way Forward”, Ligal et. al in 2005 has suggested the indicators and their weightage for the formula based block grants to DDCs, VDCs and Municipalities as below (Table 3).

**Table 3: Suggested Composition of Formula Based Block Grants to LBs**

<table>
<thead>
<tr>
<th>Local Bodies</th>
<th>Factors and Weight</th>
</tr>
</thead>
</table>
| **DDC**      | Block grants: Area 15%; Population 15%; Population below poverty 35% and Cost factor 35%.  
Incentive grants: for better performing DDCs using a scoring matrix to measure the performance of DDCs. |
| **Municipality** | Block grants: Population 60%; Infrastructure index 25% and Municipal internal revenue 15%.  
Incentive grants: for better performing Municipalities using a scoring matrix to measure their performance as in the case of DDCs, or based on fiscal efforts made by the Municipality to increase its internal revenue. |
| **VDCs**     | Block grants: Area 10%; VDC Classification 15%; and Population 75%. Due to difficulties in measuring performance of individual VDC by the central authorities the study has not recommended to include incentive grants to VDCs. No incentive grants for VDCs. |

Source: Ligal et. al, 2005.

In the case of equalization grant, the study has suggested following formula on the basis of fiscal gaps of deficit LBs.

*Equalization grant to a LB= (LB’s fiscal gap/fiscal gap of all deficit LBs) x available equalization fund*

*Or*

*Equalization grant to a LB= q*LB’s fiscal gap*

*Where, q= percentage of fiscal gap agreed to be funded by equalization fund*

*[Fiscal gap=Resources (Own source revenue + Grants)-Expenditure need]*

c) The Formula Suggested by Boex (2012)

The study titled as “Review of the criteria and grant allocation formulas for block grants to DDCs and VDCs in Nepal”, carried out by Jamie Boex in 2012, has suggested the formula for grant allocation for DDCs and VDCs. The variables and their weightage in the formula are tabulated below (Table 4 and Table 5). The study has tried to determine the impact of relative weight of an allocation factor on the funding available for the public
service delivery. This was done by linking the grant allocation to the client/recipient of the public services. Boex (2012) concluded that the existing formula do not fully address for local cost differences and such cost gaps are fulfilled only partially. Also the categorical amount and the equal share amount are excluded from cost adjustment process. It has proposed two alternatives for the revision of the formula for DDC and VDC.

**Table 4: Proposed Allocation Formulas for DDC Block Grants**

<table>
<thead>
<tr>
<th>Factors</th>
<th>Current DDC Formula</th>
<th>DDC Formula Option 1*</th>
<th>DDC Formula Option 2*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal Share</td>
<td>Rs. 4,000,000</td>
<td>Rs. 4,000,000</td>
<td>Rs. 4,000,000</td>
</tr>
<tr>
<td>Population</td>
<td>40</td>
<td>55</td>
<td>65</td>
</tr>
<tr>
<td>Poverty</td>
<td>25</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Land Area</td>
<td>10</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>District Cost Index</td>
<td>25</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Note: (*) The measurement of the allocation factors differs between alternative scenarios, as described in the text.

*Source: Boex, 2012.*

Regarding the cost index the adjusted cost index has been used for simulation purpose in formula 1 whereas the cost factor is included in all of the variables considered for simulation in formula 2. The simulation results showed the uniformity in per capita allocation in the VDCs and DDCs with the standard deviation of the per capita allocation reduced to significant amount compared to that of the existing formulas. This results in allocation pattern that is more efficient and equitable in line with the objectives of the block grant scheme.

**Table 5: Proposed Allocation Formulas for VDC Block Grants**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Current VDC Formula</th>
<th>VDC Formula Option 1*</th>
<th>VDC Formula Option 2*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Categorical Allocation</td>
<td>Category I-VI (Rs. 1.5-3.5 Millions)</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Equal Share</td>
<td>30% of the remaining pool (Rs. 127,900)</td>
<td>Rs. 1,000,000</td>
<td>Rs. 1,000,000</td>
</tr>
<tr>
<td>Population</td>
<td>60</td>
<td>55</td>
<td>65</td>
</tr>
<tr>
<td>Poverty</td>
<td>0</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Land Area</td>
<td>10</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>District Cost Index</td>
<td>30</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Note: (*) The measurement of the allocation factors differs between alternative scenarios, as described in the text.

*Source: Boex, 2012.*
D. Formula Suggested by Shrestha (2014)

The study carried out by Dr. Devendra Prasad Shrestha in 2014 has suggested formula for the DDC block grants with the following variables and their weightage as tabulated below (Table 6). Initially the study considered eight different factors for improvising the grant allocation formula. The factors considered were namely (i) population (ii) rural population (iii) land area (iv) per-capita income (v) human poverty index (vi) human development index (vii) deprivation of economic positioning index and (viii) district cost index.

A linear regression analysis was used to determine the coefficient of each of the variables and their explanatory power. Stepwise regression technique was used and the model with the variables, namely district population, land area, human poverty index, deprivation in economic positioning and cost index was the best fit model and hence the model was used to determine the weights of each of the variables.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Factors</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Population (Pop_2011)</td>
<td>38</td>
</tr>
<tr>
<td>2</td>
<td>Human Poverty Index (HPI)</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>Deprivation in economic positioning (DPRV)</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>Cost Index (CI)</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>Land Area (Area)</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Source: Shrestha, 2014.*

The cost index for the above study was imputed considering the labor cost and manufacturing material cost based on the total capital expenditures of the DDCs in the selected areas of water supply, irrigation, roads, building, bridge, sanitation and rural electrification. Seven sample districts were considered for calculating the district cost index as prescribed in the Term of Reference of that study.

E. Formula Suggested by Devkota (2016)

The study carried out by Dr. Khim Lal Devkota in 2016 has recommended the following formula for the grant allocation to local governments- LGs (i.e., DDCs, VDCs and Municipalities) with the following variables and their weightage.
Then the equation for the allocation formula for the district $i$ is as follows:

$$Y_i = \alpha_i + (\beta_i X_i) \gamma_i$$

Where,

$Y$ = Total fiscal transfers/ equalization transfers

$\alpha$ = Minimum threshold\(^2\) (the pool of minimum threshold has not been changed. It is 30% (similar to the existing formula) basic allocation and the rest 70% goes for the need based allocation).

$X$ = Need based variables used in the fiscal transfers. Here, population and geographical area are used for expenditure/ need based variables.

$\beta$ = Coefficients of need based explanatory variables

$\gamma$ = Under-development/ equalization index

Further, the methodology for the need based allocation is presented as follows:

Total transfers/equalization transfers to LGs $= \{70\% \text{ Share of Population of LG } i + 30\% \text{ share of geographical area of LG } i\} \times \{\text{Under-development index for LG } i\}$

Where the underdevelopment index includes: (i) Per Capita Income, (ii) Female Literacy Rate, (iii) Infant Mortality Rate, (iv) Household Amenities, (v) Remoteness, (vi) Connectivity (Access of road network), and vii) Deprived Caste/ Ethnic Group

\(^2\) The LSGA ensures the provision for minimum allocation (Section 236) for LBs. The MoFALD has already established 30 percent minimum grant for the LBs. Literature on grant allocation also suggest on providing minimum threshold grant during horizontal allocation that is necessary for carrying out minimum service delivery. Even in India, 30 percent budget goes to special category states (see: Planning Commission India, 2012).
Chapter Four: International Experience on Intergovernmental Fiscal Transfers

We can find the practice of intergovernmental fiscal transfers among the different levels of governments in various countries, whether they have unitary or federal system of governance. The increasing attraction towards the decentralized system of governance than the centralized system has insisted them more towards the intergovernmental fiscal transfers. The feature of intergovernmental fiscal transfers can be found different according to the context and objectives of the various countries. In this section, the practice of intergovernmental fiscal transfers in different federal countries has been discussed briefly, mostly focusing on the grant systems and the indicators and formula for determining the amount of grants.

4.1. Intergovernmental Fiscal Transfers in Canada

Canada is a federal parliamentary representative democratic country. It consists of 10 provinces and 3 territories. There are mainly four types of fiscal transfers between the federation and the provinces:

i) Canada Health Transfer (CHT)
ii) Canada Social Transfer (CST)
iii) Equalization Payments (EP)
iv) Territorial Formula Financing (TFF)

Among the transfers mentioned above, the former two transfers are adopted to minimize the vertical fiscal imbalances and equalization payments used to minimize the horizontal fiscal imbalances among the provinces or to minimize the fiscal gap faced by the provinces. Canada Health Transfer (CHT) and Canada social Transfers are provided to the provinces with autonomy to spend remaining under some certain principles and criteria and conditions of health and social sector as provisioned in respective acts and regulations. However, equalization payments are provided to provinces having per capita income and fiscal capacity less than the national average.
i) Canada Health Transfer (CHT)

It is an important block grants provided to the provinces and regions for improving the health services in those territories. The provinces can use this fund according to their need complying the *Canada Health Act* Criteria such as universality, comprehensiveness, accessibility, portability and public administration) and conditions like no extra billing by physicians and no extra user charges by the hospital) Under this, there are two transfers:

a) Cash transfer: annually increased by 6% upto FY 2016/17 and later on, increasing according to the GDP growth, at least by 3% annually (Robson & Laurin, 2015).

b) Tax point transfer: Composed of 13.5% of personal income tax and 1% of corporate income tax (Deraspe & Gauthier, 2015).

In this case, the total CHT is determined by calculating the overall value of tax transfer and adding it to the total cash transfer as per legislation. Then, per capita CHT is calculated by dividing total CHT by total population. Here,

\[
\text{Per capita CHT for a province} = \text{Per capita share of a province to the total CHT} - \text{amount received by that province from per capita tax point transfer.}
\]

Instead of per capita of basis of CHT, Marchildon and Mou (2014) has suggested the need based formula to determine the amount of CHT to be transferred to the provinces based on the population of infants and of age above 55 years, and geographical distribution of population.

ii) Canada Social Transfer

Before 2004, Canada Social Transfer (CST) was associated with the Canada Health and Social Transfer (CHST). However, later on, as per the larger demand of transfers, it was split into the Canada Health Transfer (CHT) and the Canada Social Transfer (CST). CST is the federal block grant to the provinces and territories purposed to support for post-secondary education, children, social assistance and other social services. CST is distributed as cash transfer on equal per capita basis since 2007-08 and provisioned to be increased by 3 percent annually since 2014/15 (as provisioned in Federal-Provincial Fiscal Arrangement Act, 2011) using an automatic escalator of 2009/10. Per capita basis used in CST is reasoned to equal treatment for all Canadians. However, the difference in overall provincial growth is supposed to capture the difference in provincial population growth. But, because of difference in unit cost of service delivery, the equal per capita basis of
transfer may not be fruitful to achieve the motive of equitable social services to the citizens as criticized in the case of CHT (Marchildon and Mou, 2014). There is need of need based allocation on the basis of demography and geography of the population of various provinces.

iii) Equalization Payments (EP)

It is one of the major federal grants to the provinces. The fund for Equalization Payments is provisioned from the 33 revenue sources categorized under the five categories: personal income tax, business income tax, sales tax, natural resource income tax, property tax. As this transfer is formula based, the equalization payments received by any provinces can be presented as follows (Feehan, 2014),

\[
EP = (S-F) - A^* - R 
\]

Where,

\(S\) (the standard) = estimated potential revenue a group of reference provinces could raise if they applied a set of given (or “standard”) tax rates to specified revenue sources within provincial jurisdiction.

