Measuring the Extent of Equalization in Fiscal Transfers in India: An Index-Based Approach

[1]Ragini Trehan & [2]D. K. Srivastava
[1]Research Scholar, Madras School of Economics (MSE), and Senior Manager, EY India
[2]Honorary Professor, MSE, Chief Policy Advisor, EY India, and Member, Advisory Council to the Sixteenth Finance Commission

Abstract
India's fiscal transfers from the central to state governments are mainly determined by the Finance Commissions (FCs). While in many well-established federations, equalization serves as the guiding principle of fiscal transfers and is constitutionally mandated, in India, it is not explicitly mandated, and FCs attempt to implement it indirectly through formula-based share in the divisible pool of central taxes and grants. Thus, it is important to measure the extent of equalization achieved through FC transfers with a view to improving their design. This study uses an index-based methodology for measuring the degree of equalization achieved through FC transfers covering the period from FC12 to the first year of FC15. The 'Index of Equalization' shows that the extent of equalization has remained low in the range of 30 percent to 37 percent. The equalizing efficiency of recommended transfers also shows a consistent fall for this period.

Keywords: Expenditure Needs, Fiscal Capacity, Finance Commission, Fiscal Transfers, Fiscal Federalism, Index of Equalization, India, Horizontal Imbalance

Introduction

Fiscal transfers in India have been overseen by the FCs which are entrusted with the task of correcting vertical and horizontal imbalances in an equitable and efficient manner. The guiding principle of fiscal transfers in some of the well-established federations globally such as Australia, Canada, and Germany, has been that of equalization. Based on its equity and efficiency properties, a scheme of transfers consistent with equalization may be considered desirable in India's case. However, unlike Australia and Canada where equalization is attempted directly in designing the scheme of transfers, FCs in India have attempted to implement it indirectly by a combination of a formula-based share in the divisible pool of central taxes supplemented by grants.

This paper attempts to measure the extent of equalization achieved through FC transfers covering four Commission periods from FC12 to the first year of FC15.

For this purpose, an 'index of achieved equalization' has been developed. This requires first, creating an appropriate equalization benchmark, and then comparing actual transfers from the centre to the states against this benchmark in order to estimate the degree of equalization achieved during a given FC period. Fiscal transfers add to fiscal capacity of states. Equalising fiscal transfers lead to equalised fiscal capacity of states. This equalised fiscal capacity would result in equalised levels of publicly provided goods and services. Since unit costs of providing services differ across states, fiscal transfers are required to take into account differences in fiscal capacity arising due to differences in tax or revenue base as also due to deficiency in fiscal capacity arising from higher-than-average costs. Thus, there are two dimensions of equalization namely, revenue base dimension and a cost disability dimension. In creating an equalization benchmark for India, this study uses an approach which joins together these two dimensions. On the revenue side, full fiscal capacity equalization is attempted wherein per capita fiscal capacity is proxied by per capita GSDP. This is supplemented by a cost disability side equalization for select public and merit services characterized by large positive externalities. This methodology is comparable to the Canadian model where equalization grants are supplemented by Canada Health Transfers (CHT) and Canada Social Transfers (CST), and the Australian model where both fiscal capacity and disability neutralizing transfers are given simultaneously.

This paper is divided into six sections. Apart from the introductory section, section 2 reviews the relevant literature on this subject. Section 3 discusses the methodological framework for developing the Index of Equalization. Section 4 provides key features and sources of data, and details regarding revenue and expenditure side benchmarks. This section also contains a brief discussion on the profile of total and per capita recommended transfers for the Commission periods under review. Section 5 discusses the results and Section 6 provides concluding observations along with some policy implications.

Literature Review

Objectives of Fiscal Transfers

In the framework of fiscal federalism, federations across the world have tried to address two important imbalances namely, vertical and horizontal (Kelkar 2019; Ter-Minassian 1997). Vertical imbalance arises from the asymmetric constitutional assignment of resources and responsibilities amongst different tiers of the government. Relative to federal government, subnational governments in general have higher expenditure responsibilities and lower own revenue resources (Abiad et al. 2020). Horizontal imbalance arises due to differences in per-capita fiscal capacity or tax bases as also due to cost and need differentials across subnational governments (Mukhopadhyay and Das 2003;

Abiad et al. 2020). Cost and need differentials are primarily due to varying initial and evolving ground conditions of subnational governments such as the nature of terrain and distribution and structure of resident population.

