I N D I R A   R A J A R A M A N
National Institute of Public Finance and Policy, and
Thirteenth Finance Commission, Government of India

The Political Economy of the Indian Fiscal Federation

Introduction

Federal fiscal structures offer economies of scale for national-level public goods and accommodate diversity of preferences at the sub-national level. They thus carry a compelling economic logic for developing countries.[1] But what matters for developmental outcomes is the statutory fiscal framework, and the incentive structure implicit in both the *de jure* and the *de facto* structures. What also matters is whether there is a standing platform open to all partners where actual fiscal functioning is open to continual examination for conformity to the formal framework and potential correction of either if not.

In the hierarchy of terms differentiating unitary nations with a single paramount government from federal systems, India is labeled a quasi-federation, not classically federal,[2] and is not called a federation in the Constitution. The country, however, has all the characteristics of a fiscal federation, in the sense of constitutionally demarcated spheres of fiscal powers for independently elected governments at the national (Central) and sub-national (state) levels.[3] The Seventh Schedule of the Constitution of India defines the

1. The major developing countries with a federal structure are India, Pakistan, Malaysia, Nigeria, Mexico, Brazil, and Argentina. The major country without a federal structure, but with many federal features in its fiscal arrangements, is China.

2. The classical cases being the United States, Switzerland, Canada, and Australia, formed between 1787 and 1900, with degrees of federality among the less classical (Davis, 1978). The label for India by Wheare, 1953, is supported by provisions under the Constitution of India which give emergency powers to the national government over subnational governments in financial emergencies (Article 360, never invoked), and instability (Article 356, invoked more than a hundred times in the last 60 years).

3. The national government is called the Union government in the Constitution, but is popularly known as the Center. There are twenty-eight states with separate fiscal accounts and seven Union territories whose accounts are merged with those of the Center except for two which have separate legislatures of their own.

subjects over which the power to enact laws are assigned exclusively to the Center (List 1), states (List 2), and concurrently to both (List 3). In 1993, a third layer of independently elected local governments was added on by Constitutional amendment. The fiscal powers of local governments are demarcated legislatively at the level of the states.[4]

The focus in this paper is on the top two layers of the Indian federation, Center and states, and on the fiscal aspects of their interaction. The assignment of economic functions across Center and states conforms to the classical prescription of stabilization and redistribution at the national layer, with allocation of responsibility for public goods divided broadly in accordance with degree of spillover.[5] Taxation rights likewise conform in essence to the prescription of more mobile tax bases at national level.[6] However, both func-tional and taxation assignments have acquired an overgrowth of tedious departures over time.[7] Because the principles underlying revenue rights and expenditure responsibilities in any federation originate from independent considerations, there will be a gap (at usually lower than national level), where its magnitude is not necessarily indicative of incomplete or unfair allocation of taxation rights. In India, there is a vertical gap at state level. It is argued in this paper that what matters is not the magnitude of the gap, but how it is filled.[8]

The Constitutional provision for closure of the vertical gap in India could in a very broad sense be said to have been informed by the normative principles governing intergovernmental transfers.[9] It provided for both unconditional transfers, required by the diversity of preferences that funda-mentally underpins fiscally federal structures, and any other flows deemed

4. The local body structure itself is three-layered in the rural areas; there are now roughly a quarter of a million elected local bodies in place. Their tax powers are very limited, especially in rural areas (Rajaraman, 2003).

5. See Oates 1991; 1999. Recent reviews of the principles governing vertical and horizontal competition (both mobility-based and yardstick) are to be had in Breton, 2006 and Salmon, 2006.

6. Musgrave, 1983 is the standard reference, for what carries a longer intellectual history.

7. The most egregious of these, now scheduled for phased elimination over 2005–10, was a Central Tax on inter-state sales of goods introduced by Constitutional amendment, levied by the Center but collected and retained by states, which functioned in effect as an export tax. See also Rao and Rao, 2006.

8. There is an opposing view that sees a more decentralized tax base, in effect reduced vertical gaps, as essential for no-bailout hard budget constraints, which are necessary for effective competitive (Breton, 1996) or market-preserving (Weingast, 1995) federalism. At the limiting case of a zero subnational tax base, this is certainly persuasive, but not necessarily at the 30–60 percent ranges within which federations normally function.

9. There is general consensus on this issue (Rao, 1995; Singh and Srinivasan, 2006).

necessary, including (implicitly) shared cost programs for inter-jurisdictional spillovers. The formulae governing the correction of vertical inequity were reset every five years by independent Finance Commissions, thus providing for revision of both the procedure for estimation of the vertical imbalance itself, and the allocation formulae used so as to accord with international best practice and precept, in principle at any rate. Finance Commissions were also completely free, again in principle, to prescribe transfers carrying no adverse incentives for cost escalation, but a (small) portion of their provisions have indeed carried such incentives (see section on fiscal flows to states).

The point of departure in this paper is the statutory framework for fiscal transfers, juxtaposed against the actual functioning of the inter-governmental transfer system. This is an important developmental issue since it is state governments which carry the major expenditure responsibility for health and school education. There are related issues having to do with political encroachments on states' rights, which are not addressed here.[10] The focus is on the fiscal variables in the first instance.

The paper quantifies statutory fiscal flows from Center to states for each year of the period 1951–2007 relative to a wholly independent stream of funding under the Planning machinery, altogether outside the provenance of Finance Commissions. The component of this non-statutory Plan flow, not subordinated to formulae for spatial allocation, left open a bargaining margin amenable to discretionary allocation and hence political bargaining. The changes in this bargaining margin from year to year are investigated for whether they are systematically underpinned by year-to-year changes in a political fractionalization index (PFI) that measures the degree of political diversity among states in the Indian federation. The difference between statutory flows and non-statutory flows even when formulaic, are examined in terms of their incentives for expenditure allocations.

Thus, the focus of the paper is on what states receive in aggregate from the Center, and the share of this aggregate that was open to discretionary allocation. The paper is quite emphatically not about the pattern across states of receipts, and factors explanatory of these, issues that have received attention elsewhere in recent literature. Prominent among these contributions are Arulampalam et al. (2007) and Biswas et al. (2007) both of which find interesting and plausible explanators of the share garnered by individual states. The focus here is on distinguishing between formulaic and non-formulaic flows, not so much the properties of the formulae themselves in

10. Verney, 1995, and Rudolph and Rudolph, 1987, provide examples of these political tussles.

terms of whether they promote competitive equality or not,[11] and therefore quite different from the investigation in Rao and Singh, 2005, of the cross-sectional progressivity of statutory and non-statutory flows in particular years.[12]

The issue of reform in federal settings has attracted some attention in recent years (Watts, 2001; Wallack and Srinivasan, 2006; Kohli, 2006), and in India in particular, where the reform process begun in 1991[13] was the single biggest directional change in Indian economic policy in the last sixty years. If reform is defined as improving access to both product and factor markets, a clear demarcation of powers of national and subnational governments is necessary for the overall speed and direction of movement not to be obstructed by disputes over the legitimate spheres of operation of each. Thus reform merely underlines the necessity for clear spheres of rights and obligations, which is structurally necessary in any case. The focus of this paper is therefore on the larger structural framework which existed in India much prior to reform. The argument for clarity of assignment is not to be construed as an argument for one form of federal structure over another, although the dual federalism model under which India is classified (Shah, 2007)[14] happens also to be more common in developing countries (with the major exception of Brazil) than cooperative federalism, where the division of responsibility is continually negotiable on an issue-specific basis.

The configuration of domestic forces influencing reform has recently been modeled to distinguish between competition enhancement, which helps those with endowments and might therefore be opposed by those without endowments, and endowment enhancement, which will be opposed by those with endowments who seek to preserve their rents (Rajan, 2006). This competitive rent preservation model is persuasive, but leaves open the issue

11. Competitive equality extends the classical notion of competing jurisdictions (Tiebout, 1956) to the requirements for inter-governmental transfers (Breton, 1987; Wildavsky, 1990).

12. That study found that statutory flows were equalizing in 1998–99, with an elasticity with respect to Net State Domestic Product (NSDP) of –0.26, and that overall flows were equalizing too, with an elasticity of –0.19, notwithstanding the non-equalizing pattern of the non-statutory component.

13. Singh and Srinivasan, 2006, deal with the Indian case; also Saez, 2002.

14. Within the dual category, India is classified along with USA and Canada in the co-ordinate authority model, where local governments have little or no direct relationship with the federal government, as opposed to the layer cake model where Central Government has the hierarchical right to deal with local governments directly (Shah, 2007). However, in actual fiscal functioning, where Central fiscal flows directly targeting local governments amount to one-third of total Central developmental assistance to rural areas (Rajaraman et al., 2007), clearly India is more layer cake than coordinate authority.

of why the dynamic of pre-reform states led to unequal endowments in the first place. If the necessity for public funding of primary education and primary healthcare is taken as a given, then low endowments in a federal setting could be the outcome of adverse incentives in the structure of funding of subnational governments, which usually carry the major expenditure responsibility for these functions.