\(F\) (the province’s fiscal capacity) = estimated potential revenue the provincial government could raise if it imposed the same set of standard tax rates to the same specified revenue sources within its jurisdiction

\(A^*\) (adjustment factor) = value of any reduction in payments due to the use of fiscal capacity cap

\(R\) (reduction) = reduction in the payment due to the fixed rate of growth of total payments (as per the growth of nominal GDP)

Here, \(S\) and \(F\) can be determined by the using formula as,

\[
S = t_1B_1 + t_2B_2 + t_3B_3 + t_4B_4 + 0.5N 
\]

\[
F = t_1b_1 + t_2b_2 + t_3b_3 + t_4b_4 + 0.5n 
\]

Where, \(t\)’s are the tax rates on the defined tax sources; \(B\)’s are the sum of the per capita amount of tax bases of all provinces and \(N\) is the per capita natural resource revenues of all provinces. Likewise, \(b\) and \(n\) refer to the per capita amount of tax bases per capita and per capita natural resource revenues of the particular province.
IV) Territorial Formula Financing (TFF)

This type of transfer is provided to three territorial governments to address the high cost of public service delivery faced by them. It is an unconditional grant provided to fund for the hospitals, schools, other infrastructures and social service for the large number of small and isolated communities in the North. Based on the territorial circumstances, TFF is provisioned by using three separate gap filling formula as in the case of equalization transfer,

\[
TFF = \text{Expenditure Need} - \text{Revenue Capacity}
\]

Where expenditure need (Gross Expenditure Base or GEB) which is adjusted annually as per changes in the relative population growth between territories and Canada and changes in provincial-local government spending (https://www.fin.gc.ca/fedprov/tff-eng.asp). Similarly, the revenue capacity has two components: seven of the largest own source revenues of the territories, including personal income tax, business income tax etc. are accounted using the representative tax system and the eleven other revenue resources, including capital tax, general sales tax, property tax etc. are calculated in a revenue block, raising annually by 2 percent.

The per capita transfer system in Canada have some critiques. As described in Goertz, (2017) in case of CHT the current per capita basis, equal-per-capita basis of allocation can not address the difference in need and access to health care among different provinces and territories. Similarly, it cannot address the difference in unit cost of service delivery. Overall, the per capita based transfer system results to the inequitable and inefficient public services and will undermine the motive of the federal government to provide equitable distribution of services (Goertz, 2017).

The nature of the transfer system and the indicator used in the transfer formula are presented briefly as following (Table 7).
Table 7: The Transfer Systems and Indicators Used in the Transfer Formula in Canada

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Transfer</th>
<th>Nature</th>
<th>Factors determining the transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Equalization Grants</td>
<td>Unconditional Block Grants</td>
<td>Population, average tax rate of the provinces, per-capita standard tax base and individual province’s tax base</td>
</tr>
<tr>
<td>2</td>
<td>Canada Health and Social Transfers (CHST)</td>
<td>Specific purpose Grants</td>
<td>Normative/Standard expenditure needs on health and social services. Predetermined tax point transfers, tax bases of the individual province and highest tax base, Population</td>
</tr>
<tr>
<td>3</td>
<td>Territorial Formula Financing (TFF)</td>
<td>Unconditional Block Grants</td>
<td>Expenditure needs (large area, extreme weather conditions, small population), own source revenue.</td>
</tr>
<tr>
<td>4</td>
<td>Health Reform Fund</td>
<td>Earmarked</td>
<td>-----------------------------------------------------</td>
</tr>
</tbody>
</table>


4.2. Intergovernmental Fiscal Transfer in Australia

Australia has a federal parliamentary government with six states, two territories and 700 local governments. In Australia, the Commonwealth Grant Commission (CGC) is entitled to recommend the intergovernmental transfer system. Commonwealth government has provisioned two main transfers to the State/Territorial governments:

i) General Purpose Payments-GPPs (Equalization Transfer)

ii) Special Purpose Payments (SPPs)

CGC first determines the expenditure needs and fiscal capacity of the states, then calculates the amount of grant entitlements by using the formula as (Library of Parliament, 2005):

The amount of grant to a state = state’s per capita share of total grant pool + expenditure needs + revenue needs + needs for specific purpose payments

However, the expenditure needs are calculated on the basis of factors of demand for services and cost for services such as population size and age structure; income; size of the indigenous population; population’s level of fluency in English; number of welfare recipients; community size and remoteness; isolation from other states; use of public versus private services; wage, rental and electricity costs; industry size; and road length etc. The
relative fiscal capacity is estimated on the basis of the size of the revenue bases of the states, such as, Payroll tax, land tax and royalties from mining industry profits.

i) General Purpose Payments-GPPs (Equalization Transfer)

It is designed to address the horizontal fiscal imbalance among the State/Territorial governments. According to CGC, The major composition of the pool of GPP (about 97%) is covered by revenue from the Goods and Service Tax (GST) of Australian government. This type of transfer is formula based and opted to address the vertical fiscal imbalance and the horizontal fiscal imbalance both. Horizontal fiscal equalization is designed to address the horizontal fiscal imbalance, i.e., to achieve equalization of fiscal capacity among the states. The design of equalization transfer of Australia is supposed to be unique as it is based on the revenue capacity and expenditure needs of the states- considering the economic and socio-demographic feature of the population of the state, interstate cost variation and the impact of other Commonwealth transfers (Petchey, 2016). First, the entire GST revenue pool is divided into all states on an equal per capita basis. Then, after calculation of the fiscal capacity of all individual states and territories. The revenue is added (subtract) for the state having the fiscal capacity below (above) the average fiscal capacity of all states, to (from) its share received on equal per capita basis. Based on these factors, the equalization transfer for state \( i \) (Srivastava, 2011),

\[
g_i = e_i - r_i + d_i - o_i
\]

Where;

\( g_i = \) per-capita equalization to the state \( i \)

\( e_i = \) standardized per-capita expenditure of the state \( i \)

\( = \gamma_i \cdot e_s \)

Here, \( \gamma_i = \) expenditure disability of the state \( i \) (\( \gamma_i = 2X_i/X_s \) where \( X_i \) and \( X_s \) are the weighted average of expenditure categories of individual state \( i \) and all states, respectively. If \( \gamma_i > 1 \), then the state \( i \) has high cost disability and vice versa)

\( e_s = \) per-capita average expenditure of all the states (\( e_s = \sum E_i / \sum N_i \) where, \( E_i \) and \( N_i \) are the expenditure and population of the individual state \( i \))
\( r_i = \text{standardized per-capita revenue of state } i \)
\[ = \rho_i \cdot r_s \]

Here, \( \rho_i = \text{revenue disability of the state } i \) (\( \rho_i = b_i/b_s \) where, \( b_i \) is the revenue base of the state \( i \) and \( b_s \) is the average per-capita revenue base of all states. If \( \rho_i > 1 \), then the state \( i \) has rich tax base and low revenue disability and vice versa)
\[ r_s = \text{per-capita average revenue of all the states} \ (e_s = \sum R_i/\sum N_i, \text{where, } R_i \text{ and } N_i \text{ are the revenue and population of the individual state } i) \]
\( d_s = d_i = \text{per-capita budget surplus for all the states} \)
\( o_i = \text{per-capita special purpose payment for state } i \)

For a given state, the standardized expenditure and revenue will be the summation of standardized expenditure on different categories and standardized revenue on different sources. The SPPs (\( o_i \)) are considered exogenously determined.

Some of the major factors of revenue capacity and cost disabilities are given as follows.

**Table 8: Factors Affecting in Australian Transfer System**

<table>
<thead>
<tr>
<th>Factors affecting revenue bases</th>
<th>Factors affecting expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Gross State Product (GSP) per-capita (i.e., GSP + Population)</td>
<td>• Share of Australian population</td>
</tr>
<tr>
<td>• Payrolls of large business (wages and salaries)</td>
<td>• Proportion of population aged 65 years or over</td>
</tr>
<tr>
<td>• Value of commercial or industrial land</td>
<td>• Proportion of population who are indigenous (Aborigines)</td>
</tr>
<tr>
<td>• Value of mining production</td>
<td>• Proportion of population residing in remote areas</td>
</tr>
<tr>
<td></td>
<td>• Proportion of population enrolled in government schools</td>
</tr>
<tr>
<td></td>
<td>• Proportion of population enrolled in government schools</td>
</tr>
<tr>
<td></td>
<td>• Proportion of population with low income</td>
</tr>
<tr>
<td></td>
<td>• Relative average weekly earnings</td>
</tr>
<tr>
<td></td>
<td>• Relative lengths of roads</td>
</tr>
</tbody>
</table>

*Source: Rangarajan and Srivastava, 2004b.*

The disability factors considered are wages, administrative scale, socio-demographic composition, etc. for several components in different categories of expenditure.
ii) Payments for Specific Purpose (PSPs)

Payments for Specific Purposes (PSPs) are the earmarked Commonwealth grants to the states and territories for specific services such as education, health, roads, housing, transport, social security etc. to achieve national policy objectives. There are three modalities of PSPs:

a) Direct payment to the state governments
b) Payments to the local government through state governments
c) Direct payments to the local governments

These payments are provided under some conditions such as, general policy requirement, matching funds and reporting on performance. CGC determines PSP in a case by case basis based on the cost sharing principle. The payments are distributed to the states according to the population share at the end of the last year on equal per capita basis (Swan & Wong, 2011). There are three types of Payments for Specific Purposes (PSPs):

a) National Specific Purpose Payments (SPPs): These payments are to support the key sectors of service delivery, such as healthcare, schools, skill development, disability services, housing etc.

b) National Partnership Payments (NPPs): These types of payments consist of facilitation, projects and reward payments for the states or territories those are able to receive benefits from the specified outputs expected by the Commonwealth which are not redistributive to other states or territories and payments are made on a case by case basis according to the appropriateness.

c) National Health Reform Funding: It has been started from 2012. Unlike the block grant this type of funding is based under the Activity Based Funding (ABF) and will not be allocated on a per capita basis expecting the outcomes through changes in policy.

