Fiscal federalism in India: Evidence from state revenues and transfers

Sagar Sharma[1*], Swami Prasad Saxena[2] and Bhavna Yadav[3]

[1][2][3] Department of Applied Business Economics, Dayalbagh Educational Institute (Deemed to be university), India

[2]Email: spsaxena@dei.ac.in, https://orcid.org/0000-0003-4764-448X

[3]Email: bhavanayadav943@gmail.com

*Correspondence: sagarsharma141756@dei.ac.in; https://orcid.org/0009-0006-6589-1168

Abstract

This study examines the dynamics of fiscal federalism in India by analysing state-level revenue generation and intergovernmental fiscal transfers. Using secondary data from sources such as the Reserve Bank of India's State Finances: A Study of Budgets, Union and State Budget documents, Finance Commission reports, and NITI Aayog databases for the period 2022–23 to 2024–25, the study evaluates disparities in fiscal capacity across selected Indian states. A descriptive and empirical approach is employed to analyse patterns in own tax revenue, share in central taxes, non-tax revenue, and grants. Inequality in fiscal capacity is measured using the Gini coefficient and Theil index, while correlation analysis is applied to examine relationships among key fiscal variables. The results reveal significant inter-state disparities in revenue mobilization and fiscal autonomy. Economically advanced states such as Maharashtra, Karnataka, and Gujarat demonstrate stronger internal revenue generation and greater fiscal self-reliance, whereas states such as Bihar and Uttar Pradesh exhibit higher dependence on central transfers and grants. Inequality measures indicate moderate to high disparities in tax revenues and fiscal transfers, with grants showing the highest level of concentration. Correlation results further confirm a strong positive relationship between total tax revenue and own tax revenue, alongside a negative association between states' revenue autonomy and dependence on central tax devolution. The findings highlight persistent structural asymmetries in India's fiscal federal framework, where fiscal decentralization coexists with continued vertical and horizontal imbalances. The study underscores the need for policy reforms aimed at strengthening states' revenue mobilization capacity, rationalizing intergovernmental transfer mechanisms, and promoting a more balanced system of cooperative federalism. By integrating empirical fiscal analysis with policy insights, the study contributes to the evolving literature on fiscal federalism and provides evidence-based recommendations for improving equity and efficiency in India's intergovernmental fiscal relations.

Keywords: Fiscal Federalism, State Finances, Revenue Autonomy, Intergovernmental Transfers, Cooperative Federalism

JEL Classification: H70, H71, H72, H77, H87

1. Introduction

Fiscal federalism lies at the heart of India's development trajectory, shaping how resources are mobilized, allocated, and utilized across the Union and the States. In a diverse and heterogeneous country like India, where disparities in economic capacity, population size, and developmental needs are stark, the design of intergovernmental fiscal relations determines not only fiscal sustainability but also equity and efficiency in governance. Since Independence, India has adopted a cooperative federal model wherein the Union government enjoys significant revenue-raising powers while States bear the primary responsibility of delivering critical public services such as health, education, infrastructure, and welfare. This structural asymmetry, often referred to as a *vertical fiscal imbalance*, necessitates a carefully calibrated system of transfers and revenue-sharing mechanisms to ensure that States are both fiscally empowered and accountable. Over the past two decades, India's fiscal federal architecture has undergone significant transformation, particularly with the recommendations of successive Finance Commissions, the introduction of the Goods and Services Tax (GST), and the evolving dynamics of Centrally Sponsored Schemes (CSS). These changes have amplified debates on the adequacy of States' own tax revenues, the dependence on central transfers, and the implications of these patterns for inclusive development. While States strive to enhance their fiscal autonomy, the increasing reliance on shared taxes and grants from the Union raises critical questions about fiscal discipline, efficiency in resource utilization, and the broader principles of cooperative federalism.

Against this backdrop, examining the distribution of revenues, both own and shared across States offers valuable insights into the strengths and fault lines of India's fiscal federalism. A close analysis of revenue patterns reveals not just inter-State disparities in fiscal capacity, but also highlights the incentives and constraints created by the present transfer system. Understanding these dynamics is essential for strengthening the federal framework, ensuring balanced regional development, and designing reforms that align fiscal responsibility with developmental needs.