The paper does not address the issue of the tradeoffs between centralized and decentralized systems, which has been the subject of renewed attention in the theoretical literature,[15] with the interpolation of a legislature between the ultimate voter and government introducing the scope for legislative bargaining within each federation. These further developments have not fundamentally changed the parameters governing the trade-offs between unitary and federal systems, with federal systems clearly better in the presence of diversity of preferences with respect to public goods, and centralized systems clearly better when there are cross-jurisdictional spillovers. The formal fiscal structures in a federation define the scope and room for political bargaining. This paper quantifies the bargaining margin in Central fiscal flows to states, and attempts to explain the behavior of the bargaining margin over time by relating it to an index of political fractionalization within the Indian federation.

The paper also does not examine whether other Indian institutions like the bureaucracy serve Central over state or local interests. Such leanings if any will have room to operate only to the extent of the bargaining margin as it has developed over time. Finally, the paper also does not cover the considerable literature on inter-state inequalities, which in and of themselves are not prima facie evidence of failure of the vertical transfer mechanism. The evidence so far on convergence, or the lack thereof, is in any case inconclusive.[16]

The next section motivates the paper with some descriptives on expenditure on health and education, and on the share of states in total expenditure aggregating across both layers of government. In terms of Constitutional assignment, health is the exclusive responsibility of states, and education (after 1976) is a concurrent function shared between Center and states. The poor international rating of India in both these components of the Human Development Index is well-known. There is also an aggregate measure of developmental expenditure in India, whose boundaries are defined to

---

15. Baron and Ferejohn, 1989, and Inman and Rubinfeld, 1997.
16. Singh and Srinivasan (2006: 349–59).

include everything except expenditure on administrative departments and interest payments. So defined to include for example expenditures on setting up public sector industries, and subsequent subsidies to loss-making public sector enterprises, the implication of the share of states would be difficult to interpret.

The bargaining margin in Center–state flows is quantified in the section that follows, for each year of the period 1951–2007, and related to an index of political fractionalization that measures the degree of political diversity among states in the Indian federation in each year. Descriptive statistics on variables in this and all other econometric exercises in the paper are in appendix 2.

Control over aggregate borrowing by states is vested with the Central Government, appropriately for Central macroeconomic control over fiscal imbalances in the federation taken as a whole (the third layer is not permitted to run fiscal imbalances).[17] The process by which these limits are set has however never been made transparent, in terms of either the aggregate limits on state borrowing, or the distribution of the aggregate between states. The next section of the paper performs an econometric exercise on the consolidated fiscal imbalance aggregating across Center and states over the period 1951–2005 to test for whether it responded to the national political cycle (which lost its synchronicity with sub-national election cycles after the first fifteen years). The same specification is then estimated on the fiscal imbalance at the Center taken by itself, and the contrast between the two yields insights into whether the discretionary control (rightly) vested at national level over aggregate subnational borrowing from financial markets was subject to opportunistic temporal distortions in pre-election years.

The following section examines the impact of the debt build-up as a result of the practice, suspended in 2005 upon the recommendation of the Twelfth Finance Commission (TFC), of requiring states to take a large portion of their non-statutory Plan flows from the Center as long-term loans, along with another channel of essentially compulsory state borrowing from the Center. Over a period of steeply rising interest rates after the lifting of financial repression in the 1980s,[18] this led to an accumulation of high-interest bearing debt owed by states to the Center. With interest dues claiming

17. Under Article 293(3) of the Constitution.

18. Rajaraman, 2006, charts the interest rates on public debt in India over the period 1951–2001. Nominal interest on public debt rose from an average of 5 percent in 1980 to more than 11 percent at its peak in 2000. Since inflation rates were falling over this period for the most part, albeit not monotonically, the rise in the real rate was even steeper.

ever increasing shares of current expenditure, the TFC recommended a programmed write-off of this debt overhang over the horizon 2005–10, conditional upon a structured fiscal correction timetable. The complexity of these conditionalities (detailed in appendix 1) made for a further disparity between the statutory provision and the manner of its implementation, which imposed uniform targets on states widely disparate in terms of their fiscal sustainability status. The section quantifies the disparity in the required fiscal adjustment arising from the imposition of uniform targets on states with widely varying initial conditions.

The final section draws together the conclusions from the preceding sections.

Expenditure on Health and Education

Figure 1 plots the overall share of the states in total public expenditure, current and capital, and their share in aggregate health and education expenditure.[19]

Three stylized facts emerge. First, the share of the states in expenditures on health and education, at or above 90 percent for most of the period, was much higher than their share in total expenditure, which was in the 50–60 percent range.[20] Second, the health and expenditure graphs are similarly placed, despite the exclusive assignment of health to states, as against the concurrent assignment of education.[21] Third, state shares in both health and education show a falling trend over the last ten years to around 85 percent presently, especially sharp after 2000, despite a slight rise in their share in overall expenditure.

Public expenditure on health has never crossed 1.3 percent of GDP, a peak achieved in 1987–88, and education has never crossed 3.3 percent of GDP, achieved in 1999–2000 (figure 2). Not surprisingly, at these expenditure levels, India performs poorly on health and education indicators in the Human Development Index as compared to other developing countries. The Human Development Report for 2006[22] places India at rank 126 out of

19. Entry 6 in the State List is "Public health and sanitation; hospitals and dispensaries"; education was entry 11 in the State List, but was moved to entry 25 of the Concurrent List by the 42nd Amendment Act in 1976.

20. There is a sharp dip in 1979–80, a year of negative growth in the Indian economy, owing to an unusually synchronous weather shock over much of the country.

21. Education was in the State List until 1976, when it was transferred to the Concurrent list; there had all along been some named educational institutions in the Central List.

22. United Nations Development Programme, 2006. The Human Development Index and its constituent indicators in the 2006 report pertain to the year 2004.

FIGURE 1. State Shares in Expenditure between 1950 and 2006: Health, Education, Total
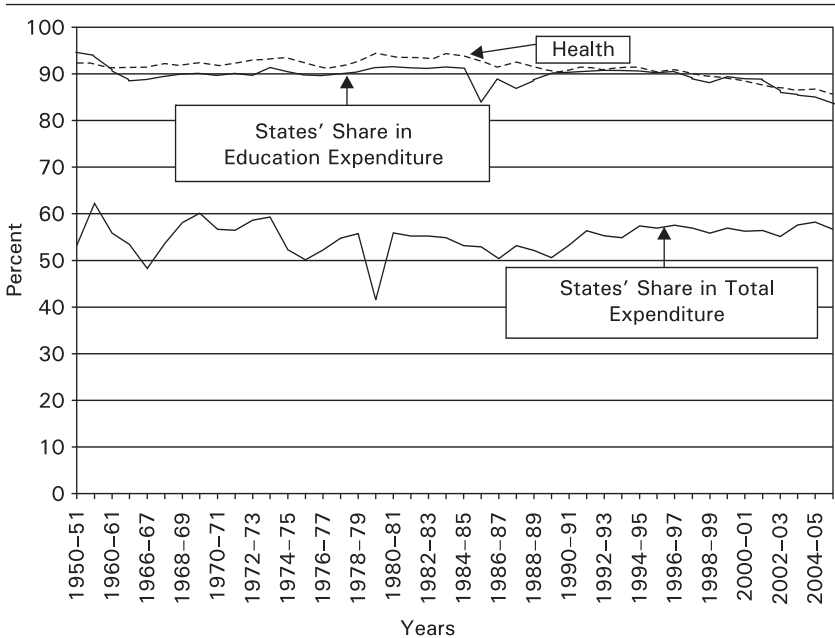
Source: All expenditure figures from Government of India, *Indian Public Finance Statistics*, assorted issues going up to 2005–06; GDP from Government of India, 2007, *Economic Survey 2006–07* for the new series, and RBI's *Handbook of Statistics 2005–06* for the old series. Until 1966–67, figures were available only at quinquennial intervals.

Notes: 1. Education includes art and culture; health includes medical and public health, water and sanitation. For 2004–05 and 2005–06, figures are revised and budget estimates, respectively. Total expenditure includes lending net of repayments.

2. The GDP new series with 1999–2000 as base yielded a splicing factor of 1.0045 for years of overlap with the old series, which was then used to generate a single compatible series for the period 1950–51 to 2005–06.

177 countries with an index value of 0.611 as against 0.679 for all developing countries. Life expectancy at birth is 63.6 as against 65.2 for all developing countries and the adult literacy rate is 61 percent as against 78.9. Quite aside from these rankings, the skills constraint is among the capacity limitations underpinning the present over-heating of the Indian economy.[23]

23. There are no systematic data sources on wages, but it is estimated that nominal wage increases have averaged 12–14 percent in the last few years (Subramanian, 2007).