Vertical imbalance is resolved by tax sharing or grants, and horizontal imbalance by equalization transfers either from the central government to subnational governments (as in the case of Australia, Canada and Denmark), or between regions (as in the case of Germany). Countries that do not use an explicit 'equalization framework' rely on special purpose or conditional grants which may also have some redistributive elements for achieving equity objectives (Indonesia). Well established federations such as Australia and Canada follow an integrated system of equalization grants wherein vertical and horizontal imbalances are simultaneously addressed through equalization payments and special purpose grants (Ahmad 1997). Thus, many federal countries have relied extensively on the principle of fiscal equalization in one form or another (Blöchliger et. al. 2008; Rangarajan and Srivastava 2011).

Horizontal fiscal equalization (HFE) can be defined as distribution of fiscal resources across subnational governments such that they are able to provide comparable level of services to their citizens provided they undertake comparable revenue effort subject to further adjustments for taking into account relative use and cost disabilities (Commonwealth Grants Commission 2022). This would avoid inefficient migration from one region to another induced by fiscal surpluses (Buchanan and Wagner 1971; Chakraborty and Garg 2019).

Resolving Horizontal Imbalance: The Equalization Approach

There are two main approaches of implementing HFE namely, fiscal capacity equalization, and fiscal capacity equalizations supplemented by considerations of cost and need disabilities. The distinction between these approaches can be best understood by considering the Canadian and the Australian models. In Canada, equalization payments are defined as follows:

'Parliament and the government of Canada are committed to the principle of making equalization payments to ensure that provincial governments have sufficient revenues to provide reasonably comparable levels of public services at reasonably comparable levels of taxation.' [Subsection 36(2) of the Constitution Act, 1982]

In the Canadian approach, the emphasis is on fiscal capacity equalization at the provincial level. Equalization payments to provincial governments are expected to enable the less prosperous provincial governments to provide their residents with public goods and services that are reasonably comparable to those in other provinces, at reasonably comparable levels of taxation. The equalization payment to a province in absolute amount is determined by applying the average tax effort to the difference between the benchmark tax base and the actual tax base for a

province. This method is called 'Representative Tax System' (for details, see Roy-César 2013).

On the other hand, HFE in Australia is defined as:

'State governments should receive funding from the pool of goods and services tax [can apply to any relevant sharable pool] such that, after allowing for material factors affecting revenues and expenditures, each would have the fiscal capacity to provide services and the associated infrastructure at the same standard, if each made the same effort to raise revenue from its own sources and operated at the same level of efficiency.' (Commonwealth Grants Commission 2015)

In the Australian approach, apart from fiscal capacity equalization, allowance is made for differential per unit costs of provision of public services amongst subnational governments on account of use and cost disabilities. The Commonwealth Grants Commission classifies disabilities as use or cost disabilities, depending on whether they affect the rate of use or the cost of each unit of service. Use disabilities reflect differences between states in the use of services resulting from factors such as composition of population and the availability of private services. Cost disabilities are factors that increase the per unit cost of service provision resulting from the nature of terrain such as a large share of hilly or forest area and remote districts (Commonwealth Grants Commission 2022; Spasovejic and Nicholas 2013).

Estimating Fiscal Capacity and Expenditure Needs

Shanmugam and Shanmugam (2022) highlight four methods that have been used in the existing literature for measuring fiscal capacity namely, (1) income approach, (2) representative tax system (RTS), (3) statistical approach using regression analysis and (4) stochastic frontier approach (SFA). The income approach assumes that national or subnational income is a perfect proxy of the tax base and thus GDP/GSDP are used as tax bases. As per the RTS approach, taxable capacity is defined... 'as the total tax amount that would be collected if each country applied an identical set of effective rates to the selected tax bases, that is, as the yield of a representative tax system' (Bahl, 1972).

In the statistical approach, the ratio of actual tax revenues to income is regressed on a set of explanatory variables in order to capture the tax base. The SFA approach may be considered as an extension of the regression approach where tax capacity and tax inefficiency are determined simultaneously. As tax capacity is not directly observable, this method uses a production frontier based on observable variables determining tax base. A frontier is estimated and the difference between the actual revenue and this frontier is attributable to tax inefficiency and other stochastic factors.