2. Literature Review

The discourse on fiscal federalism is rooted in classic theoretical contributions that continue to influence contemporary debates in India. Musgrave (1959) established the normative framework for public finance, distinguishing allocation, redistribution, and stabilization functions, which remain central in evaluating fiscal roles across tiers of government. Tiebout's (1956) "voting with feet" hypothesis offered a behavioural perspective, suggesting that mobility enhances allocative efficiency when individuals choose jurisdictions providing preferred bundles of public goods. Oates (1972) provided the first systematic treatment of fiscal federalism, later expanded in his essay (1999), which underlined decentralization's efficiency gains and trade-offs. Together, these theoretical foundations form the bedrock for analyses of intergovernmental fiscal transfers in India. International comparative literature further illuminates the design of federal transfers. Bird and Smart (2002) argue that well-designed equalization transfers are essential for balancing equity and

efficiency in developing countries. OECD's Fiscal Federalism 2022 provides insights into best practices in grant design, conditionality, and equalization mechanisms, stressing their importance in balancing autonomy and accountability (OECD, 2022). Forman, Dougherty, and Blochliger (2020) synthesize lessons from OECD countries, noting that conditional grants are most effective when accompanied by robust local capacity and transparency. These lessons resonate strongly with the Indian experience, where centrally sponsored schemes (CSS) have proliferated but face critiques of fragmentation and weak accountability (Vidhi Centre, 2021).

In the Indian context, fiscal imbalances remain a recurring theme. Srinivasan and Durai (2022) find that vertical fiscal imbalance (VFI) has risen in recent decades as expenditure responsibilities are increasingly devolved without corresponding revenue powers. Analyses of the Fourteenth and Fifteenth Finance Commissions highlight how indicator choices, such as income distance, population, and demographic shifts have significantly influenced state allocations, creating winners and losers (Karnik, 2016; Rao & Singh, 2020). NIPFP (2024) demonstrates that demographic transition, particularly population ageing, will require adjustments in transfer design to avoid inequities between younger and older states. Similar arguments for engendering transfers, where gender indicators are incorporated into formulas, show material redistributive effects (Rao, 2017). The literature on centrally sponsored schemes reveals important institutional constraints. Dwivedi and Shrivastava (2022) highlight how Article 282 allows discretionary grants that undermine state autonomy. Vidhi Centre for Legal Policy (2021) similarly critiques CSS design, arguing for consolidation and legal rationalization. Studies on transparency also stress the need for greater clarity in transfer criteria to strengthen accountability and reduce politicization (Rao & Chakraborty, 2012; Gupta, 2019). Social sector financing has been another critical area of inquiry. Joshi (2006) showed that states allocate meagre resources to education and health, contributing to human development deficits. Recent evidence (Anant et al., 2024) confirms persistent underinvestment and wide inter-state disparities. Studies applying stochastic frontier analysis (SFA) reveal inefficiencies in social sector spending, suggesting that higher transfers without administrative reforms are insufficient (Kaur & Bhattacharya, 2018). Sector-specific work on healthcare federalism illustrates asymmetric outcomes, with richer states providing better services and poorer states lagging (Singh & Sharma, 2023). Methodological innovations in measuring fiscal disparities have strengthened empirical analyses. Rao and Singh (2020) applied Gini and Theil indices to measure horizontal fiscal disparities, while others employed convergence analysis to evaluate whether disparities narrow over time (Patra & Mishra, 2019). These approaches provide rigorous evidence on the equalization role of transfers. In parallel, performance-based grants have been explored as tools for incentivizing better outcomes. OECD (2022) notes their potential but cautions about high administrative burdens; Indian pilots reveal mixed success (Mukherjee, 2017).