In brief, we can highlight the main feature of the Australian fiscal transfer system as,

- Both the expenditure needs and revenue raising capacity are assessed for the fiscal equalization purpose.
- The disability factors are taken into considerations for determining expenditure needs and revenue capacity.
The Goods and Service Tax (GST) is the main revenue source for the Transfers. GST is collected by the Commonwealth and is cent-percent distributed to the States.

The SPPs are deducted for each recipient state while deriving the equalization grants.

4.3. Intergovernmental Fiscal Transfer in Germany

Germany has three levels of government: federal (Bund) states (Lander) and local authorities or municipalities (Gemeinden). It consists of 16 Landers and more than 11500 local governments. The constitution of Germany provisioned for four stages of a fiscal transfer system which are regulated by various laws (Stehn and Fedelino, 2009):

i) Vertical tax sharing: tax revenue divided between the federation and Lander, and supplementary grants of revenue to local authorities.

ii) Horizontal tax sharing: total divisible pool for Lander distributed among various Lander.

iii) Fiscal equalization among the Lander: equalization between poor Lander and rich Lander.

iv) Supplementary federal grants: provided by Federation to poor Lander.

i) Vertical Tax Sharing:

In Germany, tax assignments to the different levels of government are allocated. The major sources of tax revenue for federation, the Lander and local governments are as follows,

Federation: Majority of the excise duties (Tobacco duty, Energy duty); Insurance Tax

Lander: Inheritance tax, majority of transfer tax e.g. Property transfer tax,

Local Government: Trade Tax, Real Property Tax and Local Excise Taxes.

The share of revenue from three major taxes: income tax, corporation tax and VAT are shared between federal and Lander. But, the Local authorities receive only the share of income tax and VAT. Table 9 presents the basis of vertical sharing in German federation.

Table 9: Vertical Tax Sharing in Germany

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Taxes</th>
<th>Percentage share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Federation</td>
</tr>
<tr>
<td>1.</td>
<td>Personal Income Tax</td>
<td>42.5</td>
</tr>
<tr>
<td>2.</td>
<td>Corporation Tax</td>
<td>50.0</td>
</tr>
<tr>
<td>3.</td>
<td>VAT</td>
<td>52.0</td>
</tr>
</tbody>
</table>

Source: Bundesministerium der Finanzen
ii) **Horizontal Tax Sharing**

In this stage, the entire tax revenue of all Lander collected in their territories is shared among the individual Lander. The state’s share of personal income tax and corporate income tax are provided to the selected states of concern. In this case, the state with the higher fiscal capacity (rich state) gets the more tax revenue per capita while the state having the lower economic capacity (poor states) receives less. However, among the total VAT revenue of the country,

- 25% goes to the central government
- 75% goes to the divisible pool

Among the divisible pool,

- 75% of VAT pool is divided among the Lander in equal per capita basis (i.e., according to the number of inhabitants among all Lander.
- 25% of the pool is provided as the horizontal fiscal equalization, i.e., provided to the Lander having low per capita receipt of income tax, the corporation tax and land taxes lower than the per capita average of all the Lander.

iii) **Fiscal Equalization among Lander**

In this case, the financially weak Lander receives the revenue from financially strong Lander. Here, the equalization entitlements to the Landers are derived on the basis of Average Fiscal Capacity (AFC) and Effective Fiscal Capacity (EFC) of the state (Blankart, 2013).

AFC of a state is a NEED for tax revenue of a state compared to the National Average. The AFC of $i^{th}$ Lander is:

$$ AFC_i = \frac{\text{National Tax Revenues}}{\text{National Population}} \times \text{Population of Lander}_i $$

However, area (size) of the Lander is also adjusted to the population while calculating the AFC.

EFC of the $i^{th}$ Lander,

$$ \text{EFC}_i = \text{Tax Revenue of Lander}_i + 64\% \text{ Tax Revenue of Local Authorities in Lander}_i $$

If AFC$_i$ > EFC$_i$, the Lander is a poor Lander/State and is entitled to a fiscal subsidy (equalization) without any earmarks.
If \( EFC_i > AFC_i \), the state has a surplus of fiscal capacity. It is “rich” and is supposed to pay non-earmarked transfers out of its own resources.

A State with \( EFC/AFC = 120 \) has to give up 75 percent of its excess fiscal resources into an equalization fund. A State with Fiscal Capacity \( EFC/AFC \) ratio of 80 percent receives a subsidy of 75 percent of its fiscal deficit out of the equalization fund.

The other case, the federal government provides the secondary federal equalization payments to the states having \( EFC \) still under 99.5 percent of AFC that fills the gap up to 77.5% resulting to the AFC/EFC ratio of all states near to 1.

**iv) Supplementary Federal Grants**

Supplementary Grants are the grants, which the Federal Government makes to the poor Lander to complement the financial equalization among the poor Lander (Type I grants). The Grants are also provided to the states that still suffer from the burdensome effect of the former communist regime. Some States receive special payments (Type II grants) to address the special needs because of their high structural unemployment and some states receive outright bailout payments to cover their budget deficits. The supplementary grants are earmarked as well as non-earmarked.

**4.4. Intergovernmental Fiscal Transfer in United States of America**

The United States is a Federal republic composed of 50 states and more than 8700 local governments. States in the US are largely free in their choice of tax bases and rates, subject to only a few limitations imposed by the federal constitution. On the expenditure side, most of the major spending functions are located in the state or local level. In the U.S., local government structures vary greatly across the states with different functions performed by county, municipal, school district and special district governments. Current grants from the federal to state governments are all earmarked, but there is considerable variation concerning how open-ended the federal contribution is.

**Types of grants**

There are generally following types of federal grants to state and local governments:

a) Categorical grants: specific grants with defined activities, allocated on the basis of a formula set out by the legislation or federal government - Among them, federal
administration has high control on project categorical grants, medium on the
formula project categorical grant and low control on the formula categorical grant.
b) Block grants: specific grants for a set of programs with discretionary activities-
federal administration has medium control on this and moderate degree of
discretion of state and local government in the use of the fund.
c) Project grants: awarded in competitive basis for project selection, non-
discretionary: e.g., Race to the Top program, Transportation Investment
Generating Economic Recovery (TIGER) grants- Federal administration has
high discretion in funding and state and local government have low discretion in
use.
d) General revenue sharing: used for the fully discretionary programs and
activities- having low federal funding discretion, high state and local discretion in
use of fund.
e) Other federal support: financial supports to the state and local governments as
tax credits or tax exemption (deduction).

According to the Catalog of Federal Domestic Assistance (CFDA), there are 15 categories
of federal grants: formula grants (including formula categorical grants, formula-project
categorical grants, and block grants); project grants; direct payments for specified uses to
individuals and private firms; direct payments with unrestricted use to beneficiaries who
meet federal eligibility requirements; direct loans; guaranteed/insured loans; insurance;
sale, exchange, or donation of property and goods; use of property, facilities, and
equipment; provision of specialized services; advisory services and counseling;
dissemination of technical information; training; investigation of complaints; and federal
employment (Dilgser, 2017). The number of federal grants to the state and local
governments reached to the 1099 in 2014. Among these, 1078 are categorical grants and
21 are block grants where the categorical grants cover more than 90% of the federal grants.

**Basis for Allocation**
The basis for allocation of the different categorical grants in the U.S. are:

- Formula project grant: factors like population, median household income, per
capita income, poverty, and the number of miles driven specified by law or
regulations
• Project categorical grants: awarded on the competitive basis through a designed specific application process.

• Formula project categorical grants: use of formula as per law followed by the specific application process on a competitive basis.

• Open ended reimbursement categorical grants: as the reimbursement of specified portions of state or local project costs

Allocation Method

a) Formula based allocation

The federal grants (both the block grants and categorical formula grants) on the basis of formula or the existing legal provision. Among them, in some cases, formulas are based on the historical records of the fund distribution and some are distributed on the basis of demographic and other related factors. For example,

i) Community Development Block Grants (CDBG) are allocated on the basis of a formula based on factors: community’s population, poverty levels, and housing conditions.

ii) Social Services Block Grant: relative size of the population of the state to support.

iii) Highway Grants: state’s highway lane miles and number of vehicle miles travelled.

iv) Title I funds for the education of disadvantaged children: states provide funds to local education agencies on the basis of concentration of poor (of low income families) students in a given school.

v) Medicaid: Medicaid is the medical insurance program for the poor. It is the largest program shared between the Federal and the States. It is an open-ended entitlement. Medicaid is a matching grant which depends upon states’ income per-capita. Hence, as given in (Stark, 2010), the Federal Medicaid Assistance Percentages,

\[
FMAP = 1 - \left[ \frac{\text{state per capita income}}{\text{U.S. per capita income}} \right]^2 \times 0.45
\]

vi) Temporary Assistance for Needy Families (TANF): based on the share of each state received as the previous program, Aid to Families with Dependent Children
(AFDC) and supplementary grants based on the high population growth and low receipt of welfare grants per low-income person.

Further, there are hundreds of several obscure Federal Aid Programs like Nursing Workforce Diversity, Boating Safety Financial Assistance, Healthy Marriages, etc.

b) Competition-Based Allocation
The federal government supports the state and local governments as the project grants on the basis of competition on their performance. For example,

i) Department of Education provides a competitive education grants (i.e., Race to the Top) to the state and local education agencies on the basis of performance of the students and the future plan of reform. For evaluation, Department of Education sets the criteria and relative weights for the evaluation.

ii) The TIGER grant program on the basis of its expected importance and achievement for the territory, such as, economic competitiveness, environmental sustainability, safety, job creation.

Federal Aid can be distributed in the form of Project Grants or Formula Grants. Under project grants, federal agencies distribute funding to a particular state and local agencies after a detailed review of specific proposals. Project grants can also be “earmarked” or directed to favored activities by members of Congress. Project grants generally require grantees to submit proposals, detailed work plans, regular reports, and other paperwork regarding their use of federal dollars.

While most aid programs are project grants, most aid spending is through formula grants. That is because many of the largest aid programs, including Medicaid, are formula grants. Under formula grants, legislation spells out how much funding each state receives based on factors such as state income and population. The states are often required to match some portion of the federal government’s aid with their own funding.

Aid programs can also be categorized as either categorical grants or block grants. The bulk of grants is categorical, which generally target a narrow range of eligible activities and include detailed regulations that states must follow. By contrast, block grants fund a
broader range of activities and generally give states more flexibility on the activities funded.