F I G U R E 2 .   **Aggregate Health and Education Expenditure as a Percent of GDP: 1950–2006**

1969–70
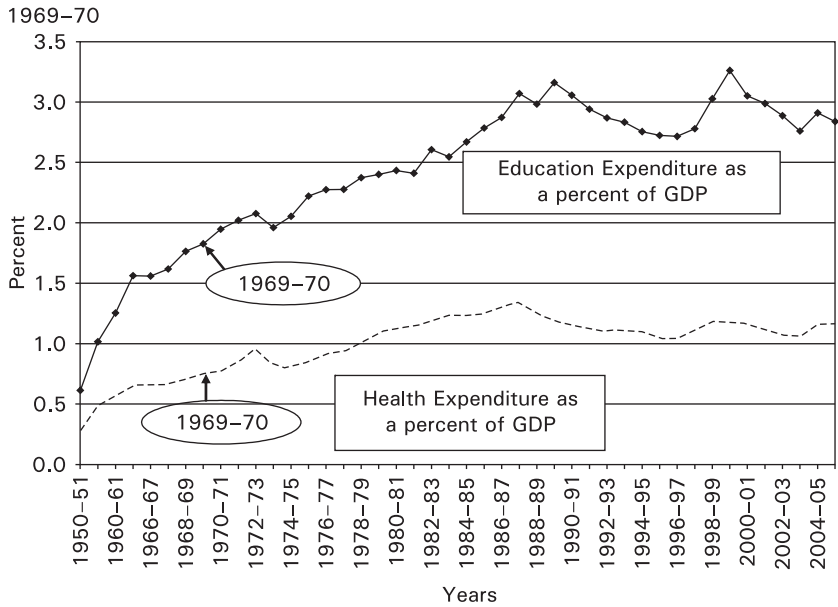
Source and Notes: See source and notes to figure 1.

As against the share of states in total expenditure of a little over half, their share in tax revenue has been of the order of one-third, leaving a vertical gap of about 20 percent. It is argued here that the magnitude of the vertical gap itself does not matter. Indeed, if one of the presently visualized forms of the proposed goods and services tax (GST) were to be implemented, states would have negligible revenue collection powers of their own, and the vertical gap would essentially equal their share in total expenditure. What matters is the statutory framework for closure of the vertical gap and the actual departures from it. Both these have to be investigated for their incentive properties and for what they reveal about the political economy of the fiscal federation.

Primary education and health for a growing population call for steady multi-year expenditure commitments, without downside spikes, toward annual salary and other concomitant non-salary costs of delivering the service. The next section examines the pattern of fund flow from Center to states for whether the embedded incentives enabled states to credibly commit themselves to provision of these services. The fall observed over the last ten years in states' share has been because of the huge new programs

for primary education and mid-day meals in schools funded by the Center, and not routed through states.[24] Thus, the policy response has been to alter the pattern of funding, when the need of the hour is for an analysis on why funding failure occurred in the first place.

Fiscal Flows from Center to States

The statutory provision in the Constitution for closure of the vertical fiscal gap quite clearly acknowledges the need for states to have unconditional annual shares of Central revenues, predictable in quantum (subject to a known margin of error), allocated in accordance with transparent formulae as determined by an external body of experts, and subject to formal review every five years by a freshly constituted body of experts. The configuration of the statutory flow thus favors committed expenditures of the kind called for by primary education and health to a growing population.

Although the Constitution does not explicitly forbid Central assistance to states other than those mandated by Finance Commissions, the statutory flow was supplemented right from the start by an assortment of non-statutory flows for developmental assistance, for quinquennial periods along the lines of Soviet Five Year Plans,[25] called Plan flows. The statutory flow is accordingly termed a non-Plan flow, although just to keep things complicated, there are some non-statutory non-Plan (loan) flows as well.[26] The sequence of Plan periods has continued with some disruptions into the post-reform period; the Eleventh Plan currently covers the period 2007–12.

The major feature of the non-statutory flow which de-incentivized multi-year expenditure commitments of the kind needed for primary education and public health was that the aggregate yearly quantum of Plan assistance was not laid down in the way statutory flows were.[27] The quinquennial allocations were purely indicative, with annual disbursements free to vary in

24. The Sarva Shiksha Abhiyan (Universal Education Mission) and the National Rural Health Mission are both intended to provide non-salary support for primary education and health respectively, through an independent channel of funding.

25. Although non-statutory, these were permissible under Article 282 of the Constitution. There were two components of Plan flows, Central assistance for state Plans and Central Plan expenditure routed through state exchequers.

26. These consist principally of flows against small savings collections under a scheme detailed in the section on state borrowing.

27. Tax shares in statutory flows were subject to variation in the underlying Central tax revenue base itself, but this statistical margin of error was very different from the discretionary determination each year of aggregate Plan assistance.

both total quantum and distribution between states at the discretion of the Center, albeit subject to negotiation and bargaining by states. Further, Plan support was explicitly directed at the creation of "new facilities." Multi-year commitments, principally on salaries, extending far beyond the Plan period in which new facilities were created, were left unfunded. The paradox was that Plan flows explicitly meant for development assistance actually disfavored key elements of developmental expenditure.

Figure 3 shows the two components of Central fiscal flows to states, statutory and Plan, as shares of the total across the two.[28] In practice, the statutory flow was exceeded by the non-statutory flow for the first twenty years, and was essentially half of the total for the next thirty years of this 56-year period, never amounting to more than 60 percent (except after 2005).

The statutory flow is pre-determined and largely formulaic in distribution between states, accepted as mandated by Finance Commissions and implemented with no modifications.[29] It has two components, shares of Central tax revenues, and grants, both as prescribed by Finance Commissions. Shared taxes are the most formulaic, although their configuration was changed starting 1996–97 from shares of individual taxes to a share of overall collections.[30] This neutralized the pattern of incentives for tax effort at the Center. Grants prescribed in absolutes by Finance Commissions are as statutorily legitimate as shared taxes, but have carried adverse incentives for fiscal discipline.[31] There is also a clear discretionary element in their distribution between states, but because they are prescribed by a group of

28. This excludes non-statutory non-Plan assistance, driven by an altogether different dynamic of on-lent small savings. There was also short-term "ways and means" assistance, which should in principle have remained constant in end-year outstandings over time. And clearly it excludes expenditure on that portion of the Center's own Plan which did not go into state exchequers at all (see footnote 24).

29. There are recent instances of failure of the Central Government to conform to its statutory obligations as formally accepted in Parliament, for example, with respect to the closure of the Fiscal Reforms Facility of the Eleventh Finance Commission. For departures from prescription and implementation of the recommendations of the TFC, see Rajaraman and Majumdar, 2005.

30. Pursuant to the recommendations of the Tenth Finance Commission.

31. "Deficit grants" to tide over fiscal shortfalls of states as estimated after factoring in tax shares are the major component of Finance Commission and grants, and have been widely pilloried for their obvious adverse incentives (Rao and Singh, 2005: 203). They need not have been, if deficits had been assessed from norm-based expenditures rather than from past actuals, which has been partially attempted ever since the Ninth Commission. Deficit grants are entirely unconditional. However, the Eleventh Finance Commission withheld 15 percent for conditional release upon fiscal correction; see notes to Figure 3.

F I G U R E 3 . Statutory and Non-statutory Flows from Center to States 1951–2008
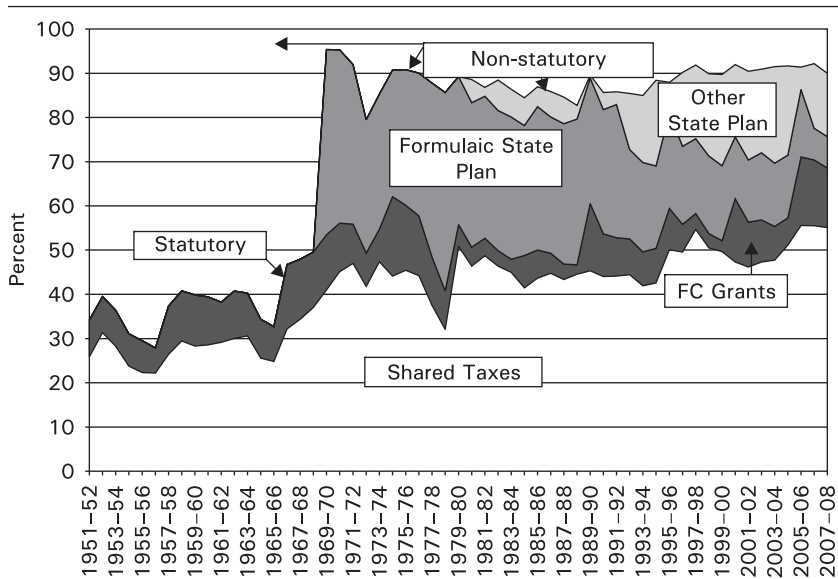
Source: Figures starting 2005–06 are pre-actuals or budget estimates. Shared taxes are from Government of India, *Indian Public Finance Statistics*, assorted issues, up to 2002–03; Central Finance Accounts, for 2003–04 and 2004–05; Reserve Bank of India (RBI) *State Finances* for 2005–06 and 2006–07; and as projected in the Report of the TFC for 2007–08. Statutory Finance Commission grants are from Reports of Finance Commissions, First to Twelfth. Non-statutory Plan flows are from the Report of the Seventh Finance Commission for years up to 1973–74, and from RBI State Finances, assorted issues, supplemented by the RBI's *Handbook on State Finances 2004* for all subsequent years up to 2004–05. For the latest three years 2005–08, the Government of India Budgets for 2006 and 2007 were more plausible. For details on the data discrepancies between these and other sources, see Rajaraman, 2004, Appendix I.

