Federal Fiscal Balances in India: Methods, New Estimates, and their Implications

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Paper Structure:

Section 2: Fiscal Redistribution System in India

Section 3:
Methodological Challenges to Calculate Federal Fiscal Balance, Data Sources

Section 4:
New Estimates,
Trends in Interregional Fiscal Flows,
Role in Reducing Regional Income and Fiscal Disparities.

Section5: Conclusions.

Mechanism of interregional fiscal flows (Net Fiscal Balances)

- Federal tax rates are uniform across the country, but transfers and government expenditures are usually on per capita basis

- In addition, higher per capita transfers to poorer regions to offset regional disparities

Why measure federal fiscal balances

- Essential for ensuring horizontal fiscal equity, avoiding fiscally induced migration, creating common market
- For analyzing central fiscal policy and regional level stabilization
- Federal transfers, expenditure, and taxation are integral part of the regional accounts
- Linked to transfer of purchasing power across states, influencing consumption, investment, interstate trade
- Secessionist demands

- Interregional fiscal flows in India is prevalent since the pre-independence era

- Acceptance of fiscal redistribution post independence
  - Rule of single party for first 30 years after independent in both centre and most of the states
  - Idea of nation building, plan economic development, focus on reducing regional imbalances

RESEARCH GAP

- Intergovernmental fiscal transfers: Widely studied but interregional fiscal flows have not received attention.

Reasons for this gap:

- Secessionist threats focused on ethnic and linguistic issues
- Single party rule for 3decades since independence at both centre and most of the states
- Data gaps on central transfers, expenditure, and taxation at regional level.

Contributions of this paper

- Focuses on conceptual and measurement issues
- Review of existing approaches
- Provides new approaches

- Development of first ever estimates of federal fiscal balances for Indian states.
- New estimates used to examine role of central fiscal policy in **regional redistribution and fiscal capacity equalization**

DATA

- Central transfers, expenditure, and taxation for 2000-01 to 2014-15
  - Reorganization of the Indian states in year 2000-01
  - Reorganization of states 2014-15
  - Coincides with the era of stable coalition governments
- This period covers the high growth phase of Indian economy

The Fiscal Redistribution System in India

- Vertical Imbalance
  - Expenditure responsibilities: state governments (2/3rd of total expenses)
  - Tax assignment: Central government (2/3rd of total taxes)
  - Leads to vertical fiscal imbalance – requires transfers from centre to state

- Horizontal Imbalance
  - Wide regional income disparities – horizontal fiscal disparities in the tax base across states
  - Poorer states are most populous states in India

Per Capita Income (PCI) in the Richest and the Poorest States in 2011 ($ PPP)

S. No.	Item	USA	Canada	Australia	Germany	China	Brazil	India
1	PCI	49675	42198	46132	43189	10221	14831	4768
2	Richest state							
a	Name	Connecticut	Alberta	W. Australia	Hamburg	Jiangsu	São Paulo	Haryana
b	PCI	65861	65001	70671	71753	16430	22469	8576
c	% population	1.14	11.04	10.53	2.14	5.89	21.65	2.09
3	Poorest State							
a	Name	Mississippi	Nova Scotia	Tasmania	Mecklenburg-Vorpommern	Guizhou	Maranhão	Bihar
b	PCI	32477	32790	35245	29131	4344	5158	1639
c	% population	0.96	2.75	2.29	2.00	2.59	3.43	8.55
4	Ratio (2b/3b)	2.03	1.98	2.01	2.46	3.78	4.36	5.23

Notes:

1. PCI: Per capita income
2. % population denotes population share of the state in respective countries.
3. High income city states/provinces have been excluded for comparison.

Source: Complied based on data from Official statistical agencies of respective countries. PPP Exchange Rate: Penn World Tables.

Interregional fiscal redistribution by central government comprises

- Intergovernmental fiscal transfers to subnational governments
- Direct expenditure by central government
- Revenue collection to fund fiscal transfers and direct expenditures.

Multiple channels of central transfer

- Finance Commission
  - recommends share of states in central taxes along with some grants-in-aid to states.
- Former Planning Commission
  - grants to the state governments based on economic and social priorities set at the national level.
- Central ministries
  - grants to state governments for various central sector and centrally sponsored programmes.