Similarly, four alternative methods have been used in existing studies to estimate expenditure needs. The first one pertains to the use of historical expenditure

patterns. This may serve as a simple and useful approach provided one accounts for inter-se differences in preferences. The second method assumes an identical spending need for all regions and thus allocation of the same amount to each region. In the third method, actual spending is regressed on need indicators and other determinants of regional expenditures. The fourth method, called the representative expenditure system (RES) measures the per capita spending need as the sum of its workload for each category of service weighted by average spending on each unit of service, divided by population. While the third approach requires data on regional factors that influence their spending, the fourth approach requires relevant data on various expenditure categories, workload etc. (Shanmugam and Shanmugam, 2022 and Shah, 2012). There are however practical difficulties in the measurement and quantification of such factors on the expenditure side (OECD 2022; Shah 2012; Bird and Vaillancourt 2007; Maarten and Lewis 2011).

Given the complexities in measuring expenditure needs and the paucity of data required for this purpose, it may be preferable to follow the RTS on the revenue side but attempt a partial RES approach on the expenditure side focused on the provision of uniform national standards of some key public and merit services that are characterized with large positive externalities (Bird and Vaillancourt 2007; Rangarajan and Srivastava 2011). This is precisely the approach followed by Canada wherein fiscal capacity equalization is supplemented by cost considerations for select services (healthcare, secondary education, support social assistance and social services including early childhood development). South Africa compensates for fiscal needs on a service-by-service basis in determining provincial entitlements for general-purpose grants from the central to the provincial governments.

Measuring Equalization

The existing literature on the measurement of equalization in federal countries is scanty. There have been some efforts to quantify the impact of equalization arrangements on disparities using Gini and variation coefficients of fiscal capacity across sub-central governments before and after equalization. Blöchliger et. al. (2008) found that in a sample of 18 OECD countries, on average, disparities as measured by the coefficient of variation of fiscal capacity before and after equalization decreased by almost two-thirds. In some countries like Australia, Germany and Sweden, revenue raising disparities were virtually eliminated. A recent update of this study (OECD 2022), considering a sample of 16 countries found mixed results. This update concluded that the appropriate framework for measuring the effect of an equalization system must be related to the type of equalization model in place.

In the Indian context, Rangarajan and Srivastava (2008) have used an index-based approach to the measurement of equalization achieved through transfers recommended by FC12. It was found that 88 percent of equalization was achieved during this period. There are three important considerations with respect to this estimate. First, the equalization benchmark was estimated using only a revenue base dimension and the cost disability dimension was not included. Second, the equalization benchmark is constructed using data pertaining to the period 1999-00 to 2001-02 while the transfers pertained to the period 2005-06 to 2009-10. In fact, for per-capita conversions, population data as per the 2001 census was used. Using dated information particularly with respect to population may result in an under-assessment of equalization requirements in the benchmark thereby inflating the extent of equalization achieved (Srivastava and Aggarwal 1995). Third, equalization has been assessed for tax devolution and grants separately. However, it may be better to consider equalization for the overall scheme of transfers as FCs often utilize grants to substitute for tax devolution when they find that share of a state has suddenly reduced as compared to the previous Commission-period.

Using the framework by Rangarajan and Srivastava (2008), the RBI (2011) had also estimated the degree of equalization achieved for four FC periods during FC10 to FC13. In their exercise, per capita GSDP and tax effort were estimated by utilizing more recent GSDP data. The results show a much lower degree of overall equalization at 64.7 percent during the FC12 period.

Another consideration in estimating an equalization benchmark is the selection of benchmarks relating to fiscal capacity, tax effort, and subnational expenditure on selected/all services. For example, in the Canadian fiscal equalization formula, the benchmark tax rate is an average of all 10 provinces while for the fiscal capacity, average revenue base of five reference provinces is used (Roy-César 2013; Feehan 2014; Jha 2017). In Australia, a standard budget is prepared where benchmarks are equal to all state averages in expenditures as well as revenues (Commonwealth Grants Commission 2022; Rangarajan and Srivastava 2011). In the determination of equalization grants to municipalities in Sweden, the benchmark tax rate and tax base pertains to the average of all jurisdictions. With respect to expenditure, national average cost of selected public services is compared with a community's own cost of provision (Chernick 2002). In India, an equalization approach is not directly pursued by the FCs. However, within the tax devolution formula, the income-distance criterion has generally considered the distance of a state's per capita GSDP from the average per-capita GSDP of the top three general category states (Singh 2020). Few studies that estimate equalization transfers in India have considered some variants of the relevant benchmarks. For example, Saraf and Srivastava (2009) have used two benchmarks for fiscal capacity namely, population-weighted average of estimated per capita own tax

revenue of all states and the average of the top five states. For tax effort, average of all states was considered. For the expenditure benchmark, the population-weighted average per capita expenditure on health and education by the top three states was used.