Notes: 1. Non-statutory flows: Summed across current and gross capital flows classified as Plan expenditure going to state Government exchequers. They have two components: Central Assistance for state Plans which became formulaic (the Gadgil formula) after 1969–70; and Central Plan and Centrally Sponsored Schemes (CSS), with another category of Special Plan schemes added on after 1992–93. Formulaic state Plan assistance, subordinated to the Gadgil formula was termed "Normal Central Assistance" (NCA), but was not assigned a separate account head and so cannot be extracted from finance accounts. It is however separately identifiable starting 1980–81 (although it is only starting 1986–87 that the term NCA is explicitly used), from pre-actuals for the preceding year given in Central Budget Documents for Plan assistance going from the Ministry of Finance; non-formulaic scheme assistance goes from other Ministries. Starting 1997–98, actuals for NCA were obtainable from the detailed demands for grants of the Ministry of Finance. The capital flow is gross; the net capital flow is not obtainable even from the Central Finance Accounts, because loan repayments by states to the Center do not distinguish between Plan and other loans.

2. Statutory flows: Finance Commission grants are unconditional for the most part and include grants intended for onward transmission to local bodies from the Eleventh Finance Commisssion on. The minor exceptions are upgradation and special problems grants (from the Seventh Finance Commission on), which are conditional on expenditure incurred; and margin money for calamity relief (from the Eighth Finance Commission on), accessible only after crossing prescribed state expenditure caps. The Eleventh Finance Commission grant total here includes the 15 percent withheld as an incentive for fiscal correction, and does not include a matching 15 percent added on for all states, including those not among the beneficiary set for the grants from which the withholding was done.

technical experts, they could in principle be seen as determined outside a bargaining context.[32] Once prescribed and accepted in Parliament, grants are as unalterable as tax shares, and because prescribed in absolutes, actually even more predictable than tax shares. Shared taxes have accounted for most of the statutory flow, which rose substantially in 1970 to half the total flow and remained there until 2005.

Another major development in 1970 was that Central assistance for state Plans, the major content of non-statutory flows, was subordinated to a formula, which prescribed the share of each state in the total,[33] along with a uniform 70 percent loan content across states.[34] The remainder was that portion of Central Plan expenditure routed through state exchequers, and was thus explicitly at the discretion of the Center.[35]

In effect, there developed after 1970 two parallel formulaic components to Central flows to states, one statutory, one not, yielding a sharp rise in the aggregate formulaic share to 95 percent and a corresponding reduction in the bargaining margin to 5 percent. In itself, this was very major improvement. However, there were two serious problems with the persistence of two-track assistance to states, even after introduction of the formula.

32. However, there is evidence of caprice in the distribution of these grants between states; see Rajaraman and Majumdar, 2005.

33. Known as the Gadgil formula, it applied to the distribution of total Plan assistance among states other than a subset of eleven states, called special category (mostly northeastern) states, characterized broadly by hilly terrain, which carry a special status for fiscal purposes. The special category intersects with the set carrying special constitutional provisions under Article 371 of the Constitution, making for an asymmetric federal structure (Arora, 1995), but curiously does not itself carry a Constitutional underpinning. The total for special category states is distributed among them in a non-discretionary systematic manner, but not in accordance with a designated formula. The Gadgil formula has undergone some modifications over the years, reported in detail in Vithal and Sastry, 2002: 152. The weights used after 1991 are 60 percent for population, 25 percent inversely related to per capita State Domestic Product (SDP), 7.5 percent for special problems, and 7.5 percent for performance in "tax effort, fiscal management, population control, female literacy, on-time completion of externally aided projects and land reforms." The last two introduce a discretionary margin into the formula. The population weight is by the 1971 population so as not to de-incentivize population control; and the SDP related weight is further split into 20 percent, which goes only to states below the average SDP and is calculated by the deviation from the mean, and 5 percent which goes to all states and is calculated by distance from the highest per capita level (with a provision for the state at the top).

34. This was for states not in the special category, for whom the loan share was 10 percent. After the TFC recommendations came into force on April 1, 2005, there is no compulsory loan component to Central Plan assistance for states.

35. A portion of this went under the name of Centrally Sponsored Schemes, which required a co-financing stream from states.

First, the total non-statutory flow continued to remain variable from year to year.[36] An example is the sharp dip in 1972–73 in Central assistance for state Plans, soon after it became formulaic, when the lagged response of the Center[37] to the drought of the previous year meant a sharp rise in Central expenditure on drought relief and a corresponding reduction in support for state Plans. It is also generally apparent in the spikes in statutory shares, which were in absolute terms reasonably steady across years (albeit with some discontinuities across Finance Commission transitions).

Second, the 70 percent loan content carried an incentive for projects that could yield a return from which the debt could be serviced. This was the impulse behind the creation by states of parastatals (public sector under-takings), with the promise of commercial return. The year-to-year variabil-ity was consistent with episodic loan or equity contributions from state exchequers to these parastatals.

The loans added to a steady increase in state indebtedness to the Center (another source also added to it, detailed in the next section). Interest rates on these loans were set by the Center, and in this manner, states lost control of a substantial portion of their current expenditure.[38] The interest burdens of state governments were among the expenditures that further reduced the willingness of states to expand salary commitments, for health and education. The source of these interest burdens was eventually addressed by the TFC, which recommended no compulsory loan component in state Plan assist-ance from the Center, starting from 2005.

Perhaps in response to the debt build-up, Central assistance to state Plans began to include components not subordinated to the basic formula. As other schemes outside the formula began to be increasingly added on, the formulaic portion was termed "Normal Central Assistance."[39] The advan-tage of largely grant receipts was traded off against the loss of formulaic distribution between states. Thus, although the total of Finance Commis-sion and state Plan assistance apparently stayed within the 85–90 percent

36. These went into non-Plan expenditures, to be covered by statutory flows and own revenues of states. But there was no guarantee whatever that statutory flows would cover these expenditure commitments.

37. This has been a standard feature of the relief response for adverse weather shocks; see next section. But there have been other years in which State Plan assistance fell for no apparent reason, such as 1995–96.

38. Default on these loans was ruled out by deduction at source of interest dues from Central transfers to states. This has been successfully enforced and is a major dimension of fiscal discipline in the Indian federation.

39. Starting with the budget documents of 1986–87.

range after 1970, the formulaic share began to decline. The non-formulaic share began widening again to reach 30 percent by 2006–07. The drivers of the year-to-year variations in the non-formulaic share are investigated further in this section.

Although the non-formulaic component in Central assistance for state Plans as a phenomenon is well-known, there was a complete absence of any formal accounting provision for segregating it from the formulaic component.[40] No attempt has therefore been made so far to quantify it in a systematic manner. The numbers underlying figure 3 have been teased out of budget documents, as detailed in the notes to figure 3. The non-formulaic component was open to bargaining in terms of the types and distribution of schemes introduced, and this added to the unpredictability of the total quantum of Central assistance to state Plans further uncertainty about the share that could be garnered by any individual state.[41]

The fluctuations over the period in the non-formulaic bargaining margin in total Central flows to states, clearly call for an explanation. Figure 4 plots the bargaining margin, obtained as the residual from the formulaic share of total flows shown in figure 3, against an index of political fractionalization for each year, constructed for the major fifteen states in the federation. States are assigned each year to two groups, one if the ruling party in the state during the year was either the same as, or a supporter of, the party ruling at the Center; the other if not.[42] Based on the ethnofractionalization formula, the index has the value zero if all states are aligned with the Center, and also if they are all in opposition to the Center.[43] This might seem to be a limitation, but it is actually a useful property as an indicator of the fractionalization among states regardless of the political alignment of each fraction. An index of this kind has not been attempted earlier and it is difficult to do for at least three reasons. First, the major parties have split over the years and

40. No attempt was made to quantify it in an earlier exercise (Rajaraman, 2004) for this reason. Accounting head 3601 for Central assistance to state governments carries only an undifferentiated sub-head 101 for Block Grants in aggregate.

41. Kletzer and Singh, 2000, arrive at their support for pre-committed amounts or formulae for flows to states through a separate line of argument, that the costs of exerting influence (akin to rent-seeking) may outweigh the benefits of discretion in making transfers.

42. No further splitting into party groups was attempted. In years when the state government was dismissed under Article 356 and placed under Central rule, it was assigned to group one. In years with transitions during the year, the closing situation was taken. The formula for the index is shown in the notes to figure 4.

43. The PFI ranges in value from zero to one in the general case, but in this case of two groups, can range only between zero and 0.5.