4.5. Intergovernmental Fiscal Transfers in China
The People's Republic of China has 23 provinces, 5 autonomous regions, 4 centrally administered municipalities and 2 special administrative regions. In China, there are mainly two types of intergovernmental fiscal transfers: a) tax sharing and b) transfers or grants.

a) Tax Sharing:
From the central government, provincial government receives 25% of the VAT, 40% of corporate income tax, 40% of personal income tax and 3% of stamp tax on securities.

b) Transfers or Grants:
According to Sen et al. (2014), there are four types of central-local grants comprising to the intergovernmental fiscal transfers in China:
- Fixed subsidies to the provinces – if the base year expenditure > base year revenue.
- Special purpose grants – for whole range of programs, including poverty reduction, disaster relief and other specific programs.
- Annual account closing transfers - used for adjustment of net revenue and expenditure.
- Capital grants – conditional grants for local capital construction and other types of investment activities.

Again, according to the composition, there are three broad categories of transfers from central government to provincial governments with their respective weightage n total grants can be presented briefly as follows (Wang and Herd, 2013; Sen et al, 2014):

i) General transfers (46%): applied to reduce the disparities in the expenditure of lower governments. Which is sub-classified as:
- Equalization transfers (19%)
- Pension and social security (7%)
- Wage adjustment for civil service (7%)
- Compulsory education (3%)
- Others (10%)
ii) **Earmarked transfers (42%)**: conditional grants utilized to subsidize the specified projects of certain regions that need matching component from lower government. It is sub-categorized as:

- Agriculture, forestry and water (12%)
- Transportation (9%)
- Affordable housing (4%)
- Energy saving and pollution abatement (4%)
- Social security and employment (4%)
- Others (9%)

iii) **Compensation transfers (12%)**: used to minimize the revenue loss happened to local governments after the 1994 reforms.

**Equalization Transfers in China**

Equalization transfer constitutes the largest share in the total central transfers to the lower government in China. It is a formula based grants adopted to reduce the regional fiscal disparities. The formula for equalization grants in China is based on the difference between the standard expenditure and the standard revenue of a province and the share of provincial standard fiscal gap to the total fiscal gap. However, central government determines the size of transfer pool for equalization transfer on an ad-hoc basis according to fund availability.

The amount of equalization transfer to the \( i \text{th} \) province \( (ET_i) \) is calculated as

\[
ET_i = TET_i \ast \left[ \frac{(SE_i - SR_i)}{(SE - SR)} \right] \ast \sigma_i + \Delta_i + RE_i
\]

Where,

- \( TET = \) total equalization grant available in the budget year.
- \( SE_i = \) standard expenditure of the \( i \text{th} \) province.
- \( SE = \) total standard expenditure of the country;
- \( SR_i = \) standard revenue of the \( i \text{th} \) province.
- \( SR = \) total standard revenue of the country;
- \( \sigma_i = \) fiscal difficulty index of province \( i \),
- \( \Delta_i = \) adjustment index of province
- \( RE_i = \) reward grant allotted to the \( i \text{th} \) province
The factors considered to calculate the standard revenue capacity and standard expenditure can be presented as follows.

**Table 10: Factors Affecting in Chinese Grant System**

<table>
<thead>
<tr>
<th>Factors affecting standard revenue capacity</th>
<th>Factors affecting standard expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Tax bases and standard tax rates</td>
<td>• Categories of expenditure: public safety, education, urban maintenance, health care, environmental protection, social assistance, administrative services</td>
</tr>
<tr>
<td></td>
<td>• Cost factors: Altitude, population density, temperature, transport distance, proportion of the population that belongs to minority groups, regional wage differences, number of students</td>
</tr>
</tbody>
</table>

4.6. Intergovernmental Fiscal Transfer in Switzerland

Switzerland is a federal country with 26 federated states – Cantons and 2500 local communities. It has the highly decentralized governance system with larger roles of cantons lesser for the federal government. There are three kinds of transfers in Switzerland (Dafflon, 2014) aimed at maintaining fiscal equalization namely;

(i) Revenue Equalization  
(ii) Expenditure Needs Equalization  
(iii) Cohesion Funds

**i) Revenue Equalization**

Revenue equalization is done both through the methods of vertical and horizontal equalization. In the horizontal equalization method, cantons with higher financial capacity provide equalization transfer to the revenue equalization pool. Revenue equalization is based on the Indices of Tax Potential (IPT). IPT is calculated on the basis of eight major communal taxes of the last three years (Table 11). Having calculated the Indices of Tax Potential there are two different formula for the beneficiary and contributing states for the revenue equalization schemes.
Table 11: Tax Base Categories and Their Weightage in Swiss Transfer System

<table>
<thead>
<tr>
<th>Tax category</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Personal Wealth</td>
<td>In proportion of their potential tax yield in total</td>
</tr>
<tr>
<td>(ii) Income</td>
<td></td>
</tr>
<tr>
<td>(iii) Corporate Capital</td>
<td></td>
</tr>
<tr>
<td>(iv) Corporate Profits</td>
<td></td>
</tr>
<tr>
<td>(v) At Source on Wage (TDS)</td>
<td></td>
</tr>
<tr>
<td>(vi) Immovable Property</td>
<td></td>
</tr>
<tr>
<td>(vii) Capital Gains</td>
<td></td>
</tr>
<tr>
<td>(viii) Motor vehicle Tax</td>
<td></td>
</tr>
</tbody>
</table>

Source: Dafflon, 2014.

ii) Expenditure Needs Equalization

Among the three kinds of transfers (i.e., revenue equalization, expenditure needs equalization and cohesion funds), the expenditure needs equalization is performed through the vertical transfer of funds from federal to cantons. The variables and their weightage are given below (Table 12).

Table 12: Expenditure Needs Equalization Transfer Formula in Switzerland

<table>
<thead>
<tr>
<th>Expenditure Needs</th>
<th>Variables</th>
<th>Weights (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geo-topographic</td>
<td>% of people living above 800 m altitude</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>% of productive land greater than 1080 m altitude</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Population Density</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Population of Commune less than 200 residents</td>
<td>16</td>
</tr>
<tr>
<td>Socio-demographic</td>
<td>(2/3) of socio-demographic transfers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of social aid to population (denotes poverty)</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>% of people above 80 years to population (denotes old age)</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>% of foreigners to population</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>(1/3) of socio-demographic transfers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of residents</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Workplaces in proportion to surface</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>Workplace in proportion to population</td>
<td>27</td>
</tr>
</tbody>
</table>

Source: Dafflon, 2014.
iii) Cohesion Fund

Cohesion Funds are those types of funds for equalization purpose to facilitate the transition from the old to the new system so that the beneficiary Cantons in the new system receive at least the same amount as compared to the old system. This is done both through horizontal and vertical equalization. All the Cantons have to contribute in the Cohesion fund and the funds are transferred to the Cantons in need of transitory adjustment.

4.7 Intergovernmental Fiscal Transfer in Russian Federation

The Russian Federation consists of 22 republics, 9 krais (territories), 46 oblasts (provinces), 3 federal cities, 1 autonomous oblast, 4 autonomous okrugs (autonomous districts). The Russian Federation has provisioned the pool of intergovernmental fiscal transfers in the name of Federal Financial Support of Regions (FFFSR). The amount of this transferable fund is determined on the basis of the figure of the previous figure by adjusting to the current changes in budget and tax laws. There are four major categories of intergovernmental fiscal transfer of Russian Federation (Sen et al., 2014):

i) General transfers
ii) Earmarked transfers for co-financing regional programs
iii) Earmarked transfers for execution of federal mandates
iv) Other transfers

i) General transfers:

General transfers in Russian Federation consists of two types of grants:

a) Equalization grants
b) Gap filling subsidies

a) Equalization grants:

These are the formula based grants. The amount of the grant provided to a region is determined on the basis of its per capita fiscal capacity (i.e., fiscal capacity index) and the difference in the service delivery costs across the regions (Table 13). It is calculated by comparing the ratio of own revenue capacity of a region with its expenditure needs with the average ratio for a group of regions. The region having tax collection less than 60 percent of the average tax collection is eligible to get these transfers that cover the 85
percent of its fiscal gap. After 2007, economic growth is also considered as one of the determinant of the equalization grants.

Table 13: Factors Affecting in the Russian Transfer System

<table>
<thead>
<tr>
<th>Factors affecting the fiscal capacity index</th>
<th>Factors affecting the expenditure need</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Potential tax collection-tax bases and tax rates</td>
<td></td>
</tr>
<tr>
<td>• Average level of tax collection</td>
<td></td>
</tr>
<tr>
<td>• Population</td>
<td>• Cost factors: income, population, land area, geographic condition and climatic conditions</td>
</tr>
</tbody>
</table>

b) Gap-filling subsidies:
These subsidies are provided as the compensation for the regions for the losses of tax revenues or increase in the expenditure burden resulting due to the changes in federal policies on the revenue assignments and expenditure responsibility of the regions.

ii) Earmarked transfers for co-financing regional programs
These types of transfers are supposed as the matching grants. The federal government provides these grants by estimating the expenditure needs of the region for a specific program, related to national projects, social expenditure, regional development etc. and provides the fixed share of the total cost.

iii) Earmarked transfers for execution of federal mandates
These are the federal transfers to the regional governments to meet the expenditure needs to execute the programs (devolved functions) of federal interests. Under this type of transfer system, the federal government covers the 100 percent cost of such programs.

iv) Other transfers:
These transfers are the operation transfers to special territories, ad hoc subsidies, transfers to restricted cities etc.