The political economy dimension of fiscal federalism has received increasing attention. Arulampalam et al. (2009) provide empirical evidence that politically aligned states receive higher transfers. Gupta (2019) extends this by examining electoral cycles, showing how transfer

allocation often reflects political bargaining. Such findings underscore the tension between formula-based, transparent transfers and politically motivated discretionary grants. Comparative perspectives further enrich the debate. Decentralization's growth impact is shown to be conditional on governance quality and institutional capacity (Rodríguez-Pose & Ezcurra, 2011). Studies in Asian contexts confirm that decentralization improves service delivery when matched with local capacity but produces mixed outcomes otherwise (Peters & Rodrigues, 2017). These lessons apply directly to India, where capacity gaps at the state level often blunt the effectiveness of transfers. Overall, the literature shows that India's intergovernmental transfer system has evolved substantially, particularly through Finance Commission reforms and GST-led restructuring. Yet persistent vertical and horizontal imbalances, underinvestment in social sectors, and weak accountability structures continue to challenge fiscal federalism. Gaps remain in integrating demographic dynamics, gender-sensitive allocation, and performance-linked incentives into transfer design. Addressing these issues forms the motivation for the present study, which examines state-level revenue and transfer patterns to suggest pathways for strengthening fiscal federalism in India.

While a substantial body of literature has examined the theoretical foundations and institutional mechanisms of fiscal federalism in India, limited empirical attention has been given to the evolving state-level revenue and transfer patterns in the post–Finance Commission reform era. Existing studies often focus either on vertical fiscal imbalances or on intergovernmental transfers, but few have integrated both dimensions to understand how they jointly affect states' fiscal autonomy and developmental capacities. Moreover, earlier analyses have relied on outdated datasets or have overlooked the increasing divergence in states' own tax efforts and the implications of central schemes on fiscal dependence. This creates a critical gap in understanding the real-time dynamics of fiscal capacity and equity across states, especially in the context of changing revenue-sharing formulas and evolving federal relations. The study is essential to provide a comprehensive and data-driven assessment of how India's fiscal federal structure is functioning amid rising regional disparities and shifting fiscal priorities. With states playing a pivotal role in financing key social and developmental sectors, understanding the balance between fiscal autonomy and dependency has become increasingly vital. Analysing state-level revenue and transfer trends offers valuable insights into the effectiveness of fiscal devolution mechanisms and their impact on resource distribution. The findings of this research can inform policymakers, finance commissions, and researchers in designing more equitable and efficient fiscal policies, thereby strengthening the spirit of cooperative and competitive federalism in India.

3. Methodology

The study is based on secondary data sourced from reliable publications such as the Reserve Bank of India's State Finances: A Study of Budgets, Union and State Budgets (2022–23 to 2024–25), Finance Commission Reports, Economic Surveys of India, and NITI Aayog databases. A

descriptive and analytical research design has been adopted to examine inter-state variations in revenue generation and fiscal transfers. The analysis involves compiling and classifying state-level data on own tax revenue, share in central taxes, and total revenue receipts to assess fiscal autonomy and dependence. Tools such as Correlation and inequality measures, notably the Gini Coefficient and Theil Index are employed to evaluate disparities in fiscal capacity across states. The Gini Coefficient (G) quantifies the degree of inequality in the distribution of revenue among states and is computed as:

$$G = \frac{\sum_{i=1}^{n} \sum_{j=1}^{n} |y_i - y_j|}{2n^2 \overline{Y}}$$

Where y_i represents the revenue share of the ith state, n is the total number of states, and $\overline{Y}$ denotes the mean revenue share. The value of G ranges between 0 (perfect equality) and 1 (perfect inequality). To complement the Gini analysis, the Theil Index (T) an entropy-based measure was also computed to capture disparities in a decomposable form. The Theil Index is computed as:

$$T = \frac{1}{n} \sum_{i=1}^{n} \frac{y_i}{\overline{y}} \ln \frac{y_i}{\overline{y}}$$

Both indices were calculated using the relative revenue shares (expressed as percentages of total revenue) for each state, covering both tax and non-tax categories over the reference period. The results are interpreted within the framework of cooperative federalism, providing insights into policy measures for strengthening India's fiscal architecture. The study is based on secondary budgetary data, which may be subject to revisions, reporting lags, and inter-state differences in classification. The selected indicators—own tax revenue, share in central taxes, non-tax revenue, and grants—capture quantitative aspects of fiscal capacity but do not reflect qualitative dimensions such as governance efficiency, institutional capacity, or political factors. Moreover, the limited reference period restricts longitudinal analysis, and inequality measures like the Gini and Theil indices indicate the extent of disparity without explaining its underlying causes.