FIGURE 4. **The Bargaining Margin and the Political Fractionalization Index 1951–2006**
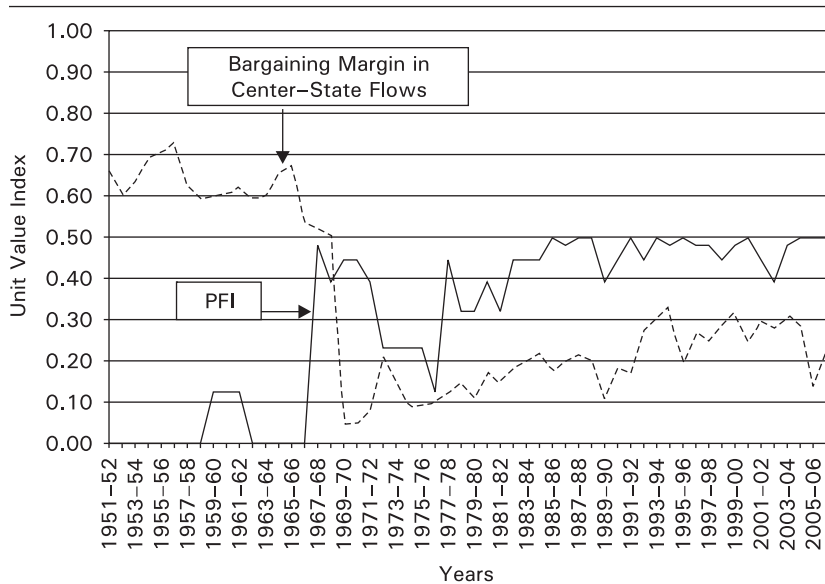
Source: Author's calculations for the bargaining margin, obtained as the residual after deduction of the formulaic components from total flows, using data from sources to figure 3. For the PFI, author's calculations from election data in Butler et al., 1995 and Penguin Books India, 2005.

Notes: 1. The PFI has the same form as the standard ethnofractionalization index.

PFI $= 1 - \Sigma f_i^2$, $i = 1,2$, where f_i = fraction of states ruled by the same party as that at the Center ($i = 1$), or not ($i = 2$). Where there were mid-year changes in government, the party in power at the close of the year was used to assign it to one of the two groups. Where the year closed with an interlude where the state government was dismissed and President's Rule imposed from the Center, the state was assigned to group $i = 1$. The PFI has been constructed for the major fifteen states over the period 1951–52 to 2007–08. It varies in value from zero to 0.5 because there are two groups and in first differences from −0.5 to +0.5.

2. The bargaining margin is aggregated over Central allocations to all states, which grew in number over time with breakaway pieces of the major fifteen, along with the graduation of Union Territories directly governed by the Center into states in their own right.

re-grouped in bewilderingly intricate ways. Second, a party not formally in the government at the Center might nevertheless be a supporter, and therefore aligned with it. An example is the Communist Party Marxist, which supports the present Congress-led United Progressive Alliance (UPA) coalition at the Center. Such non-formal agreements are subject to change even within the term of a particular government at the Center. Finally, elections at state level have lost all synchronicity with elections to government at national level. There are mid-year changes of government in the states, sometimes more than one such in a single fiscal year, with frequent interludes when the Center has dismissed the state government and administered the state

directly. The manner in which all of these were handled are detailed in the notes to figure 4.

The PFI shot up from zero to 0.5 with the elections of 1967, two years before the major drop in the bargaining margin in Center–state flows in 1969–70. Thereafter, the PFI varied considerably before settling in the 0.4 to 0.5 range. A single equation OLS regression of the bargaining margin in first differences on the two-period lagged first difference in the PFI was estimated (table 1), treating changes in the PFI as exogenous to the system.[44] The two-period lag is in accordance with the institutional processes of the Indian fiscal system, where the flows in year t are planned in year $(t - 1)$. The model basically tests for whether the change in the bargaining margin from $(t - 1)$ to year t, as determined by budgetary processes at work in year $(t - 1)$, is related to the observed political change in the most recent completed year $(t - 2)$, relative to the year before $(t - 3)$. The PFI reflects the political situation at the close of year $(t - 2)$, and thus basically reflects the situation at the start of year $(t - 1)$, when decisions with respect to year t are taken.

The coefficients show a significant inverse relationship with the bargaining margin declining by 0.05 (corresponding to a rise in the share of the formulaic fraction of Central flows to states) for every rise in the PFI by 0.1 with a two-period lag. The completed political configuration in year $(t - 1)$ is not yet defined during year $(t - 1)$, and indeed the coefficient was not statistically significant for a one-period lag in the first difference of the PFI.

The results covering the entire period from 1954–55 to 2007–08 clearly span two regimes, one prior to 1967–68, when the PFI was at zero barring a few years, and the subsequent period when it never fell back to zero again. A second regression covering the second regime is also presented in table 1. The coefficient and its significance remain. It is undeniably true that even in the second regime, there is a single dominant observation that drives the results. With the PFI fluttering at or just a little under its maximum value of 0.5 for the past 20 years, clearly the year-to-year changes will have lost their prior amplitude. What is clear is that the PFI breaks the 55-year period into two regimes, one where it was at or close to zero, when the bargaining share of Center–state flows never fell below 0.6; and a second regime where the PFI rose sharply to values well above zero, which brought down the bargaining share to a level never above 0.3 percent.

---

44. Politics and parties in India are sufficiently personality driven to justify this assumption. For example, the sudden leap in the PFI from zero to 0.5 in 1967 was surely a consequence of the passing away of Nehru in 1964.

T A B L E   1 .   **The Political Underpinnings of the Bargaining Margin in Center–State Fiscal Flows 1951–52 to 2007–08**

Dependent Variable: Bargaining Margin (t–(t – 1))
Explanatory Variables: PFI and POI ((t – 2)–(t – 3)): (lagged twice)

	PFI		POI
	t: 1954–2007	*t: 1969–2007*	*t: 1954–2007*
Intercept	–0.003	–0.000	–0.010
	(–0.301)	(–0.027)	(–0.959)
PFI coefficient	–0.476	–0.498	–
	(–4.811)***	(–4.464)***	
POI coefficient	–	–	–0.205
			(–2.702)***
R bar squared	0.295	0.332	0.106
F-value	23.147***	19.925***	7.298***
No. of observations	54	39	54

Source: See sources to figure 4.

Notes: 1. Variable definitions: See notes to figure 4 for definition of the bargaining margin and the PFI. The Political Opposition Index (POI) is the simple fraction of states, f_2 in the PFI formula, ruled by parties in opposition to the ruling formation at the Center.

2. Lags: The two-period lag is in accordance with the institutional processes of the Indian fiscal system, where the flows in year t are planned in year (t – 1). The model basically tests for whether the change in the bargaining margin from (t – 1) to year t, as determined by budgetary processes at work in year (t – 1), is related to the observed political change in the most recent completed year (t – 2), relative to the year before, (t – 3). The POI is recalculated for the lag in the model to represent opposition to the government at time (t – 1) when the budgetary decision yielding the first difference for year t is taken.

3. Significance: Figures in parentheses are t-values. Asterisks mark levels of statistical significance, three for $P < 0.01$. All D-W values fell in the range 1.81–2.01.

4. The bargaining margin varies in value from 0 to 1 and in first differences from –1 to +1. Since there was no clustering of values at these extremes, a tobit model was not estimated.

A second index measuring political opposition was also tried, for the simple fraction of states ruled by parties in opposition to the ruling formation at the Center. Given the decision-making lags in the system this required a reassignment of parties in opposition to the ruling formation at the Center with a two-year forward lag. The inverse relationship shows up again, with the same two-period lag.

To conclude, the share of statutory flows, the unconditional and predictable statutory component of total Central assistance to states, did not account for appreciably more than one-half of total flows, until the award period of the TFC began in 2005–06. The year-to-year unpredictability of the non-statutory component, which accounted for half the total until very recently, discouraged expansions in health and education facilities which call for steady funding commitments from year to year. The further uncertainty as to each state's share of the uncertain total dropped dramatically with the subordination of the major share of Plan flows to formulaic allocation

across states starting in 1969–70, but the high loan component discouraged expenditures with no prospect of commercial return for loan servicing. Over time the non-formulaic bargaining margin in Plan support grew again on the promise of grant rather than loan support, at the expense of formulaic allocation across states. None of these developments over time was subject to formal assessment or monitoring by any standing platform open to all partners in the federation.[45] The terms of reference of Finance Commissions typically confined their field of vision to non-Plan flows, until recently.[46]

The sharp drop in the bargaining margin in 1969–70 was a lagged response to a sharp increase in 1967–68 in the PFI in the federation. The bargaining margin in first differences is inversely related to the two-year lagged first difference in the index. From these results, it seems possible to conclude that the increasing political fractionalization[47] in India over time has had a favorable upward impact on the formulaic share of total Central flows to states, and has therefore been favorable towards greater willingness by states to make steady expenditure commitments to provision of primary education and health.[48] Figure 2 which charts aggregate expenditure on health and education as a percent of GDP, with 1969–70 marked, adds supportive evidence from the expenditure commitment outcome.

Five miscellaneous points should be noted before concluding this section. First, the segment of assistance to state Plans that is non-formulaic is not necessarily wholly capricious in its distribution between states. The bargaining element has to do with the schemes that are selected and the manner of distribution between eligible states. Some of these are conditional on reform and therefore not apportioned *a priori*. The essential point though is that these flows are subject to yearly variation in both total quantum and apportionment between states, and is therefore entirely unpredictable at the level of any individual state.