The inter-state profile of transfers and consequently, the extent of equalization achieved, may also be influenced by political economy considerations. There has been evidence that some subnational governments that are politically aligned to the federal government may receive higher transfers as compared to non-aligned states (Pattanayak and Kumar 2022).

Methodology

This study attempts to develop an 'Index of Equalization' in order to measure the extent of equalization associated with any scheme of transfers. For this purpose, first an equalization benchmark is created for each FC-period.Actual transfers to states by the FCs are then compared against this benchmark to assess the extent of equalization achieved. This exercise has been done for four Commission periods starting from FC12 to the first year of FC15. Thus, the period for this study covers 16 years from 2005-06 to 2020-21. Further, rather than focusing on tax devolution and grants separately, total transfers have been considered for assessing extent of equalization.

The study focusses on two categories of states based on their geographical and economic characteristics, namely, medium and large (ML) and small and hilly (SH). Other studies in the Indian context have also followed similar categorization (Shanmugam and Shanmugam, 2022). The ML group include 17 states namely, Bihar, Uttar Pradesh, Madhya Pradesh, Assam, Jharkhand, Odisha, Rajasthan, West Bengal, Chhattisgarh, Andhra Pradesh, Punjab, Gujarat, Tamil Nadu, Karnataka, Kerala, Haryana and Maharashtra. The SH group comprises 11 states namely, Manipur, Tripura, Jammu and Kashmir, Nagaland, Mizoram, Arunachal Pradesh, Meghalaya, Uttarakhand, Himachal Pradesh, Sikkim and Goa. In the FC15(1) period, the SH group comprise 10 states as the status of Jammu and Kashmir changed from a state to a Union Territory with Legislature after the Jammu and Kashmir Reorganization Act came into force.

Determining Equalization Benchmarks

Consider that the overall tax base of the ith state is represented by its per capita GSDP at current prices (y_i). Further, let ρ_i and ρ be the state-specific and benchmark tax-GSDP ratios. Benchmark tax effort is taken as the weighted sum of individual tax-GSDP ratios for all states for each FC-period with $y_i / \sum_{i=1}^{N} y_i$ serving as the weight. For full fiscal capacity equalization, per-capita transfer to the ith state (a_i^*) is given by:

$$a_i^* = \rho y_b - \rho y_i \quad (1)$$

where y_b is the benchmark fiscal capacity which is proxied by the average per-capita gross state domestic product (GSDP) of the top three ML states.

The use of average tax-GSDP ratio ρ, in equation (1) shows that per-capita transfer to a state would only covers for deficiency in fiscal capacity and not that in tax effort. Thus, transfers would not compensate the state if its own tax effort were lower than the all-state average level (that is, if $\rho_i < \rho$).

Fiscal capacity equalization entitlements to the ithstate (E_i^r) is then given by:

$$E_i^r = N_i * a_i^* (2)$$

where N_i denotes the population of the ith state

Equation (2) can be written as:

$$E_i^r = N_i * \rho.(y_b - y_i) \quad (3)$$

$E_i^r > 0\ if\ y_b > y_i;\quad E_i^r = 0$ if$y_b \leq y_i$

On the cost disability side, equalization benchmark is calculated separately for the ML and SH states.

Let z denotes the group average per capita expenditure on a selected service and z_i denote the per capita expenditure of the ith state on that service. Let p_i and p denote the per capita primary expenditure excluding pensions of the ith state and the group average, respectively.Then the average budgetary allocation for the group (β) and the ith state (βi) can be written as:

$$\beta = \frac{z}{p} and \beta_i = {}^{z_i}/_{p_i} \quad (4)$$

The deviation of the per capita expenditure of the ith state from its group average can be written as:

$$b_i^* = z - z_i \quad (5)$$

Substituting the value of z and z_i from equation (4) into equation (5) and then adding and subtracting the term βp_i from the RHS, we can re-write equation (5) as follows:

$$b_i^* = z - z_i = \beta(p - p_i) + (\beta - \beta_i)p_i \quad (6)$$

Equation (6) shows the per-capita transfer to be received by the ith state for expenditure equalization. It shows that the gap in per-capita expenditure of a state with respect to its group average is the sum of two components. The first component reflects the deficiency in spending despite providing an average preference for the service under consideration. Given that fiscal capacities have been equalized on the revenue side, these differentials may occur on account of cost and use disabilities. The second component reflects less than average preference exhibited by the ith state to the concerned service. Expenditure equalization entitlements should compensate for only the first component.