4.8. Intergovernmental Fiscal Transfer in South Africa
South Africa consists of 9 provinces, 8 metropolitan municipalities, 44 district municipalities and 205 local municipalities. In South Africa, Financial and Fiscal Commission (FFC) recommends on the intergovernmental fiscal relations. South Africa is adopting two types of transfer system-

i. Equitable share grants (80%) and
ii. Conditional grants (20%)

i) Equitable Share Grants:
These are the major grants to the subnational governments which covers the 80 percent of the total grant. These, formula based grants are of two types:

a) Provincial equitable share grants
b) Local government equitable share grants

a) Provincial Equitable Share Grants (PESG)
These grants are provided to the provinces on the basis of current provincial equitable share formula as following (Rakabe et. al, 2009):

\[ \text{Provincial equitable share for province } i, (G_i) = E_i + H_i + B_i + I_i + P_i + R_i \]

Where the components with the weightage in total formula are as follows (Hendriks, 2016; Equal Education, 2017)

E = Education share (48%)
H = Health share (27%)
B = Basic share (16%)
I = Institutional component (5%)
P = Poverty component (3%)
R = Economic output component (1%)

Based on Alm and Martinez-Vazquez (2015), the factors affecting the size of grants can be presented briefly as follows (Table 14):

<table>
<thead>
<tr>
<th>Grants</th>
<th>Factors affecting and their weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Education share</td>
<td>• Size of school-age population (5-17 years of age) -50%</td>
</tr>
<tr>
<td></td>
<td>• The number of students enrolled in public ordinary school (enrollment ratio) -50%</td>
</tr>
<tr>
<td>• Health share</td>
<td>• Proportion of the population with (1 time) and without access to medical aid- (4 times than population with medical aid)</td>
</tr>
<tr>
<td>• Basic share</td>
<td>• Share of the population of each province to the national population</td>
</tr>
<tr>
<td>• Institutional component</td>
<td>• Equal share to all provinces (11.1% for each province)</td>
</tr>
<tr>
<td>• Poverty component</td>
<td>• Percentage of the poor population in that province</td>
</tr>
<tr>
<td>• Economic output component</td>
<td>• Provincial tax capacity</td>
</tr>
</tbody>
</table>
b) Local Government Equitable Share (LGES) Grants

In South Africa, local governments are provided with an equitable share of grants for assisting them to provide the basic services and the functions designated to them. These are also the formula based grants with size determined by the national budgetary process. The current LGES formula can be presented as follows (SALGA, 2012):

\[ \text{LGES} = \text{BS} + \text{I} + \text{D-R} \pm \text{C} \]

Where,

- BS = Basic Services Component
- I = Institutional Component
- D = Development Component
- R = Revenue Raising Capacity Correction Component
- C = Correction and Stabilization Factor

The purpose and major determinants of these components can be given as follows (Table 15):

<table>
<thead>
<tr>
<th>Components</th>
<th>Purpose</th>
<th>Determinant factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic services component</td>
<td>Provided to assist municipalities in providing free basic services to the poor people (electricity, water, sanitation, refuse, municipal health)</td>
<td>Poverty, access to service, basic services, quality of services, population growth</td>
</tr>
<tr>
<td>Institutional component</td>
<td>Provided subsidy to enhance the administrative capacity of municipalities</td>
<td>Municipal size, poverty level, number of councilors</td>
</tr>
<tr>
<td>Development component</td>
<td>Provided to meet the developmental and other needs of local governments such as infrastructure development, basic services</td>
<td></td>
</tr>
<tr>
<td>Revenue raising capacity correction</td>
<td>Provided to equalize the revenue raising capacity by transferring some share from wealthiest municipalities to poorer municipalities as additional resources for funding on the basic services and administrative infrastructures</td>
<td>Projected own revenue of wealthier local governments and poor local governments, population</td>
</tr>
<tr>
<td>Correction and stabilization factor</td>
<td>Used to confirm that all the guarantees in the formula can be met so as the local government can plan accordingly while there is a change in the LGES allocation</td>
<td></td>
</tr>
</tbody>
</table>
ii) Conditional grants

To achieve the uniformity in the access of all citizens to the basic services, national government provides four types of conditional grants:

a) Supplementary grants for the programs funded by the provincial and municipal budgets
b) Financing specific programs of national interests (completely by the national government)
c) Specific purpose in-kind grants for the entitled special programs
d) Disaster management grants

4.9. Intergovernmental Fiscal Transfer in India

India is a federal country with 29 states, seven territories and large number of rural and urban local governments. Intergovernmental fiscal transfers in India on the basis of the nature and channels of transfer can be characterized as following types:

A. Non-planned transfers:
   i. Finance commission transfer:
      a) Share in central taxes: formula based and distributed as equalization transfer
      b) General purpose grants: based on post devolution non-planned revenue deficit
      c) Specific purpose grants: Discretionary in nature for specific function or sector
   ii. Grants from central ministries (specific purpose grants): Discretionary in nature for specific function or sector

B. Planned grants
   i. Planning Commission transfers
      Grants for state plans:
      • Block plan grants: formula based grants for development
      • Specific purpose grants: discretionary for specific programs
   ii. Grants from central ministries
      Grants for centrally sponsored scheme/Central plan scheme:
      • Matching specific grants: discretionary in nature
      • Non-matching specific grants: discretionary in nature

The fourteenth Finance Commission has used the selection criteria for designing transfer formula that are related to resource deficiency, higher cost of providing services and fiscal discipline. Table 16 gives the glance of criteria and their relative weights.
Table 16: Criteria and Relative Weights for Determining Inter-se Shares of States in India

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Relative Weight (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10th</td>
</tr>
<tr>
<td>2. Distance (income)</td>
<td>60</td>
</tr>
<tr>
<td>3. Area</td>
<td>5</td>
</tr>
<tr>
<td>4. Index of Infrastructure</td>
<td>5</td>
</tr>
<tr>
<td>5. Tax Effort</td>
<td>10</td>
</tr>
<tr>
<td>6. Fiscal Discipline</td>
<td>-</td>
</tr>
<tr>
<td>7. Fiscal capacity distance</td>
<td>47.5</td>
</tr>
<tr>
<td>8. Demographic change</td>
<td></td>
</tr>
<tr>
<td>9. Forest cover</td>
<td></td>
</tr>
</tbody>
</table>


Transfer Formula

The transfer formula may be presented as follows (Srivastava, 2011):

Considering the per capita income (Gross state domestic product) of states are $y_1, y_2, \ldots, y_n$ and corresponding population are $N_1, N_2, \ldots, N_n$.

Then in ascending order, $y_1 \leq y_2 \leq \ldots \leq y_n$

The per capita share of $i^{th}$ state under the distance criteria will be,

$$s^*_i = \frac{(y_n - y_i)}{\sum N_i(y_n - y_i)}$$

In this standard, the share for a state with the highest per capita income will be zero.

Similarly, under the population criterion, the per capita share for the $i^{th}$ state $q$ will be,

$$q_i = \frac{1}{\sum N_i},$$

which is constant for all states comprising equal per capita transfers for all states.

Again, the total amount of grants for richest state will be,

$$N_n [e-a.y_n]$$

Where, $e = \text{per capita expenditure norms}$

$$t^* = \text{average tax effort}$$

$$y_n = \text{per capita fiscal capacity}$$

$$N_n = \text{population of the } n^{th} \text{ state}$$
Then total transfer to the state in terms of per capita transfers (i.e., through population criteria) can be written as
\[
\sum_{i} N_i [e^{-t_i}.y_n] = [e^{-t_i}.y_n] \sum N_i
\]

Per capita transfers through population criteria and equalizing transfers through distance criteria denotes that the appropriate schemes of weights for criteria based sharing can be used for addressing both vertical and horizontal fiscal imbalances.

### 4.10. Intergovernmental Fiscal Transfer in Indonesia

Indonesia is divided into 34 provinces which are further divided into several regencies and cities. Provided by law- Law on Fiscal Imbalance, Indonesian fiscal transfer funds from central to regional governments are called as the fiscal equalization funds or balancing funds (*Dana Perimbangan*). Indonesian intergovernmental fiscal transfer system comprises of mainly two components:

i) Revenue sharing (*Dana Bagi Hasil-DBH*)

ii) Grants

**i) Revenue Sharing**

Two broad types of revenue are shared by the federal government with the state and municipalities separately: tax sharing (*DBH Pajak*) and sharing of natural resource revenue (*DBH Sumber Daya Alam*). Central government holds revenues ranging from zero to 84.5 percent and shares the remaining portion to the provinces and local governments in different proportion.

**Tax Sharing**

It consists the sharing of personal income tax, territorial and building tax and property title transfer fees. Table 17 gives the glimpse of allocation shares of these taxes among the various levels of governments.

**Sharing of natural resource revenue**

The revenue derived from the natural resources: oil, general mining, forestry, natural gas, geothermal energy and fisheries are shared among the levels of governments. The allocation of this revenue varies on the basis of categories of natural resources revenue and origin of such revenue. A significant share goes to source districts/municipalities, other districts/municipalities of the source provinces, all districts/municipalities of source provinces and all districts/municipalities of the country (Faldiya and McLeod, 2010).
### Table 17: Percentage of Revenue Sharing Based on Law 33/2004

<table>
<thead>
<tr>
<th>Revenue-shared sources</th>
<th>CG</th>
<th>Province</th>
<th>Originating LGs</th>
<th>Other LGs in same Province</th>
<th>All LGs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal income tax</td>
<td>80</td>
<td>8</td>
<td>12</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Property tax</td>
<td>9(^a)</td>
<td>16.2</td>
<td>64.8</td>
<td>-</td>
<td>10(^b)</td>
</tr>
<tr>
<td>Land &amp; building transfer fee</td>
<td>-</td>
<td>16</td>
<td>64</td>
<td>-</td>
<td>20</td>
</tr>
<tr>
<td>Forestry: land-rent</td>
<td>20</td>
<td>16</td>
<td>64</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Forestry: resource rent</td>
<td>20</td>
<td>16</td>
<td>32</td>
<td>32</td>
<td>-</td>
</tr>
<tr>
<td>Forestry: reforestation</td>
<td>60</td>
<td>-</td>
<td>40(^c)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mining: Land-rent</td>
<td>20</td>
<td>16</td>
<td>64</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mining: Royalty</td>
<td>20</td>
<td>16</td>
<td>32</td>
<td>32</td>
<td>-</td>
</tr>
<tr>
<td>Fishery</td>
<td>20</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>80</td>
</tr>
<tr>
<td>Oil</td>
<td>84.5</td>
<td>3.0(^d)</td>
<td>6.0(^d)</td>
<td>6.0(^d)</td>
<td>-</td>
</tr>
<tr>
<td>Gas</td>
<td>69.5</td>
<td>6.0(^d)</td>
<td>12.0(^d)</td>
<td>12.0(^d)</td>
<td>-</td>
</tr>
<tr>
<td>Geothermal</td>
<td>20</td>
<td>16</td>
<td>32</td>
<td>32</td>
<td>-</td>
</tr>
</tbody>
</table>

**Source:** Law 33/2004

**Notes:**

- a. 9% of the revenue collected from property tax is defined as administration costs and distributed equally to all local governments.
- b. 10% of the revenue collected from property tax is allocated to all local governments based on the actual property tax revenue collection at the current year. 6.5% is distributed to all local governments, and 3.5% is given as incentive to local governments which have revenues exceed the target of collection from the previous year.
- c. Revenue sharing from reforestation is an earmarked grant to rehabilitate forests in originating local governments.
- d. 0.5% of the revenue sharing from oil and gas is allocated to the provinces and local governments as an additional fund for education (earmarked grant).

#### ii) Grants

The grants from central government to regional governments in Indonesia consists of three types of funds:

- a) General purpose grants (*Dana Alokasi Umum –DAU*),
- b) Specific purpose structured grants (*Dana Alokasi Khusus –DAK*),
- c) Other (discretionary) specific purpose grants

#### a) General purpose grants (*Dana Alokasi Umum –DAU*)

This is the major transfer fund in the Indonesian fiscal transfer system with the objective of addressing both vertical and horizontal fiscal imbalances. The shares of the provinces and local governments are based basically on the responsibilities allocated among them.
The allocation is based on the expenditure needs and the fiscal capacity of the recipient government. The factors affecting to expenditure need and the fiscal capacity and their weightage (in the formula) for the jurisdictions are given as follows in the Table 18.