---

45. However, there were fitful efforts by subsets of states to come together on specific issues over the years; see Kapur, 2005. The most successful of these was the introduction of VAT at state-level starting April 2005, in a concerted but voluntary move, with most states having opted for it in over a two-year period.

46. The Seventh (1979–84) and Eighth (1984–89) Finance Commissions were the first whose terms of reference were expanded to include Plan funding requirements of states, but this was dropped and re-surfaced only in the terms of the Eleventh (2000–05) Commission (Twelfth Finance Commission, 2003).

47. This is political fractionalization within a stable electoral system as distinct from political instability that is negatively associated with growth (Mankiw, 1995).

48. Sinha, 2005 makes a similar argument from a parallel stream of thought, that political linkage mechanisms guaranteed by regionalized party competition in India make consistent local and central preference and incentives over policy changes.

Second, a frequent feature of these scheme-specific Plan flows to states is that the funds remain unutilized for long periods for any of a number of reasons, including lack of projects on the shelf. Clearly, this is not a characteristic of statutory or formulaic fund flows which flow into the general pool and points to the general inefficiency of the non-formulaic add-on.

Third, there are Central Plan expenditures which do not flow to state exchequers and therefore have not been considered here, but are fully open to bargaining in terms of type of scheme and location. In that sense, there is a wider bargaining margin than what has been considered here.

Fourth, the recent lowering of state shares in total expenditure on health and education charted in figure 1 is because of a number of Central Plan schemes that have been devised to correct state failure in education. The best known is the Sarva Shiksha Abhiyan (Universal Education Mission) for primary education. The paradox is that correctives of this kind aggravate the conditions that led to underprovision of primary education by states in the first place.

Finally, there is the issue posed by Khemani, 2007, as to whether transfers delegated to an independent agency might serve to constrain the partisan element in apportionment. The issue of partisanship arises only in respect of non-formulaic flows, so that the larger issue posed is whether there should be such flows at all.

State Borrowing

In addition to the compulsory borrowing component of Plan assistance, states were permitted to borrow through sale of securities to financial markets (called market borrowings), which along with all other channels was subject to Central Government approval as in all federations, for reasons of macroeconomic discipline.[49] The total quantum in general has been conservatively set, with outstanding market borrowings of states at end-2007 at 6.7 percent of GDP.[50]

49. Under Article 293 to the Constitution, control over market borrowings is only applicable to state governments with outstanding debt to the Center. See Ter-Minassian, 1997 and Watts, 1999 for comparative information on other federations. In consequence of mandatory Central approval, states did not have to worry about their creditworthiness or market acceptance of their securities, which were floated through the RBI, and had a captive market in mandated minimum investments in government securities by the banking system.

50. The comparable figure for the Center was 35.2 percent. The size of direct market borrowing by states went up after withdrawal of Central lending to states in 2005, pursuant to the recommendations of the Twelfth Finance Commission.

The problem with market borrowings was not Central control over the total but the wholly non-transparent determination of both the aggregate and its allocation between states, and therefore its unpredictability from year to year. The state-wise borrowing shares in the aggregate were worked out as a part of annual Plan discussions, and alterable through bilateral negotiation between each state and the Center. Thus the bargaining space extended beyond that quantified in the last section within Plan flows.

The other major channel of borrowing permissible to states added to state borrowing from the Center, until 1998–99. This was through sale of small savings instruments to the general public, which were routed through the Central Budget and on-lent to states against jurisdictional collections, until a very major accounting change in 1999–2000. Routing through the Central Budget was terminated and state borrowings against these collections were owed to a Fund in the Public Account rather than to the Center as previously. This accounting reform was a major fiscal achievement and was critical to the growth subsequently enabled in the Indian economy.[51] However, the fiscal deficit at the Center became as a result non-comparable across the divide. The Central Government continued to administer the deposit rates on these schemes, so controlling the levers on total collections.

State loans from the Center against small savings added to Plan loans. It gave the Center the biggest share in state liabilities and the administered rates on all these gave it a dominant role in determining the interest payable by states on their debt. Until 1991 when the reform program began, loans to

---

51. Because state borrowing through this channel was limited only by jurisdictional collections, there was general pressure by consensus to raise deposit rates on small savings relative to other instruments. Since these were risk-free, they functioned as a floor to the interest rate structure. The accounting change enabled for the first time a clear picture of the financial viability of the scheme, which was rendered utterly opaque by the accounting separations previously in place. Subsequent to the accounting reform, it became possible to align deposit and lending rates and bring both down in several stages. Rates on small savings after 1999–2000 were benchmarked to an assortment of instrument-specific rates, but in the absence of any public commitment to the margin in terms of either magnitude or sign, the final rates remained administered rather than market-driven. A more formal commitment was made starting 2002–03 to both the instrument-specific benchmark/s, and a cap on margins of +50 basis points, as recommended by an official committee. Within that cap, the margin is still under Central control and the Center continues to offer tax incentives for these instruments. Thus, the Center still carries downside flexibility with respect to rates on small savings to a considerable degree. Because these are zero-risk instruments, many still carrying tax incentives, these rates continue to function as a floor to the interest rate structure in the economy. With its control over the margin, and the tax incentives given, the Central Government remains in control of the aggregate flows into the scheme.

the Center were between 70 and 80 percent range of total state liabilities.[52] The next section goes into details of the scheme that came into operation in 2005 to reduce this debt overhang.

Thus the Center had macroeconomic control over state-level borrowing through all channels, and therefore over the consolidated fiscal imbalance. This explains the finding in Khemani, 2004, for election years at state government level in India, of no rise in fiscal imbalances of individual states, but only a re-allocation of taxes and expenditures in favor of special interest groups.

The consolidated fiscal imbalance aggregating across Center and states was found in an earlier exercise over 1951–2001 (Rajaraman, 2006) to exhibit upward spikes in years immediately preceding elections to the Parliament ("general" elections, which lost synchronicity with state elections after the first three electoral cycles, to the point where there is now a state election practically every year).

That exercise is carried forward here by estimating an augmented specification for the fiscal imbalance consolidated across Center and states, and over the same period for the Center taken by itself. The consolidated fiscal balance nets out all state borrowing from the Center. Therefore the differential impacts of the variables in the specifications identify factors driving year-to-year changes in the limits placed by the Center on state borrowing from financial markets.[53] Because of the accounting change in 1999–2000 in the routing of small savings, the series for the comparative exercise had to be terminated at 1998–99, since the Central fiscal imbalance is not comparable across that divide.

The results for pre-election fiscal behavior in Organisation for Economic Co-operation and Development (OECD) countries, summarized in Alesina et al., 1997, point to partisan rather than opportunistic behavior over the electoral cycle at national level. However, there are contrary results for subnational elections in the US (Besley and Case, 1995) showing that the probability of

52. Ways and Means advances from the Center to tide over temporary cash needs, also added to the stock of liabilities. Repayments of these are lumped together with other loan repayments, so that it is impossible to judge whether the net stock increased from year to year. Notwithstanding this, and a simultaneous W&M window with the RBI (on which separate figures are available, showing negligible outstandings usually well below 1 percent of total state debt), the budget constraint faced by states could be termed as hard rather than soft.

53. A regression could also have directly been done for the difference between the consolidated and Central deficits, but since the specifications to be tested were in year-to-year first differences, one more difference would have further removed the figures from the directions of movement commonly known.

incumbent victory is inversely related to tax increases relative to neighboring jurisdictions.

The only econometric studies for fiscal imbalances in India are confined to the Central Government. Cashin et al., 2001, establish the presence of tax-smoothing through a Vector Auto-Regression (VAR) approach for the period 1951–97. Tax smoothing, as the term suggests, will leave the tax burden unadjusted to temporary shocks in expenditure, though not to permanent increases. This result is plausible and very useful as far as it goes, but the underlying model treats government expenditure (net of interest) as exogenously given.[54] Clearly, there is a need to build on this further so as to understand what drives temporary expenditure shocks. Further, by investigating fiscal behavior in terms of imbalances rather than expenditure, the tax response gets factored in and informs policy reform more comprehensively. There is also the study by Sen and Vaidya (1996) that examines Central Government revenue (current account) imbalances and finds a statistically significant increase in pre-election years over the period 1951–89. Interestingly, they find no electoral response in either expenditure or revenue taken independently, thus suggesting the use of both in conjunction and contradicting therefore the tax smoothing result of Cashin et al., 2001.

The dependent variable of all the regressions reported in table 2 is the primary fiscal deficit, as a percent of GDP, taken in first differences. The explanatory variables are the election year dummy, GDP growth rates taken both concurrently and lagged one year[55] and the PFI (first differences lagged twice, as in the case of the exercise in table 1, and for the same reason in view of the institutional lags in the fiscal decision-making process). The election year dummy is invariant with respect to the party in power and is assigned a value of one for the fiscal year immediately preceding an election, anticipated either because the government had reached the last year of its five-year term (recent examples are the elections in 1989 and 1996), or because the government expected to be voted out of power in the course of the year (as for example the elections in 1980, 1991, and 1998).[56]

---

54. Tax-smoothing (Barro, 1979) is not so much the analogue as the mirror-image for public consumption of the consumption-smoothing model for private consumption; what is smoothed here is revenue (income) rather than expenditure (consumption).