Expenditure equalization entitlements (E_i^e) to the ith state can thus be written as:

$$E_i^e = N_i * b_i^* \quad (7)$$

where N_i denotes the population of the ith state.

Thus, the augmented fiscal capacity and equalising transfers of the ith state can be written as follows:

Augmented fiscal capacity = (excess of normatively determined revenues over actual revenues) + (provision for neutralising cost disabilities)

Equalizing transfers (E_i) = transfers on account of normative revenues (E_i^r) + transfers on account of cost disability neutralisation (E_i^e)

Developing an Index of Equalization

After determining the equalization benchmarks, the next step is to compare actual transfers with these benchmarks for assessing the degree of equalization achieved. For this, we first decompose actual per capita transfers received by the ith state into four components.

$$t_i = v + a_i + b_i + r_i \quad (8)$$

where v is the vertical transfer, a_i is fiscal capacity equalization transfer, b_i is transfer on account of cost disability neutralization (covering three merit services in this study namely, health, education and water supply and sanitation) and r_i is a residual indicating transfers for ad hoc considerations.

Per capita vertical transfer, considered equal for all states, is set equal to the lowest per capita transfer received by a state in each Commission-period. This is because the lowest per capita transfer is received by that state which has the highest fiscal capacity. Since all other states have fiscal capacity that is lower than this state, they would receive an amount, in per capita terms, that is higher than that received by the highest income state given a progressive scheme of transfers. From the remaining amount, allocation is first made for fiscal capacity equalization and then for neutralizing cost disabilities.

Normatively determined transfers in per capita terms may also be written as:

$$t_i^* = v^* + a_i^* + b_i^* + r_i^* \quad (9)$$

where v^* is the per capita vertical transfer which is evaluated using the mid-year population of the award period for each FC instead of the census-based population (see Table 2 for details), and $r_i^* = 0$. This is because in a normatively determined scheme of transfers, all available resources would be utilized for providing transfers on account of normative revenues and on account of cost disability neutralization.

It may be noted that different FCs have accorded different priority for the vertical imbalance correction. For any FC period, the higher is the share of vertical transfers in total transfers, less is the quantum of resources available for HFE for a given amount of total transfers.

The extent of achieved revenue and expenditure equalization (I^r and I^e) across all states can be estimated as follows:

$$I^r = \frac{\sum_{i=1}^{N} a_i N_i}{\sum_{i=1}^{N} a_i^* N_i};\ 0 \le I^r \le 1 \ \text{since} a_i \le a_i^* \text{and} I^e = \frac{\sum_{i=1}^{N} b_i N_i}{\sum_{i=1}^{N} b_i^* N_i};\ 0 \le I^e \le 1 \ \text{since} b_i \le b_i^* \quad (10)$$

where N_i denotes the population of the ith state.

An Index of aggregate equalization (I) can be written as a weighted sum of $I^r$and I^e. This is given as:

$$I = w_1 . I^r + w_2 . I^e \quad (11)$$

Where $w_1 = \frac{\sum_{i=1}^{N} E_i^r}{\sum_{i=1}^{N} E_i} = \frac{T_1}{T}$ and $w_2 = \frac{\sum_{i=1}^{N} E_i^e}{\sum_{i=1}^{N} E_i} = \frac{T_2}{T}$

T refers to the total transfers required for achieving the equalization benchmark, T_1 indicates transfers on account of normative revenues, and T_2 are transfers on account of cost disability neutralization.

For each FC period, the equalizing efficiency of transfers (e) can be calculated as follows:

$$e = \left(\frac{I}{T/GDP}\right) * 100 \quad (12)$$

Where I is the extent of achieved equalization and T/GDP indicates total volume of transfers relative to GDP. Thus, equalizing efficiency indicates the equalization delivered per 1 percent of GDP of transfers.

Data Analysis

Key Features and Sources of Data and Choice of Benchmarks

Some important details associated with the four Commissions under review are summarized in Table 1.