Multiple channels of central transfer

- Other components that bypass the state budgets also influence regional redistribution
  - Direct central expenditure
    - local goods and transfers
    - national public goods
    - interest on public debt

Composition of Central Transfers and Expenditure (as % of total)

S. No.	Item	2000-05	2005-10	2010-15
1	Transfer routed through State Budgets	25.3	28.6	30.7
a)	Finance Commission	17.3	19.6	20.8
b)	Planning Commission#	4.8	5.6	7.3
c)	Central Ministries	3.1	3.4	2.6
2	Direct Expenditure	74.7	71.4	69.3
d)	Local Goods and Transfers	22.6	27.9	27.4
e)	Pure Public Goods	24.5	23.3	22.2
f)	Interest on Public Debt	27.6	20.2	19.8
	Total as % of GDP	16.0	17.1	16.1

Source: Author's calculations based on Union Budget of India (GoI, 2016)

Planning Commission transfers covers only the grant component. Central loans to states are excluded.

Note: Data are average for each quinquennium

Measurement Issues and Data sources

Conceptual issues on top-down allocation of federal fiscal activities

- Approach for regional allocation of federal fiscal activity (Cash flow vs incidence approach)
- Scope of the federal fiscal activities to be covered (national defense, public debt, and interest payment)

Approach for Regional Allocation of Federal Fiscal Activity

- Cash flow approach
  - Expenditures and revenue contribution are linked to location of expenditure/revenue collection
  - Little link between the regional incidence of burden/benefits
- Incidence/benefit approach
  - Focuses on location where individuals deriving benefits/burden of the federal fiscal activity reside

Approach followed in this paper: Incidence Approach

- Benefits and burden must be either in current year or clearly identifiable to particular region if they belong to past or future.

- Quantum of benefits and burden at the national level should be equal (sum=zero)

- There should be no double counting
  - Not well recognized in literature (Mansell and Schlenker, 1995; Ruggeri and Yu, 2000; Vaillancourt and Bird, 2007, Flavio et al, 2010; Rompuy, 2010)

Disbursement components (Table 2)

- Transfers/grants routed through state budget (data taken from RBI)

- Direct expenditure
  - Local goods and transfers
  - National public goods
  - Interest on public debt.

Local goods and transfers

- Subsidies on food, fertilizers, and petroleum products, agriculture, rural development, health, education, and infrastructure

Local goods and transfers - Food subsidy

In India, food subsidy has twin objective

- providing higher procurement prices to farmers
- assistance to poor consumers by issuing food-grains below procurement prices
  - Difference between procurement and issue prices along with transport and distribution cost constitutes food subsidy

- Allocation
  - Producer subsidy to farmers: Difference between Minimum Support Prices (MSP) and Cost of cultivation (C2)
  - Subsidy to consumers (C2- Central Issue price)
  - Remaining subsidy for procurement and distribution incidentals: Divided equally between consumers and producers

Local goods and transfers

Fertilizer subsidy

- allocated fertilizer subsidy equally between producers (Based on consumption of product/nutrients) and consumers (Based on consumption of wheat and rice)

Petroleum subsidy

- Based on consumption on Kerosene and LPG

National public goods

- National defense, external affairs, general administration
- Possible ways of allocation
  - Per capita basis
  - Some concept of income
  - Linking national public goods with state income

- In this paper – proportional to state income
  - Advantage: Taxes are linked to income hence under balance budget both expenditure and revenues rise in same proportion. Hence, estimates of fiscal flows remain stable whether one allocate national public goods or do not allocate them.

Interest on federal public debt

- Prevalent practices
  - Interest payments allocated to maintain equality between total spending and revenues at aggregate level, but no clarity on approach
  - exclusion of this expenditure from calculations, and makes offsetting reductions on revenue side

- In this paper – interest payment are essentially deferment of revenue collection, where associated expenditures were already allocated in past. Hence no need to allocate interest payment again, better to allocate fiscal deficit in the relevant years.

Central Revenues – Corporate income tax

- Capital is usually mobile within the nation, but immobile at international level
- In a closed economy must be borne by the owner of capital but this may not hold true in practice due to market imperfections

- In this paper – a compromise approach – allocating corporate taxes to both capital and labour, with equal weights

Central Revenues – Personal income tax

- On the basis of residence – person who pays taxes also bears its burden

Central Revenues – Indirect taxes

- Existing approaches
  - On the basis of state-wise share in final consumption expenditure (destination based approach) or production based approach
  - Consumption based approach assumes either E_d for all goods and services in all states are zero or E_s are infinite. Reverse is true for production based approach
- In this paper- equal weights are assigned to both production and consumption

Central Revenues – Non-tax revenues

- Dividends from public sector enterprises
- Royalties on natural resources
- Sales of goods and services
- Interest on central loans to state governments