55. In Rajaraman, 2006, there is an alternative set of specifications with the agricultural growth rate instead, because of the exogenous rainfall factor, which in failed years calls forth a fiscal relief response in the form of rural employment and other welfare schemes.

56. General elections to the national Parliament, if held before the fifth year of the full term, have always been precipitated by the opposition rather than by the government in power voluntarily choosing to shorten its term. Thus, general elections held after the lapse of less

T A B L E 2 . **Electoral Underpinnings of Fiscal Imbalances 1951–52 to 1998–99: Consolidated (Center + States) and Center**

Dependent Variable: % PFD/GDP $(t - (t - 1))$

	Center+states 1951–99	Center 1951–99	Center+states 1969–99	Center 1969–99
Common intercept	0.330	0.451	0.248	0.204
	(1.044)	(1.231)	(0.586)	(0.502)
Pre-election year intercept	0.729	0.380	1.291	0.602
	(2.324)**	(1.046)	(2.968)***	(1.441)
GDP growth rate (%)	–0.036	–0.079	0.008	–0.025
(t)	(–0.861)	(–1.615)	(0.147)	(–0.465)
$(t - 1)$	–0.067	–0.038	(–0.132)	–0.059
	(–1.546)	(–0.776)	(–2.101)**	(–0.978)
PFI $((t - 2) - (t - 3))$	–1.264	–1.054	–0.969	–0.694
	(–0.985)	(–0.709)	(–0.707)	(–0.527)
R bar squared	0.065	–0.003	0.155	–0.054
F-value	1.768	0.970	2.325*	0.630
No. of observations	45	45	30	30

Source: Author's calculations from Government of India, *Indian Public Finance Statistics*, assorted issues for fiscal data, supplemented by Rangamannar, 2002 for the 1950s. Sources to figure 4 for all election data. PFI from author's calculations.

Notes: 1. Variable definitions: The dependent variable is the primary deficit in percent of GDP taken in first differences $(t - (t - 1))$, obtained after subtracting interest payments from the fiscal deficit, which is officially reported only after 1988–89. For all prior years, fiscal deficits had to be calculated from the difference between expenditure and non-debt current receipts. There were no disinvestment non-debt capital receipts during that period. All reported capital expenditure figures going into these calculations are net of loan recoveries, and net out loan repayments. GDP growth rates are from the factor cost aggregate.

2. Data series: All series begin in 1951–52, yielding first differences starting 1952–53. The two-year lag with the PFI yielded a first value starting with 1954–55, and thus there are forty-five observations going up to 1998–99. The second estimation period starts with 1969–70, yielding thirty observations going up to 1998–99.

3. Significance: See notes to table 1.

The specifications are estimated with data series spanning two periods, one starting in 1951–52 and the other starting in 1969–70 (the year when higher formulaic shares of Plan flows to states began).

Over the 1951–99 period the only coefficient that carries statistical significance is the pre-election year positive intercept for the consolidated fiscal imbalance. It is not significant in the regression for the Center alone

than five years remain exogenously imposed, and are not jointly determined with the fiscal imbalance or other variables in the specification. This does not hold at state government level (Khemani, 2004). The two special cases were the elections in October 1984 and September 1999. The corresponding dummy value of one was assigned to 1984–85 (even though the precipitating event was unforeseen, it was the last year of a five-year term), and to 1998–99 (since the government was voted out at the conclusion of that fiscal year, with caretaker status until the mid-year election in 1999–2000).

(indeed, the regression itself is statistically insignificant). When estimated over the 1969–99 period, the pre-election spike is higher for the consolidated imbalance, but again insignificant for the Central imbalance alone.

Thus opportunistic pre-election behavior by the Central Government resulted in temporary upward spikes in the aggregate borrowing limits placed on states rather than in any direct spikes in the fiscal imbalance at the Central level alone. This finding substantiates the fact of Central control over the consolidated fiscal imbalance and the opportunity so obtained for temporal distortions in response to the electoral cycle. The distortions seem to have gone up after 1969 although the coefficient of the PFI (first differences lagged twice) itself is insignificant.

The coefficients for the growth rates in concurrent or lagged form carry negative signs, as expected, but are not statistically significant except after 1969, when there is a significant coefficient on the one-period lagged growth rate, for the consolidated imbalance alone, showing a lagged countercyclical response by the Center in aggregate borrowing limits on states.[57]

The election year distortions in limits on borrowing from financial markets added to the uncertainties faced by states in aggregate non-statutory assistance from the Center, and acted as further adverse incentives for enhancement of steady expenditure commitments by states of the kind required for provision of primary education and health. Because of the non-transparent manner of allocation of the aggregate, the uncertainty at the level of any individual state on borrowing limits extended to non-election years as well.

Finally, table 3 extends the exercise up to 2005 for the consolidated fiscal imbalance alone, with two data series. One splices the reported deficit for years after 1988–89 (the fiscal deficit was officially reported only starting 1988–89, see notes to table 2) to the generated figure for prior years; the second uses the generated figure for all years. The generated figure does not

---

57. The coefficients for the concurrent growth rate capture the composite effect of the structural properties of the fiscal system, which in India carry a peculiar feature that could impart an upward bias to the concurrent growth coefficient. Small savings collections, which are supply-driven, would carry buoyancy with respect to the growth rate but are of course only one component of government borrowing. Unless government borrowing through other instruments is adjusted in response to the small savings inflows in the course of the year, there could be a positive concurrent growth impact on net government borrowing. This could counter the policy response, if any, and yield a statistically insignificant coefficient. The coefficients for growth lagged one year do however carry the policy response, and these are indeed negative and statistically significant coefficients. The one-year lag in the stabilization policy response is also in conformity with the institutional lags in decision-making, where fiscal decisions with respect to year t are made in year $(t - 1)$.

T A B L E 3 . Electoral Underpinnings of the Fiscal Imbalance 1951–52 to 2000–05: Consolidated (Center + States)

	Center+states 1951–2005	
	Dependent variable: Reported % PFD/GDP(t – (t – 1))	Dependent variable: Generated % PFD/GDP(t – (t – 1))
Common intercept	0.323	0.407
	(1.058)	(1.420)
Pre-election year intercept	0.536	0.641
	(1.870)*	(2.378)**
GDP growth rate (%) (t)	–0.042	–0.046
	(–1.058)	(–1.231)
(t – 1)	–0.051	–0.070
	(–1.264)	(–1.840)
PFI ((t – 2) – (t – 3))	–1.079	–1.272
	(–0.867)	(–1.086)
R bar squared	0.025	0.088
F-value	1.325	2.208
No. of observations	51	51

Source: See source to table 2.

Notes: 1. Variable definitions: The first column splices the reported primary fiscal deficit after 1988–89 onto the generated figures for earlier years (see note 1 to table 2). The second column uses the generated figures for all years. In years after 1988–89, where there were disinvestment receipts, the reported figure should be the more correct, since it should (in principle) exclude disinvestment receipts (which are not reported and therefore cannot be subtracted from the generated figure). In practice however, the discrepancy varies widely, and is especially high in 1998–99 (14 thousand crore) and 2003–04 (22,000 crore), higher than known disinvestment receipts in those years.

2. Significance: See notes to table 1.

conform to the reported figure for years in which both are available, with the discrepancy between the two ranging between 1.8 and 19.5 percent of the reported number, not accounted for by disinvestment receipts on the capital account.[58] The two results are shown in the table to highlight problems that still remain with official reporting of fiscal magnitudes. Both results show that the pre-election intercept damped down relative to the estimate over 1951 to 1999, more sharply with the reported series. There was only one national election year after 1999, in 2004. The pre-election year 2003–04 shows evidence of the fiscal restraint introduced by the Fiscal Responsibility and Budget Management Act of 2003. It was also the only year in which there were substantial disinvestment receipts at the Center, but a considerable discrepancy remains even after factoring this in. At the very least, the

58. Disinvestment, which started in 1991–92, was reported in budget documents of the Central Government starting from the year 2000. These receipts did not close the gap between the reported and the generated figures for the fiscal deficit, although there is the (unlikely) possibility that the remaining disparity could be accounted for disinvestment by states, on which there is no consolidated data anywhere.

disparity between the generated and reported fiscal deficits calls for making transparent disinvestment receipts at the level of both Center and states.[59]

Starting 2005–06 there was a regime change with cessation of direct Central lending to states for Plan expenditure. There was also a change to a more inflexible system of caps on state borrowing as part of the conditionalities for debt concessions detailed in the previous section, so that electoral patterns in the consolidated fiscal imbalance will probably not be visible after 2005.