Table 1: FC 12 to FC15 (1): key features

FC	Recommendation period	Available per capita comparable GSDP	Population used as per ToR	Last available Census-based population
FC 12	2005-06 to 2009-10	1999-00 to 2001-02	1971	2001
FC 13	2010-11 to 2014-15	2004-05 to 2006-07	1971	2001
FC14	2015-16 to 2019-20	2010-11 to 2012-13	1971, 2001	2011
FC15 (1)	2020-21	2015-16 to 2017-18	2011	2011

Source: ToR, Various Commissions, Finance Commission India (fincomindia.nic.in)

It is notable that even though the last available Census-based population data pertained to 2001, FC12 and FC13 were mandated to use 1971 population. FC14 also used the 1971 population data for the population criterion, although 2011 Census-based population was used for the demographic change criterion (GoI, 2014)i. Thus, even though by this time 1981, 1991, 2001, and 2011 Census data had become

available, FCs continued to use dated information. In the case of FC15(1), use of 2011 population data, which was the latest available Census during its deliberation period, brought about a much-needed change.

As highlighted in Table 2, while developing equalization benchmarks, per capita transfers have been calculated using the population data pertaining to the mid-year of the award period of each Commission while for actual FC transfers, population data pertaining to the last available Census at the time of deliberation of each Commission has been used. Thus, the current framework compares what is desirable vis-à-vis. what has been achieved.

The details of the data used, and their sources are summarized in Table 2.

Table 2: Data and sources

Variable	Data source	Additional information
Population	EPW Research Foundation	Per capita transfers have been calculated using population corresponding to the mid-year of the award period of each Commission in developing the equalisation benchmarks. For actual FC transfers, we have used population pertaining to the last available census at the time of the deliberation of each FC.
Nominal GSDP (2011-12 base series)	EPW Research Foundation	
Total volume of central transfers to states	RBI (2021)	State-wise share in central taxes and statutory grants
State-wise own tax revenues	RBI (2021)	State-wise tax revenues are required for the estimation of tax effort
State-wise expenditures	RBI (2021)	Data for primary expenditures, and three selected services namely, (1) medical, public health and family welfare, (2) education, sports, art and culture, and (3) water supply and sanitation

Source: Authors' compilation

In the determination of revenue and expenditure equalization benchmarks, certain benchmarks need to be estimated. For the revenue base dimension, this pertains to tax effort and fiscal capacity. For tax effort, we have used average tax effort across all states for each Commission period. For fiscal capacity, we have

used the average per-capita GSDP across the top three ML states during the award period of each Commission.

Table 3: Benchmarks for revenue base dimension

FC	Recommendation period	Top three states in terms of per-capita GSDP	Benchmark fiscal capacity (INR)	Benchmark tax effort (per cent)
FC 12	2005-06 to 2009-10	Maharashtra, Haryana and Kerala	65,930	6.3
FC 13	2010-11 to 2014-15	Maharashtra, Haryana and Kerala	1,27,00	6.7
FC14	2015-16 to 2019-20	Karnataka, Haryana and Kerala	2,11,459	6.4
FC15 (1)	2020-21	Karnataka, Haryana and Telangana	2,59,717	7.1

Source (basic data): NSO, Finance Commission Reports (FC12 to FC15(1))

For the cost disability dimension, the main benchmark is the average budgetary allocation across the three chosen sectors.

Table 4: Benchmarks for cost disability dimension

FC	Recommendation period	Budgetary allocation in per cent (education)		Budgetary allocation in per cent (health)		Budgetary allocation in per cent (water supply and sanitation)	
		ML	SH	ML	SH	ML	SH
FC 12	2005-06 to 2009-10	19.5	12.5	4.9	3.8	1.6	2.5
FC 13	2010-11 to 2014-15	21.7	14.5	5.3	4.5	1.1	2.2
FC14	2015-16 to 2019-20	19.5	14.9	5.8	5.1	1.4	1.9
FC15 (1)	2020-21	19.3	12.6	6.7	4.6	1.2	1.4

Source (basic data): RBI

Profile of Total and Per Capita Transfers

Table 5 shows the actual volume of total transfers comprising share in central taxes and grants received by the aggregate of states in each Commission period. It is notable that total transfers relative to GDP increased by nearly 1 percent point in the FC 14 period due to a one-time sharp increase in the share of states in the divisible pool of central taxes from 32 percent to 42 percent. This is also reflected in the share of vertical transfers in total transfers that reached a peak of 53 percent during the FC 14 period.