- Only first two items qualify for regional allocation
- Entire amount allocated as proration to state-wise contribution in total taxes
  - Telecom revenues allocated separately

Treatment of Fiscal Deficit/Surplus

Two alternative approaches in case of fiscal deficit (surplus)

- Increase (decrease) the revenue collected to match total spending, or
- spending cut (increase) so as to be equal to revenues collected

This paper

- Considers public borrowings as deferred liabilities of the taxpayers in proportion to their current contribution
- Contribution of states was raised upward to match the total spending, as they would be paying it in future

This paper avoids the pitfall of double counting and provides single set of estimates

- Literature provides several sets of federal fiscal balances – basic balances, primary budget balances, balanced budget estimates with spending adjustments, balanced budget with revenue adjustment , without adjustment etc. This is simply because of not appreciating the links between fiscal deficit, current expenditure, and future interest payment. (Mansell and Schlenker, 1995; Ruggeri and Yu, 2000; Vaillancourt and Bird, 2007, Flavio et al, 2010; Rompuy, 2010)

Summary Results of Flows for 'Donor' and 'Recipient' Group of the States

Indicator	2000-05	2005-10	2010-15
Population (%)			
Recipient	60.1	60.5	60.8
Donor	39.9	39.5	39.2
Income Share (%)			
Recipient	45.7	44.0	44.5
Donor	54.3	56.0	55.5
Flow: In (+)/ Out (-) as % of Group Income			
Recipient	5.33	7.64	7.78
Donor	-4.30	-5.89	-6.14

Source: Author's calculations.
Note: Data are average for each quinquennium
State-wise Data in Table [illegible] of the Paper

Income equalization

- Estimate relationship between per capita income before and after federal fiscal activities

$$\frac{(Y - TAX + DISB)_i}{Y - TAX + DISB} = \alpha + \beta \frac{Y_i}{Y} + \epsilon_i \qquad (1)$$

- Where:
  - Y is per capita state income before central taxes and disbursement;
  - TAX and DISB are per capita central taxes and disbursement respectively.
  - Subscript i refers to individual states while unsubscripted variables refer to national average.

- 1- β : size of the offset to initial income disparities caused by fiscal flows
- $\beta = 0.8$ implies 20 percent offset in initial regional income inequalities

Income equalization

Variable	2000-05	2005-10	2010-15
Y	0.90	0.86	0.85
	(72)	(72)	(66)
R^2	0.97	0.97	0.97
N	145	145	145

- Federal fiscal redistribution in India fails to make any significant dent on regional disparities.
- Roughly two-third of the Indian population lives in recipient states – few donors and many recipients
- Wide disparities in income levels, with average per capita income of the donor states being twice of the average for recipient states

Horizontal fiscal equalization

$$\frac{Fiscal\ Position_i}{Fiscal\ Position} = \alpha + \beta \frac{Fiscal\ Capacity_i}{Fiscal\ Capacity} + \epsilon_i \qquad (2)$$

- Where:
  - Fiscal capacity = Sum of revenue collection by central and state government from the state .
  - Fiscal Position = Fiscal capacity plus net federal fiscal flows (inflow +/outflow -)

Horizontal fiscal equalization

Variable	2000-05	2005-10	2010-15
F	0.51	0.39	0.35
	(11)	(11)	(10)
R^2	0.47	0.48	0.42
N	145	145	145

- F= is the initial fiscal capacity

- Poorer states have higher consolidated government expenditure than the limits set by their fiscal capacity
- $1-\beta$: percentage of initial regional fiscal inequalities that were addressed through fiscal redistribution
- Central fiscal policy addresses around two-third of the existing fiscal disabilities

Horizontal fiscal equalization

- Central fiscal policy is playing an important role in reducing the interstate fiscal disparities
- Two points to note:
  - Nominal price levels are usually lower in the poorer regions -> Actual extent cannot be measured without data on purchasing power of the Indian rupee (currency) across states
  - Real cost of providing government services should be lower in the poorer states, though this may not happen due to political economy issues

Interpretation, Limitations, and Policy Uses

- Spill-over of the benefits from government expenditures
- The estimates do not capture non-fiscal activities

Conclusion

- Methods and Data
  - Prepared estimates of interregional fiscal flows in India
  - Makes methodological contributions on regional allocation of federal fiscal deficit and interest payment on public debt
  - Avoids double counting
  - Provides direction of interregional fiscal flow in India
  - Provides estimates for magnitude of the flows

- Analysis and Implications
  - With wide income disparities and small donor base, interregional fiscal flows can not help in reducing regional income inequalities, though they addresses regional fiscal disabilities

thank you