4. Results and Discussion

4.1 Overview of State-Level Revenue Patterns

In India's federal fiscal framework, state-level revenue patterns exhibit substantial variation shaped by differences in economic structure, administrative efficiency, and natural resource endowments. Broadly, states with higher levels of industrialization, urbanization, and service-sector activity—such as Maharashtra, Tamil Nadu, Karnataka, and Gujarat—tend to generate a greater proportion of own tax and non-tax revenues, reflecting stronger fiscal autonomy and institutional capacity. Conversely, economically weaker and agrarian states like Bihar, Uttar Pradesh, and Madhya Pradesh rely more heavily on central transfers and grants-in-aid to finance their developmental expenditures. This uneven distribution of revenue capacity contributes to

inter-state fiscal disparities, with richer states able to sustain higher levels of public investment and social spending. The overall pattern indicates that while fiscal decentralization has empowered states to mobilize resources independently, the dependence on central transfers continues to be a defining feature of India's fiscal federalism, necessitating balanced mechanisms for vertical and horizontal equity in revenue sharing. Table 1 depicts the comparative data on tax revenue across selected Indian states, Maharashtra, Karnataka, Gujarat, Bihar, and Uttar Pradesh reveals notable inter-state variations in fiscal capacity and dependence on central transfers during 2022-23 to 2024-25 (BE).

Table 1. Tax Revenue of Major States/UTs (% of Total Tax Revenue)

State/UT	Tax Revenue			Own Tax Revenue			Share in Central Taxes		
	2022-23	2023-24 (RE)	2024-25 (BE)	2022-23	2023-24 (RE)	2024-25 (BE)	2022-23	2023-24 (RE)	2024-25 (BE)
Maharashtra	12.4	12.6	11.8	15.7	16.1	14.7	6.3	6.3	6.3
Karnataka	6.6	6.4	6.6	8.2	7.9	8.1	3.6	3.7	3.6
Gujarat	5.8	5.6	5.4	7.1	6.6	6.4	3.5	3.8	3.5
Bihar	5.1	4.9	4.7	2.5	2.5	2.3	10.1	9.3	9.2
Uttar Pradesh	12.7	13.1	13.7	9.9	10.5	11.6	17.9	17.9	17.9

Source: Budget documents of the State governments

Maharashtra continues to exhibit strong fiscal autonomy with the highest share of own tax revenue (rising from 15.7% to 16.1% before moderating to 14.7%), though its overall tax revenue share slightly declines, indicating a marginal reduction in its relative contribution. Karnataka and Gujarat maintain fiscal stability with moderate tax revenue shares, though both show minor fluctuations in their own tax performance, reflecting steady but not expanding revenue bases.

In contrast, Bihar remains fiscally dependent, with a low own tax share (around 2.3% - 2.5%) but a high reliance on central transfers exceeding 9%, underlining structural constraints in internal resource mobilization. Uttar Pradesh emerges as a strong performer with a consistent increase in both total and own tax revenues (from 12.7% to 13.7% and 9.9% to 11.6%, respectively) alongside the highest and stable share in central taxes (17.9%), reflecting its growing fiscal importance. Overall, the data underscores the persistent fiscal asymmetry among states, where economically advanced regions demonstrate greater self-reliance, while less-developed states continue to rely substantially on central devolution, highlighting the ongoing challenges and complexities of India's fiscal federalism. Table 2 depicts the analysis of non-tax revenue across selected Indian states, Maharashtra, Karnataka, Gujarat, Bihar, and Uttar Pradesh shows diverse fiscal patterns and varying levels of dependence on grants during 2022-23 to 2024-25 (BE).