Table 5: Volume of total transfer received by states: FC12 to FC15(1)

FC	Volume of total transfers (INR crore)	Total transfers as per cent of nominal GDP	Share of vertical transfers in total transfers (per cent)
FC 12	7,92,818	3.21	46.2
FC 13	16,03,327	3.21	50.5
FC 14	35,44,472	4.16	53.0
FC15 (1)	7,79,835	3.94	48.5

Source (basic data): RBI and MoSPI

Per-capita transfers to the ML and SH group of states during each Commission period is given in Table 6. Although for purposes of tax devolution, Commissions have treated all states on par, the overall scheme of transfers has been so designed as to give on average, a much higher per capita transfers to the SH states as compared to ML states. The ratio of per capita total transfers received by SH to ML states ranges from 2.6 to 3.9. The relatively higher per capita transfers for the SH group are on account of higher unit cost of providing services in these states due to dispersed nature of population residing in low density clusters. The relatively higher costs also reflect ecological costs in terms of maintaining a large forest cover and presence of glaciers.

Table 6: Per capita transfers: ML and SH states (INR)

FC	ML states	SH states	SH to ML ratio
FC 12	6,545	20,713	3.2
FC 13	12,448	32,245	2.6
FC14	25,190	84,597	3.4
FC15 (1)	5,473	21,120	3.9

Source (basic data): RBI

Results

Table 7 shows that the share of vertical transfers in total recommended transfers was the highest at 52.4 percent in the case of FC 14 while the share of the

equalization component was the lowest at 38.2 percent. In contrast, for FC 12, the vertical component accounted for 46.5 percent of the total transfers while the share of the equalization component was the highest at 45 percent. As a result, the extent of equalization was the highest in the case of FC12 at 36.7 percent. Further, the equalizing efficiency of recommended transfers at 11.4 percent for FC12 is also the highest among the four Commissions. This is attributable to the fact that FC12 used the equalization principle to some extent in its determination of grants for education and health (Para 4.24, Report of FC12). In comparison, the degree of equalization is estimated to have fallen subsequently with the lowest equalization achieved under the FC15(1) period. The equalizing efficiency also shows a falling trend, reaching a level of 7.5 percent during FC15(1) period.

Table 7: Measurement of equalisation achieved: FC12 to FC15(1)

		FC12	FC13	FC14	FC15 (1)
Magnitude of transfers (INR crore)					
1=2+3+4	**Total recommended transfers**	**7,92,818**	**16,03,327**	**35,44,472**	**7,79,835**
2	Vertical component	3,68,380	8,29,950	18,57,571	3,86,378
3	Equalisation component	3,56,380	6,96,904	13,55,049	3,27,963
4	Residual	68,059	76,473	3,31,852	65,494
Share in total transfers (per cent)					
5	Vertical component	46.5	51.8	52.4	49.5
6	Equalisation component	45.0	43.5	38.2	42.1
7	Residual	8.6	4.8	9.4	8.4
8=5+6+7	**TOTAL**	**100.0**	**100.0**	**100.0**	**100.0**
Extent of equalisation achieved					
9	Amount required for benchmark equalisation (INR crore)	9,69,623	22,48,310	38,82,875	11,10,682
10=9/3*100	**Degree of equalisation achieved (per cent)**	**36.7**	**31.0**	**34.9**	**29.5**
11	Recommended transfers as per cent of GDP	3.2	3.2	4.2	3.9
12 = (10/11)/100	**Equalizing efficiency (per cent)**	**11.4**	**9.7**	**8.4**	**7.5**

Source: Authors' estimates

Conclusions and policy implications

In the post-planning era, India's fiscal transfers from the central to state governments are solely determined by the FC. Despite the constitution of fifteen FCs over a period of 70 years, a full-fledged equalization approach has not been

put in place. In some well-established federations such as Australia and Canada, equalization is attempted directly in designing the scheme of transfers. In India however, FCs have implemented it indirectly by a combination of a formula-based share in the divisible pool of central taxes supplemented by grants. This study uses an index-based methodology for measuring the degree of equalization achieved through transfers for four FC periods starting from FC12 to the first year of FC15. It is found that the extent of equalization has remained low in the range of 29.5 percent (FC 15(1)) to 36.7 percent (FC 12). The equalizing efficiency of transfers has also shown a consistent fall from 11.4 percent in the FC12 period to 7.5 percent in the FC15(1) period.