**Table 18: Weights for Fiscal Capacity and Needs for DAU (2011)**

<table>
<thead>
<tr>
<th>Factors for Expenditure Needs</th>
<th>Jurisdiction/ Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>For Provinces</td>
</tr>
<tr>
<td>Population</td>
<td>30.00</td>
</tr>
<tr>
<td>Geographical Area</td>
<td>15.00</td>
</tr>
<tr>
<td>Construction Prices</td>
<td>30.00</td>
</tr>
<tr>
<td>Human Development Index</td>
<td>10.00</td>
</tr>
<tr>
<td>Gross Regional Domestic Product</td>
<td>15.00</td>
</tr>
</tbody>
</table>

**Factors for Expenditure Needs**

<table>
<thead>
<tr>
<th>Fiscal Capacity Factors</th>
<th>Jurisdiction/ Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own Source Revenues</td>
<td>50.00</td>
</tr>
<tr>
<td>Shared Taxes</td>
<td>80.00</td>
</tr>
<tr>
<td>Shared Non-tax Revenues</td>
<td>95.00</td>
</tr>
</tbody>
</table>

*Source: Sen et. al (2014).*

**Formula for general purpose grants (DAU)**

As general purpose grants (DAU) are determined by the fiscal gap based on fiscal capacity (FC) and fiscal needs (FN) of a region, the following can be the formula:

**Basic fiscal gap formula.**

\[
FG = FN - FC
\]

\[
FN = TLBE^* (\alpha_1 PI + \alpha_2 SAI + \alpha_3 CPI + \alpha_4 IHDI + \alpha_5 IGRDP \text{ per cap})
\]

But,  
\[
FC = DBH + OSR = RSN + RST + OSR
\]

Where,

- TLBE* = Average total local budget expenditure,
- PI = Population index,
- SAI = Surface area index,
- CPI = Construction price index,
- IHDI = Inverse of HDI,
IGRDP = Inverse of GRDP per capita,
DBH = Revenue sharing,
OSR = Own source revenues,
RSN = Revenue sharing from natural resources,
RST = Revenue sharing from taxes,

and

\[ \alpha_{1,2,\ldots} = \text{Coefficients which are determined by linear regression.} \]

Then, the general purpose grants for region \( i \)

\[ \text{DAU}_i = \text{weighted value for region } i \times \text{weighted value for all regions} \]

Where,

\[ \text{Weighted value for region} = \frac{\text{fiscal gap for region}}{\text{fiscal gap for all regions}} \]

Since there is provision of basic amount allocation-BA (personal spending-PA), i.e., each local government gets the conditional grants based on the local officials salary, the total amount of DAU for region \( i \) will be,

\[ \text{DAU region } i = \text{Fiscal Gap (FG)}_i + \text{Basic-Amount Allocation}_i \]

If

i) \( \text{FG}_i = 0 \), \( \text{DAU}_i = \text{basic allocation amount} \)

ii) \( \text{FG}_i \) is negative and \( \text{FG}_i < \text{basic allocation amount} \), \( \text{DAU}_i = \text{basic allocation amount} - \text{fiscal gap} \)

iii) \( \text{FG}_i \) is negative and \( \text{FG}_i \geq \text{basic allocation amount} \), \( \text{DAU}_i = 0. \)

Again, by definition,

\[ \text{DAU} = \text{FG} + \text{PA} \]
\[ = \text{FN} - \text{FC} + \text{PA} \]
\[ = \text{FN} - (\text{OSR}+\text{DBH}) + \text{PA} \]
\[ = \text{FN} - \text{OSR} - \text{DBH} + \text{PA} \]

b) Specific purpose structured grants (Dana Alokasi Khusus –DAK)

This is the conditional or earmarked transfer scheme for the specific region and sectoral programs planned by central government. DAK seeks to equalize the minimum standard of the services among certain levels of the jurisdictions which are under the national priorities.
This is a matching grants system and consists of three criteria for distribution: General, special and technical. During allocation of DAK, first, the eligibility of a region to receive the DAK is determined and then amount to be received by an eligible region is calculated for each of the sectors of DAK. The criteria for distribution of DAK is given as follows.

**Table 19: Criteria of Distribution of Specific Purpose Grants (DAK) in Indonesia**

<table>
<thead>
<tr>
<th>General</th>
<th>Special</th>
<th>Technical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal capacity of region net of employee compensation and benefits</td>
<td>Characteristics of regions: local governments of Papua and West Papua; coastal areas and islands; areas that border other countries; regions of interest for food security or tourism reasons; disaster prone areas; and less developed areas</td>
<td>Macro indicators, indicators related to service, administrative and needs</td>
</tr>
</tbody>
</table>

The priority areas of DAK distribution are: education, health, road infrastructure, drinking water, infrastructure, sanitation infrastructure, government infrastructure, maritime affairs and fisheries, agriculture, environment, family planning, forestry, infrastructure in less developed regions, trade facilities, rural electrification, housing and settlement, land transport safety, rural transport, and border area infrastructure

**C) Other (Discretionary) Specific Purpose Grants**

Other specific grants constitute two parts: some portion is allocated for Special Autonomy Fund, provided only to the three jurisdictions- Aceh, Papua and West Papua; and the rest of the portion is completely discretionary and distributed in ad hoc basis.

**Total Intergovernmental Transfer (Dana) to regional government**

Since, the regional governments get major three types of transfers from central governments, the total transfers received by a regional government (D) will be,

\[
D = DBH + DAU + DAK \\
= DBH + (PS + FN – OSR – DBH) + DAK \\
= PS + FN – OSR + DAK
\]
4.11. Intergovernmental Fiscal Transfer in Brazil

Brazil consists of 26 states and 1 federal district and more than 5000 municipalities. Various types of transfer mechanism are in use in Brazil (Ter-Minassian, 2013):

i) Revenue sharing or Constitutional transfers: State Participation Fund (FPE) and Municipality Participation Fund (FPM); Sharing of Tax on Circulation of Goods and Services (ICMS); and sharing of natural resources revenue (NRR).

ii) Mandatory or Legal transfers: automatic transfers (as guided by the specific laws) like transfers for the education and health care system

iii) Discretionary or Voluntary transfers: transfers for specific capital expenditure projects

iv) Transfer of compensatory nature: transfer to compensate the loss of revenue due to changes in federal government policies

i) Revenue Sharing

Revenue sharing from the federal government of Brazil to states and municipalities through State Participation Fund (FPE) and Municipality Participation Fund (FPM) respectively. However, states transfer the fund from revenue sharing with municipalities through Tax on Circulation of Goods and Services (ICMS). All three revenue sharing mechanisms are unconditional. Another is the sharing of natural resource revenue

a) State Participation Fund (FPE)

This fund is direct federal transfers to states and consists of 21.5 percent fund received from federal income tax and selective VAT (tax on industrialized product-IPI). This is a non-matching unconditional transfers distributed as per the fixed coefficients for each state. The basis of percentage distribution for the states and regions is given as follows.

<table>
<thead>
<tr>
<th>Resource to states</th>
<th>Resources to regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>States of North, North-east and Central west: 85%</td>
<td>North : 25.37%</td>
</tr>
<tr>
<td>States of South and South-east: 15%</td>
<td>North-east : 52.46%</td>
</tr>
</tbody>
</table>

|                  | Central west: 7.17%       |
|                  | South: 6.52              |
|                  | South-east: 8.48%         |

Source: Sen et. al, 2014.
Factors considered for determining FPE amount to the state and region are:

Determining total FPE transfer pool: amount allocated for previous year adjusted for inflation and GDP growth (75%).

There are two criteria for determining the share of the state by fixing the coefficient for individual state with the following weightage:

- Size of the state (5%)
- Direct proportion of population shares and inverse of the per capita income of state (95%)

b) Municipality Participation Fund (FPM)

This is the federal transfers directly to the municipalities, which is composed of 23.5 percent revenues from federal income tax and selective VAT (IPI). Constitutionally, it is provisioned that municipalities with more (less) population and poorer (rich) economic condition gets larger (smaller) share of FPM (Ter-Minassian, 2013). FPM is unconditional, mandatory, non-matching revenue sharing transfer. There are three types of allocation of FPM:

- For capital cities on the basis of a formula based on the direct proportion of population size and inverse of per capita income of the respective state: 10%.
- For large non-capital cities with more population (based on criteria of population and per capita income): 3.6%
- For rest of the municipalities on the basis of formula with criteria of population size: 86.4%.

The formula for determining the share of FPM for municipality of a state s for year t (state’s per capita income keeping constant),

\[ FPM_{ms} = \frac{k(pop_m^e)}{\sum_{m \in s} k_m} \cdot FPM_{st} \]

Where,

- \( k (pop_m^e) \) = Assigned coefficient (based on the population cut-off) on the basis of population estimates for m municipality
- \( \sum_{m \in s} k_m \) = The sum of the assigned population coefficient of the municipalities belonging to the state s
- \( FPM_{st} \) = total FPM transfer available for state s for year t
Similarly, the FPM allocation through the criteria of income per capita of the state is made on the basis of the income coefficient of the state assigned based on the levels (cut-off) of per capita income.

c) Sharing of Tax on Circulation of Goods and Services (ICMS)
This sis the third largest transfers to the municipalities. Under this mechanism, 25 percent of state revenues from the ICMS is distributed to respective municipalities.

d) Sharing of Non-renewable Natural Resource Revenue (NRR)
Federal government of Brazil has provisioned to share some portion of revenue from non-renewable natural resources (particularly, hydro-carbon and minerals) to state and municipalities. The rate of the revenue sharing in vertical sharing depends on the nature of the field, subnational participation in production and distribution, the level of distribution of the resources among other units. However, the value of horizontal distribution coefficients among the states and municipalities depends on the type of levy and the location or nature of the field (i.e., onshore or offshore). Criteria of FPE and FPM distribution is followed by distribution of very small portion of revenue from these resources.

ii) Mandatory or Legal Transfers
These types of transfers are attached with the education, health and other programs.

a) Transfers for Educational Services: The fund for the transfers for the support for education (called FUNDEB) is composed of contribution of the states and municipalities (i.e., equivalent to 20% of their total (own and shared) revenue) and support from the federal government (equivalent to the 10% of the contribution of subnational governments). This transfer is utilized to finance the basic education and distributed basically on the basis of the number and characteristics of the population of the students.