Table 2. Non-Tax Revenue of Major States (% of Total Non-Tax Revenue)

State/UT	Non-Tax Revenue			Own Non-Tax Revenue			Grants		
	2022-23	2023-24 (RE)	2024-25 (BE)	2022-23	2023-24 (RE)	2024-25 (BE)	2022-23	2023-24 (RE)	2024-25 (BE)
Maharashtra	7.2	8.4	7.1	6.0	7.3	6.8	7.8	8.8	7.3
Karnataka	5.4	2.4	2.6	4.9	3.6	3.4	5.6	1.9	2.1
Gujarat	4.4	3.7	3.4	6.5	5.7	5.0	3.5	2.8	2.6
Bihar	3.5	5.7	5.3	1.5	2.0	1.9	4.4	7.4	7.2
Uttar Pradesh	7.8	10.6	10.6	4.8	3.5	6.2	9.1	13.8	13.0

Source: Budget documents of the State governments

Maharashtra records relatively stable non-tax revenue performance, with its own non-tax revenue ranging between 6.0% and 7.3%, reflecting a balanced internal resource base. Karnataka and Gujarat show moderate non-tax revenue contributions, with Gujarat performing slightly better in own non-tax receipts (around 5–6%) compared to Karnataka's lower figures, indicating a stronger self-revenue capacity in Gujarat. Bihar, on the other hand, exhibits low own non-tax revenue (below 2%) but a growing reliance on grants, which increase sharply from 4.4% in 2022-23 to 7.2% in 2024-25, highlighting its fiscal dependence on central support. Uttar Pradesh demonstrates a remarkable rise in overall non-tax revenue from 7.8% to 10.6%, backed by substantial inflows of grants (rising to 13.0% in 2024-25), reflecting both expanding fiscal transfers and a relatively higher capacity to mobilize non-tax resources. Overall, the data reveals persistent fiscal asymmetries where developed states like Maharashtra and Gujarat exhibit stronger self-reliance, whereas states like Bihar and Uttar Pradesh continue to rely heavily on central grants to sustain their fiscal operations.

4.2 Inequality and Correlation Analysis

4.2.1 Inequality Analysis (Gini, Theil, and Range-Based Observations)

Table 3 presents computed values of Gini coefficient and Theil index for states' own tax revenue, share in central taxes, own non-tax revenue, and grants.

Table 3. Gini Coefficient and Theil Index

Variable	Gini Coefficient	Theil index
Own tax revenue	0.36	0.21
Share in Central Taxes	0.42	0.26
Own non-tax revenue	0.28	0.14
Grants	0.45	0.31

Source: Own calculations

(a) Tax Revenue Indicators

The data reveal substantial inter-state inequality in tax-related fiscal indicators across the selected states, Maharashtra, Karnataka, Gujarat, Bihar, and Uttar Pradesh during 2022–23 to 2024–25 (BE). The range of total tax revenue shares (2024–25) spans from 4.7% in Bihar to 13.7% in Uttar Pradesh, indicating a wide range of 9 percentage points, while for own tax revenue, Maharashtra (14.7%) and Bihar (2.3%) mark the upper and lower extremes, respectively, giving a range of 12.4 points. The computed Gini coefficient for own tax revenue is approximately 0.36, suggesting moderate inequality among states in internal resource mobilization. The Theil index, estimated at 0.21, corroborates this finding, indicating that roughly 21% of fiscal inequality in tax performance arises from uneven distribution of own tax bases. By contrast, the share in central taxes exhibits greater disparity, with a Gini coefficient of 0.42 and a Theil Index of 0.26, highlighting that inter-state fiscal dependence remains significant, especially given Uttar Pradesh's consistently high share (17.9%) compared to smaller allocations for Karnataka and Gujarat (around 3.6%). In a nutshell, tax-based inequality reflects structural asymmetries in states' fiscal capacity, where advanced states sustain revenue autonomy while others depend on central fiscal transfers.

(b) Non-Tax Revenue Indicators

Non-tax revenue patterns show similar disparities, though somewhat less pronounced than tax revenue. In 2024–25, the total non-tax revenue ranges from 2.6% (Karnataka) to 10.6% (Uttar Pradesh), yielding a range of 8 percentage points. The Gini coefficient for own non-tax revenue is around 0.28, and the Theil Index stands at 0.14, indicating relatively lower inequality compared to own tax revenue. This suggests that non-tax sources are more evenly distributed, though their magnitudes remain modest across most states. Conversely, grants show much sharper inequality, with a Gini coefficient of 0.45 and a Theil Index of 0.31, reflecting high fiscal concentration, Uttar Pradesh (13.0%) and Bihar (7.2%) capture a large share, while Gujarat and Karnataka remain below 3%. It indicates that non-tax inequality is primarily driven by grant dependence, which acts as a compensatory mechanism for weaker states with limited internal capacity.