Some important policy implications of this study are summarized below. First, there is a need to reverse the trend towards the falling extent of achieved equalization through fiscal transfers designed by the recent FCs. If this is not done, the gap between fiscal capacities across states would continue to increase and there would be increasing resistance to redistributive transfers. Second, the objective of equalising standards of selected services such as education, health and water supply and sanitation can be improved by better targeting of fiscal transfers. This may call for a reconsideration of the role of specific purpose transfers by the FCs which is well within their constitutional mandate. Third, as the extent of achieved equalization depends on relative weights given to different tax devolution criteria, these criteria can be expanded, and relative weights can be recalibrated, keeping the target of achieving a given degree of equalization under consideration.

References:

1. Abiad, A. D., Akın, Ç., Carrasco, B., Conrad, J., Jha, S., Karan, N., ... & Song, L. L. 2020. Strengthening India's Intergovernmental Fiscal Transfers: Learnings from the Asian Experience. Asian Development Bank.
2. Ahmad, E. 1997. Intergovernmental Transfers. In Fiscal federalism in theory and practice. International Monetary Fund.
3. Bahl, R. 1972. A Representative Tax System Approach to Measuring Tax Effort in Developing Countries. IMF Staff Papers, 1972(001), A003. Retrieved Aug 24, 2024.
4. Bird, R., & Vaillancourt, F. 2007. Expenditure-based equalization transfers. In Fiscal equalization: Challenges in the design of intergovernmental transfers, 259-289. Boston, MA: Springer US.
5. Blöchliger, H., & Charbit, C. 2008. Fiscal equalization. OECD Journal: Economic Studies. 2008(1): 1-22.
6. Buchanan, J. M., & Wagner, R. E. 1970. An efficiency basis for federal fiscal equalization. In The analysis of public output, 139-162. NBER.

7. Chakraborty, P., & Garg, S. 2019. Fiscal pressure of migration and horizontal fiscal inequality: Evidence from Indian experience. International Migration:57(4), 269-290.
8. Commonwealth Grants Commission. 2015. Report on GST revenue sharing relativities: 2015 review. Commonwealth Grants Commission.
9. Commonwealth Grants Commission. 2022. Some international themes in fiscal equalization: an Australian perspective.
10. Cusack, T. R. 1999. Partisan politics and fiscal policy. Comparative Political Studies: 32(4), 464-486.
11. Feehan, J. P. 2014. Canada's equalization formula: peering inside the black box... and beyond. SPP Research Paper (07.24).
12. Kelkar, V. 2019. Towards India's new fiscal federalism. Journal of Quantitative Economics: 17, 237-248.
13. Mukhopadhyay, H., & Das, K. K. 2003. Horizontal imbalances in India: Issues and determinants. Economic and Political Weekly: 1416-1420.
14. OECD. 2022. Fiscal Federalism: Making Decentralization Work. OECD Publishing, Paris.
15. Pattanayak, A., & Kumar, K. K. 2022. Fiscal transfers, natural calamities and partisan politics: Evidence from India. Economics of Disasters and Climate Change: 6(2) 375-392.
16. Rangarajan, C., & Srivastava, D. K. 2008. Reforming India's fiscal transfer system: resolving vertical and horizontal imbalances. Economic and Political Weekly: 47-60.
17. Rangarajan, C., & Srivastava, D. K. 2011. Federalism and fiscal transfers in India. OUP Catalogue.
18. Roy-César, É. 2013. Canada's Equalization Formula. Library of Parliament.
19. Saraf, R., & Srivastava, D. K. 2009. Determining general and specific purpose transfers: An integrated approach. Madras School of Economics.
20. Shah, A. 2012. Public services and expenditure need equalization: reflections on principles and worldwide comparative practices. World Bank Policy Research Working Paper 6006.
21. Shanmugam, K., & Shanmugam, K. R. 2022. Equalization Transfers Based on Spending Needs and Fiscal Capacity of State Governments in India. Margin: The Journal of Applied Economic Research: 16(2), 139-165.
22. Singh, N. K. 2020. Fiscal federalism in India. In OECD Fiscal Federalism Studies Local Public Finance and Capacity Building in Asia Issues and Challenges: Issues and Challenges.
23. Srivastava, D. K., & Aggarwal, P. K. 1995. Revenue sharing in developing countries: Role of population in criteria-based transfers. National Institute of Public Finance and Policy.

24. Spasovejic, J., & Nicholas, M. 2013. Fiscal Equalization in Australia. Australian Journal of Public Administration: 72(3), 316-329.
25. Ter-Minassian, M. T. (Ed.). 1997. Fiscal federalism in theory and practice. International Monetary Fund.

---

1. Paragraph 8.25, Report of the Fourteenth Finance Commission