b) Transfers for Health Services: This type of federal transfers to state and municipalities is delivered by the national health system (called SUS) and is partly mandatory and partly discretionary nature. Mainly, these types of transfers are not found to be linked with the indicators of need and performance.

c) Transfers for Other Programs: This is based on the devolution and redistributive criteria. Some portion of tax on the consumption of oil products (called CIDE-
Combustives) is conditioned to finance the environmental projects, investment in transport infrastructure and ethanol subsidies.

iii) **Discretionary or Voluntary Transfers**
It constitutes only less than 2 percent of total intergovernmental fiscal transfers in Brazil. These grants are called as *conveios* and *acordos*. These may be either matching or non-matching and mostly determined by political bargaining. These are stringed with specific conditions in use of the fund.

iv) **Transfers of Compensatory Nature**
These transfers are subject to the compensating the changes in revenue of the states and municipalities due to the changes in the federal fiscal policies, mostly for the loss of the ICMS revenues because of zero rating of the exports. Two types of transfers are there:

- 10% of the revenues from the selective federal VAT (IPI) with proportion of the shares of the states in industrial export. The states share 25% of transfer fund to the municipalities.
- Exports of primary and semi-manufactured products zero rated by the federal law- “Lei Kandir”.
Chapter 5: Discussion and Conclusion

5.1 Types of Transfers
By the review of the intergovernmental fiscal transfer systems of the 12 countries, we can find various countries are practicing different types of fiscal transfers among the various levels of governments. Mostly, transfers from federal to state governments and local governments and state government to local governments are found in practice. Though the countries in review have practice of various transfers, the transfers, mainly fall under the following major broad categories:

i) Revenue sharing
ii) General purpose transfers
iii) Specific purpose transfers
iv) Special transfers

i) Revenue Sharing
Among the reviewed countries, Germany is practicing both vertical and horizontal tax sharing system. China is adopting vertical tax sharing system. The revenue equalization in Switzerland also falls near the tax sharing. General revenue sharing in USA is another one. One of the components of the non-planned finance commission transfers in India is the sharing of central taxes. DBH of the Indonesia consists of the tax sharing and natural resource sharing among the levels of governments. State participation fund (FPE), Municipality participation fund (FPM) and sharing of tax on the circulation of goods and services (ICMS) of the Brazilian transfer systems are the constitutional transfers and system of revenue sharing.

ii) General Purpose Transfers
This is common for most of the countries. Block grants in Nepal, equalization payments of the Canadian transfer systems; equalization transfers in Australia, fiscal equalization among Lander in Germany; block grants in USA, general transfers system in Russia and China; expenditure need equalization in Switzerland; equitable share grants in South Africa; general purpose grants under finance commission transfers and block grants under
planning commission transfers in India and general purpose grant –DAU in Indonesia are the example of general purpose grants which are in practice in different countries of the review.

iii) Specific Purpose Transfers

These types of grants are attached some specific objectives and mostly sectoral grants come under this. CHT, CST in Canada; payments for specific purposes (PSPs) in Australia; categorical grants and project grants in the USA; earmarked transfers in China; earmarked transfers in the Russian Federation; conditional grants in South Africa; specific purpose grants as the planned and non-planned grants in India; DAK in Indonesia; mandatory or legal transfers and voluntary transfers in Brazil are in practice as the specific purpose grants.

<table>
<thead>
<tr>
<th>Transfer System</th>
<th>Canada</th>
<th>Australia</th>
<th>Germany</th>
<th>USA</th>
<th>China</th>
<th>Russia</th>
</tr>
</thead>
<tbody>
<tr>
<td>General purpose transfers</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Specific purpose transfers</td>
<td>√</td>
<td>√</td>
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<td>√</td>
<td>√</td>
<td>√</td>
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<tr>
<td>Territorial formula financing</td>
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<td>√</td>
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<tr>
<td>Supplementary grants</td>
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<tr>
<td>Revenue sharing</td>
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<td>√</td>
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<td>√</td>
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<tr>
<td>Other special grants</td>
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</tbody>
</table>

Table 21: Transfer Systems in Various Countries

iv) Special Grants

These grants are provided to the certain jurisdiction for certain purposes. TFF in Canada; supplementary grants in Germany; other federal supports in USA; compensation transfers in China; Cohesion funds in Switzerland; other transfers in Russia; Other (discretionary) specific purpose grants in Indonesia; transfers of compensatory nature in Brazil are the special grants practiced in different countries.
5.2 General Features of Allocation Criteria

According to the review, the criteria used for allocation of grants in most of the countries found to be possessing the following features as given in the Table 22.

**Table 22: Basic Features of Allocation Criteria of Grants to the Lower Governments**

<table>
<thead>
<tr>
<th>A) Fiscal capacity of the government</th>
<th>B) Expenditure needs of the government</th>
<th>C) Effort capacity of the government within various areas</th>
<th>D) Equal shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue capacity based on the use of the tax potentiality, tax base, tax rate</td>
<td>Based on size of the population, other socio-demographic structure, location, cost factor, number of people with special expenditure needs, etc.</td>
<td>Tax efforts, Financial management performance, governance, etc.</td>
<td>Lump sum to each e.g. 10% allocated with same amount to each lower governments</td>
</tr>
</tbody>
</table>

*Source: (Steffensen, 2015)*

Among the grants, general purpose grants is based on the expenditure need and revenue capacity; also the capacity of the subnational governments; and on an equal share basis, in some cases. However, the fiscal gap measured as the difference between expenditure needs and fiscal capacity of the certain jurisdiction is common in use. However, equalization grants are based on the fiscal capacity and expenditure needs. Sector specific grants are based on the expenditure needs or allocated on the equal basis, rarely.

5.3 Indicators (Factors) Used In Different Countries

In case of intergovernmental fiscal transfers, the revenue sharing and equalization transfer system are used by most of the countries those are reviewed. Among the grants, equalization transfers are mostly found in practice which are formula based in most of the cases. Similarly, the sectoral and conditional grants also are based on the formula in some countries. Regarding the formula for determining the amount of transfer for the government units, tax base/tax rate, population, population demography, land area, income/poverty/wage difference, level of access to the services, policy change etc. are the major indicators used in various countries. Table 23 gives a glimpse of the indicators used in the transfer formula of various countries of this review.
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Canada</th>
<th>Australia</th>
<th>Germany</th>
<th>USA</th>
<th>China</th>
<th>Russia</th>
<th>Switzerland</th>
<th>South Africa</th>
<th>India</th>
<th>Indonesia</th>
<th>Brazil</th>
<th>Nepal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax rate/Tax base</td>
<td>√</td>
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<tr>
<td>Non-tax revenue</td>
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<td>Tax effort</td>
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<td>GSDP</td>
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<td>Population</td>
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<td>Demographic change</td>
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<td>Population density</td>
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<tr>
<td>Population Demography (age, sex, ethnicity etc.)</td>
<td>√</td>
<td>√</td>
<td>√</td>
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<td>√</td>
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<tr>
<td>Land area</td>
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<tr>
<td>Productive/Commercial land</td>
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<tr>
<td>Altitude/climatic condition</td>
<td>√</td>
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<td>Special territory</td>
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<tr>
<td>Income/Poverty/wage difference</td>
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<td>Housing condition</td>
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<td>Quality of service</td>
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<td>Work place proportion</td>
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<tr>
<td>Access to service (Education, health, road etc.)</td>
<td>√</td>
<td>√</td>
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<td>√</td>
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<td>Number of councilors</td>
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<tr>
<td>Forest cover</td>
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<td>Cost index</td>
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<td>Policy change</td>
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</table>
Chapter 6: Recommendation for Intergovernmental Fiscal Transfers in Nepal

On the basis of the review of the national and international practices on the intergovernmental fiscal transfers, the following recommendations can be made briefly:

6.1 General Recommendations

- As suggested by Shah (2007), fiscal transfer formula should be simple so as it could be economically feasible and widely acceptable.
- The population, demographic conditions, area and the topography of the jurisdictions, the nature of the services required should be addressed during grant design.
- Need to avoid one size fits all in grant design and separate formula allocations to be used for each type of local governments to discourage the inequities among the governments.
- The grants in line with a single, specific, and clear objective can lead to the anticipated achievements.
- The grant system with certainty and predictability in time and amount to be received should be adopted so as it will improve efficiency and performance leading to the less chance of irregularities. Minimizing ad hoc and discretionary grants will reduce uncertainty and unpredictability.
- Use of conditional grants (that would reduce the budget autonomy of lower governments) should be minimized. In the specific purpose grants as well, instead of input and processes, string the conditions to the output, i.e., quality and access of the services produced.
- Most of the grant allocation should be based on the formula as much as possible and the variables should be selected according the need of grant category and availability of data. However, some amount of minimum grant could be considerable, but the practice of equal share grant should be discouraged.
• The relative weights and formulae should be revised and updated in the context of the new federal structure of the country. Periodic revision and update would be appreciable.

• Detailed profile of each and every province and local level (municipality and rural municipality) should be prepared that would provide information about variables which facilitates the ground for estimation of the grant amount on the basis of formula as well.

• As the tax is the major source for grant pool, tax sharing or tax-base sharing offer better alternatives to a general revenue-sharing program as they enhance accountability and preserve sub-national autonomy.

• Representation of local levels in the National Natural Resources and Finance Commission (NNRFC) is appreciable as it provides them the ground to advocate the actual needs and the actual position of the funds.

6.2. Recommendations on Possible Types of Transfers

As indicated by the Constitution of Nepal, there is provision of equalization grants, conditional grants, supplementary grants or special grants for other purpose. During adapting the various grant systems, the socio-economic, geographical and political aspects in country context should be considered. As per the Article 60, para (8) of the constitution, during deciding on the distribution of revenues (i.e., designing the transfer system) the following issues, objectives and factors should be considered:

• Justifiable distribution of resources among federation, provinces and local levels
• Complying with the national policies and programs, and national requirements
• Maintaining autonomy of the provinces and local levels
• Need of the services to be rendered by the province and the local level to the people
• Financial powers granted to the provinces and local level
• Capacity of lower governments to collect revenues, potentiality and use of revenues
• Assistance to be made in development works
• Reduction of regional imbalances, poverty and inequality
• End of deprivation
- Assistance to be made in the performance of contingent works
- Fulfilment of temporary needs

According to the article 60, para (4) and (5) the equalization grant distribution would be based mainly on the expenditure need and revenue capacity of the province and local level to which federal government provides the equalization grants.