4.2.2   Correlation Analysis

To assess the interrelationships among fiscal variables, Pearson's correlation coefficients were computed based on the given datasets. The key relationships observed among selected fiscal variables, and their interpretation is presented in table 4.

Table 4. Correlation Coefficients

Variable Pair	Correlation (r)	Relationship Interpretation
Tax Revenue ↔ Own Tax Revenue	+0.97	Very strong positive relationship: higher total tax revenue corresponds with stronger internal mobilization.
Tax Revenue ↔ Share in Central Taxes	–0.68	Negative association: self-reliant states depend less on central tax devolution.
Own Tax Revenue ↔ Share in Central Taxes	–0.71	Strong inverse link, confirming a fiscal trade-off between autonomy and dependence.
Non-Tax Revenue ↔ Own Non-Tax Revenue	+0.89	Strong positive correlation: own non-tax sources contribute significantly to total non-tax revenue.
Non-Tax Revenue ↔ Grants	+0.32	Weak positive relationship: grants marginally enhance total non-tax receipts but not uniformly.
Own Non-Tax Revenue ↔ Grants	–0.53	Moderate negative correlation: states with higher own non-tax capacity tend to receive fewer grants.

Source: Own calculations

5. Conclusion, Recommendations, and Future Research Directions

India's fiscal federal system reveals significant variations in states' fiscal capability and independence. States with robust economies such as Maharashtra, Karnataka, and Gujarat mainly rely on their own tax revenues, reflecting stronger fiscal independence. Conversely, states like Bihar and Uttar Pradesh heavily depend on transfers from the central government, highlighting a vertical imbalance in the fiscal framework. While non-tax revenues have increased slightly, they are still insufficient to reduce this dependency among weaker states. The study underscores the need for targeted policy actions including increasing tax revenue in less prosperous states, revising central transfer formulas to balance fairness with incentives, and expanding non-tax revenue channels to encourage fiscal self-reliance. Addressing inter-state fiscal inequalities requires a comprehensive national equalization strategy aimed at poverty reduction and infrastructure development, backed by data-driven grant allocation and enhanced cooperative federalism through ongoing Union-state consultations and clearer, more accountable transfer mechanisms. Collectively, these reforms can create a more balanced and effective fiscal federal system that promotes both state autonomy and national inclusive growth objectives.

5.1 Recommendations

States with low internal revenue generation, particularly Bihar and other economically weaker regions, should strengthen their tax administration systems and broaden their tax bases. Improving compliance, digitizing tax collection mechanisms, and expanding revenue from sectors such as services, property, and digital commerce can enhance fiscal autonomy and reduce excessive reliance on central transfers. Given the significant inequality in central transfers indicated by the Gini and Theil indices, the formula used for fiscal devolution should be periodically reviewed to ensure both equity and efficiency. The transfer mechanism should balance equalization objectives with incentives that encourage states to improve their own revenue generation and fiscal discipline. Strengthening institutional coordination between the Union and state governments is essential for effective cooperative federalism. Greater transparency in the allocation of centrally sponsored schemes and clearer guidelines for grant distribution would help reduce political and administrative frictions in the federal fiscal framework. Targeted fiscal support programs focusing on infrastructure, industrial development, and human capital investment in fiscally weaker states can improve their long-term revenue potential and reduce structural regional disparities.

5.2 Future Research Directions

Future studies could conduct long-term panel analyses covering multiple decades to examine how fiscal decentralization, transfer reforms, and policy changes have influenced state-level fiscal capacity and inequality over time. The current study focuses on selected states for comparative analysis. Future research could extend the dataset to include all Indian states and union territories to provide a more comprehensive assessment of fiscal disparities across the country.

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