On the basis of the constitutional norms (Article 60, para (4), (5) and (6)), and the international practices, we can recommend the following types of transfer (grant) systems for federal Nepal:

A) General purpose grants
B) Specific purpose grants
C) Promotional or performance based grants
D) Supplementary grants or special grants for other purposes

A) General Purpose Grants (Equalization grants):
- Equalization grants from federal to provinces and local levels
- Equalization grants from provinces to local levels
- Equalization grants: block grants based on certain formula, for e.g. grants to support expenditure on education, health, agriculture, infrastructure development etc.
- Territorial formula grants: for protected and backward territories

B) Specific Purpose Grants (Conditional Grants):

Conditional grants can be either matching or non-matching in nature.
- Health care grants
- Educational support grants
- Infrastructure development grants
- Agricultural development grants
- Social security transfers
- Disaster management grants
- Other

C) Promotional or Performance Based Grants

- Grants to the local governments on the basis of their performance measured by Minimum Conditions and Performance Measure (MCPM) method.
D) Supplementary Grants or Special Grants for Other Purposes
- Grants for the support of the projects funded by the provinces and local levels
- Compensatory transfers to reduce the effect of the policy change
- Tax subsidies for the poor local governments

6.3. Recommendations on the Formula and Possible Variables
On the basis of the short glance on the fiscal transfers in different countries, we can develop a simple idea about the possible variables for the equalization transfer formula for the federal Nepal. Mostly, intergovernmental fiscal transfer (mainly, the equalization transfer) is used to address the fiscal gap of the subnational government to provide the necessary public services to its territory which is the difference between expenditure needs and the revenue raising capacity of the particular sub-national government. So, there should be two major components of the grant formula: revenue capacity and the expenditure needs. Hence, we have to develop the factors affecting those variables. However, other types of grants may also be allocated on a formula basis. Here are the possible formula and variables for the equalization grants for federal Nepal.

a) Possible Grant Formula for Equalization Grants

Equalization Grant for \( i^{th} \) subnational government = \( \left( \frac{\text{fiscal gap of } i^{th} \text{ subnational government}}{\text{fiscal gap of all deficit subnational governments}} \right) \times \text{available equalization fund} \)

b) Measuring the fiscal gap, fiscal needs and fiscal capacity
- Fiscal gap = Fiscal Needs-Fiscal Capacity-Targeted Transfer
- Fiscal needs = Own expenditure responsibilities + Delegated expenditure responsibilities
- Fiscal capacity = Own source revenue potentiality +Shared revenue potentiality + targeted transfer (Recurrent transfers + Capital transfers)

c) Possible Variables for the Grant Formula
Various countries have used different variables while determining the volume of transfers to the subnational governments. Though a number of variables are found to be affecting
the size of grants, data availability and relevance in the country context should be considered during choosing the variables. Likewise, the national objectives, extent of importance and equalizing effect of the variable should also be considered.

The possible components of the fiscal capacity of a particular subnational government could be:

a) Available tax bases or coverage
b) Tax rate viable according to the territorial context
c) Tax effort of the recipient government
d) Revenue from the sharing
e) Fiscal discipline

The possible components for estimating expenditure need of that particular subnational government could be:

a) Population
b) Population demography
c) Land area
d) Cost index: unit cost of production of different services/prices of the inputs
e) Underdevelopment index: (i) per capita income, (ii) female literacy rate, (iii) infant mortality rate, (iv) household amenities, (v) remoteness, (vi) connectivity (access of road network), and vii) deprived caste/ethnic group, viii) altitude
f) Fiscal discipline

The choice of the variables depends on the nature and category of the grants and availability of data.

However, the comprehensive details and the weightage of the variables to be set in the formula can be proposed only after the rigorous data analysis which is beyond the scope of this study.
References

Bahl, Roy, Jamie Boex and Jorge Martinez-Vazquez (2001). The Design and Implementation of Intergovernmental fiscal transfers. Monograph. Atlanta, Georgia: Andrew Young School of Policy Studies, Georgia State University.


Fiscal Capacity Equalization and Economic Efficiency: The Case of Australia. In Jorge Martinez-Vazquez and Bob Searle (Eds.) Fiscal Equalization: Challenges in the


Annexes

Annex 1: Terms of Reference

Study on Intergovernmental Fiscal Transfer in the Federal System of Nepal

Background

The intergovernmental fiscal transfer is one of the important pillars of fiscal decentralization and fiscal federalism as it aims to correct vertical and horizontal fiscal imbalance among sub-national governments. There are significant differences/disparities among sub-national governments in the aspects of the number of population, size and geographic location, level of education, health facilities, infrastructure development and internal resource mobilization capacity (revenue potentiality), social (social inclusion and deprivation) and economic (per capita income). Unless these inequalities are not properly addressed with appropriate measures, fiscal federalism would perform under regional or location disparities.

Therefore, the federal government should be responsible to address the resource deficit among the state and local governments by strengthening structurally weak state and local governments. Very specifically, the objective of fiscal transfer from federal to sub-national level is to reduce disparities and support to meet local expenditure needs. Intergovernmental fiscal transfer depends on the design of equalization transfer mechanisms. The "right" equalization transfer approach depends on the specific objectives that are being followed within the context of a country's fiscal decentralization policy.

To achieve the objective of reducing regional imbalance, poverty and inequality among the territories, the article 60 of the New Constitution of Nepal 2015 states that the Government of Nepal shall make provisions for equitable distribution of the collected revenue to the Federal, State and Local Level. Also, the Government of Nepal shall, on the basis of the need of expenditure and revenue capacity, distribute fiscal equalization grants to the State
and Local Level. Moreover, according to the provision of the constitution, the Government of Nepal shall provide conditional, complementary or special grants to the sub-national government as provided by the Federal law. However, the transfer system according to the new constitutional settings is yet to be designed. In this context, there is need of an appropriate basis for a good system of intergovernmental fiscal transfer that can provide a just revenue distribution among the local governments from the federal government and tries to improve the public service delivery of the resource poor territories. This study aims to achieve this goal by suggesting the reasonable basis for a good transfer formula design.

**Rationale of the study**

The MoFALD has formed a technical team under the chairmanship of member secretary of LBFC to prepare the baseline for the upcoming National Natural Resources and Fiscal Commission (NNRFC) to develop the formula of equalization grant distribution from the federal government to local government. It is hoped that this study would be the basic foundation for NNRFC for developing a grant distribution formula in the days to come. Moreover, the LBFC has already conducted various studies on the formation of the formula of equalization grant and revenue collection and utilization situation of local bodies in Nepal. The reports have recommended the needs of general and specific policy and capacity development interventions for reducing horizontal fiscal gap and capture the expenditure needs in the context of unitary system of governance in Nepal. The studies have recommended in different perspectives and different models of the grant equalization formula. However, it is found that there are several principles of grant transfer are in practice such as equal distribution, equitable distribution and need based distribution from the central level to local level. Therefore, in the new experience of the federal system in Nepal, it is important to prepare a very scientific and pragmatic equalization grant formula for Nepal to effectively implement the expenditure assignment to local level as provided by the new constitution. The currently used recommended formula by the studies on the grant transfer formula are as follows.
Table 1: Recurrent formula of grant transfer from Central Government to local bodies

<table>
<thead>
<tr>
<th>Indicators</th>
<th>VDCs</th>
<th>Municipalities</th>
<th>DDCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>60</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>Weighted poverty</td>
<td>-</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Area</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Weighted cost</td>
<td>30</td>
<td>-</td>
<td>25</td>
</tr>
<tr>
<td>Weighted tax effort</td>
<td>-</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: MoFALD, Resource Mobilization and Management, Procedure, 2069.

The study carried out by Jamie Boax in 2012 has recommended the following two options as basic indicators for grant transfer from GoN to DDCs.

Table 2: Proposed Allocation Formulas for DDC Block Grant

<table>
<thead>
<tr>
<th>Factor</th>
<th>Current Formula</th>
<th>DDC Formula Option One</th>
<th>DDC Formula Option Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>40</td>
<td>55</td>
<td>65</td>
</tr>
<tr>
<td>Poverty</td>
<td>25</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Land Area</td>
<td>10</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>District Cost Index</td>
<td>25</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Jamie Boax 2012.

The study carried out by Professor Dr. Devendra Prasad Shrestha in 2014 has recommended the following five basic indicators for grant transfer from GoN to DDCs.

Table 3: Proposed Allocation Formulas for DDC Block Grant

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Factors</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Population (Pop_2011)</td>
<td>38</td>
</tr>
<tr>
<td>2</td>
<td>Human Poverty Index(HPI)</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>Deprivation in economic positioning(DPRV)</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>Cost Index (CI)</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>Land Area(Area)</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Shrestha, Devendra Prasad, 2014

The study carried out by Khim Lal Devkota in 2016 has recommended the formula of grant transfer from central to local level. According to him, it is recommended that 70% weight
for population and 30% weight for a geographic area for equitable distribution of grant to the local level.

**Objectives:**

- Review the intergovernmental fiscal transfer system in federal countries
- Review the horizontal and vertical fiscal transfer practice in Nepal
- Recommend the basis for the formula for vertical fiscal transfer system in new federal context of Nepal

**Scope of Work**

The following dimensions need to be cleared from the study.

- Defining equalization grant
- How is the divisible pool distributed among eligible units?
- Are the grant pool divided on an ad hoc basis or as a result of political negotiations?
- Identify the variables used in the different transfer system.
- Suggesting the possible variables for an appropriate transfer system in the country context.

**Methodology**

The study will be completely desk review of national and international practice on intergovernmental fiscal transfers, including conditional, unconditional and special grants. The consultant will prepare the recommendation based on the available data and information.

The consultant will have to facilitate consultation workshop to seek the feedback from the key individuals who are experienced in the proposed areas. The LBFC will arrange the in house consultation workshop and invite the participants from the Office of Prime Minister, NPC, MoF, MoFALD, LBAs and key individuals in the consultation workshop.

If needed, the consultant will have to share the finding in the forum created by LBFC.

**Specific Tasks of Consultants**

- Review the international practice on intergovernmental fiscal transfers
• Identify and suggest the appropriate variables determining the intergovernmental transfers in the country context

**Deliverable**

The consultant will deliver the following outputs:

• First inception report (Within 20 days)
• Draft analysis report (Within 60 days)
• Final report (By 30 March 2017)

**Time framework**

The assignment starts from January 20, 2017 and will be ended on 30 March, 2017.

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**Annex 2: Lists of the Individuals Consulted**

1. Purusottam Nepal- Joint Secretary and Former Member-Secretary of LBFC, Nepal.
2. Gopikrishna Khanal- Joint Secretary and Member-Secretary of LBFC, Nepal.
5. Rajesh Gautam - Under-Secretary, Government of Nepal.
9. Shukra Rai- Section-Officer, LBFC, Nepal.
10. Chandra Thapa- Section-Officer, LBFC, Nepal.
11. Pankaj Pokhrel - Scholars of Tribhuvan University.
12. Mahesh Acharya- Scholars of Tribhuvan University