The Debt Write-off Scheme 2005–10

At least two recent schemes have been devised to reverse the build-up of debt owed to the Center by states. Both these are applicable to all states, unlike earlier one-off selective debt pardons for individual states on account of special conditions, such as insurgency. The most ambitious is that currently in place devised by the TFC for the horizon 2005–10, subject to fiscal conditionalities.[60]

The recommendation by the TFC was for a fiscal adjustment aggregated across all states toward a target fiscal deficit at 3 percent of GDP by 2008–09, which with nominal growth of 13.6 percent, would deliver a target debt level at 25 percent of GDP, but only over an infinite horizon.[61] In the face of the tedious and intricate procedure prescribed by the Report for allocation of the required adjustment across states (summarized in appendix 1 to the paper), the administrative rules by which the recommendations were implemented equated the average adjustment target to a uniform fiscal deficit applicable to each state of 3 percent of state GDP by the target year of 2008–09.[62] This was a violation *prima facie* of the recommendations as accepted in Parliament, but in the absence of any standing platform where these issues could be raised, it carried the day.

59. As a first step towards making transparent the process of disinvestment itself, which has been riddled with allegations of corruption.

60. Prior to the 2005–10 scheme a debt swap permitted swapping of debt to the Center carrying interest rates exceeding 13 percent against replacement borrowing from financial markets including small savings. This did not reduce the debt stock but lowered the interest bill of state governments.

61. The formula for the time taken to reach the target ratio of debt to GDP from time 0 to time t is given by $t = \log [d_0 - 0.25]/\log [d_t - 0.25]* \log (1 + n)$, and can yield a finite number therefore only for debt levels slightly above the infinite target value.

62. Annex 7 of GOI, 2005. Even the required target in terms of national GDP should have translated into 4 percent of the individual GDP of states because state GDP is reported at factor cost and the GDP of the country at market prices in any year is above the sum of state GDP by one-third (see Rajaraman and Majumdar, 2005).

The required primary fiscal deficit in order to meet the uniform fiscal deficit of 3 percent of state GDP is a function of the average interest rate payable on state debt, and the nominal rate of growth, in accordance with the formula given below, and will clearly vary across states:

$p_t = f_t - id_{(t-1)}/(1 + n)$, where p is the required primary fiscal deficit, n is the nominal rate of growth, and i is the average nominal interest rate payable on state debt d.

The required primary fiscal deficit toward the uniform fiscal deficit target was calculated here at debt levels and values of the interest rate and nominal growth parameters that prevailed in 2004–05, the immediate pre-adjustment year. The requirement ranged from a primary surplus of 3 percent of state GDP to a permissible deficit of 1.2 percent of state GDP.

The adjustment distance between the actual and the required primary deficit in 2004–05 was then calculated and is shown in a scatter against growth rates of state GDP in figure 5. Two points emerge quite clearly. First, the

FIGURE 5. Scatter of the Adjustment Distance Required for the Debt Write-Off against Nominal Growth Rates of State GDP
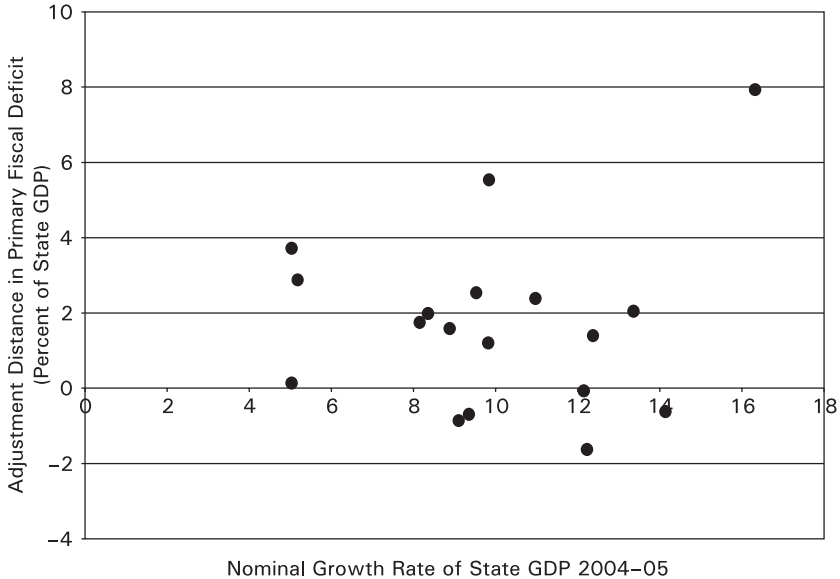
Source: Author's calculations using data from RBI *Handbook of State Finances*, 2006–07. State domestic product figures from www.indiastat.com.

Notes: Variable Definitions: All state domestic product figures are at factor cost. The adjustment distance is obtained as the difference between the actual primary fiscal deficit in 2004–05 and the required primary deficit to achieve a uniform overall fiscal deficit target of 3 percent of state GDP (see text for equation used to calculate the required primary deficit).

adjustment distance range is nearly 10 percent of state GDP, from states which had actual primary deficits above the required level by 8 percent of state GDP, to states which had actual deficits (or surpluses) below the required level by 2 percent of state GDP. The issue is the range itself in the first instance, which by imposing uneven correction robs states of any sense of control over their fiscal parameters. There is also the fact of its having been imposed in the absence of any questioning of the wrongful interpretation of recommendations which prescribed state-specific adjustment formulae.

The second point is that there is no evidence of any systematic relationship between the adjustment distance and the nominal rate of growth.[63] States with a required adjustment of 3.5 percent of GDP, which grew at a nominal growth rate of 5 percent in 2004–05 and therefore at negligible real rates, would be heavily pressed to achieve their targets. The growth rates in the figure are single-year rates of 2004–05 and therefore clearly not immutable. The essential point however is that capricious adjustments of this kind add immeasurably to the uncertainties surrounding state allocations of expenditure, and therefore impact negatively on state willingness to commit themselves to avenues that are not compressible in the short run.

The debt example above is merely one of a larger class of phenomena, whereby a complex mandate is simplified in the executive order through which it is effected and distorted in the process of simplification. Another example was the fiscal reform facility of the Eleventh Finance Commission, which withheld a portion of its recommended statutory grants to be given only if the recipients crossed a fiscal correction threshold. The undistributed amount was to be distributed among performing states at the conclusion of the scheme, but this was not in fact done, and was the subject of extended dispute. There was no forum where the issue could be raised. The Inter State Council was established only as late as 1990 under a Constitutional provision for such a platform under Article 263, for resolution of all other than river water disputes (for which there was a separate provision under Article 262), but, in the years since, it has not been able to play the role envisioned for it. The move by states to a VAT regime on April 1, 2005, perhaps the single most important fiscal reform at the level of states since independence, was discussed and driven by a process altogether outside the purview of the Council.

There are many other issues potentially within the purview of such a body. There are the expenditure externalities imposed upon states every time the Center revises the salary scales of civil servants upwards. The modalities of service taxation lie in a constitutional limbo even though services

---

63. See appendix 1 to this paper.

account for a little over half of GDP, and drive growth. There is presently an indirect tax levied on services by the Center under a default provision in the Constitution.[64] There are other revenue issues having to do with royalty rates on minerals, a very important source of non-tax revenue for some of the poorer states, which are presently set by the Center. There are unfunded mandates, such as the National Rural Employment Guarantee started in February 2006, to provide an employment guarantee of 100 days to every rural household in every financial year, in such rural areas in each state as notified by the Center, at an absolute stipulated minimum daily wage. State governments bear one-tenth of the variable cost, such administrative costs as will be decided by the Central Government, and unemployment compensation in case of failure to provide work within fifteen days of demand for work at the location where it is demanded.

In a country with as much economic and other diversity as India, there is need for a much more systematic and standing dispute resolution forum, in which major issues of the kind just outlined can be resolved in a participatory framework, such that the economic parameters within which state governments function are predictable, within an acceptable margin of error.

Conclusions

Public expenditure on education and health in India has never commanded more than 3.3 and 1.3 percent of GDP, respectively. This paper investigates the nature of fiscal flows in the Indian federation to identify possible causes. If the necessity for public funding of primary education and primary healthcare is taken as a given,[65] poor human capital endowments in a federal setting could be the outcome of adverse incentives in the structure of funding of subnational governments, which usually carry the major expenditure responsibility for these functions.

The assignment of expenditure responsibilities and revenue rights in India gives rise to a vertical fiscal gap at subnational state level, for the closure of which there is a statutory provision enshrined in the Constitution, revisited

---

64. A Constitutional Amendment enacted in early 2004 assigns to the Center rights of collection and appropriation (including sharing percentages), outside the purview of Finance Commissions, in respect of taxes on notified services. No list has so far been so notified.

65. In the tradition of the new political economy, accepting reform rather than rejection of the public role (Inman, 1985), although a sizeable body of opinion now favors market provision with private choice.

every five years. Statutory flows from national government (the "Center" in Indian terminology) to states are predictable in quantum (subject to the known error margin of Central tax revenues), defined in both aggregate and distribution between states, and unconditional, properties necessary for multi-year expenditures of the kind needed for provision of primary education and health.

However, statutory flows never amounted in practice (except after 2005) to more than 60 percent of the total flow. Even after non-statutory flows became largely formulaic in distribution between states in 1969–70, they remained unpredictable in quantum from year to year. That, along with the 70 percent loan content implicitly altered the allocation incentives away from avenues such as health and education facilities, which call for multi-year current expenditure commitments, and carry no promise of commercial returns like public enterprises (potentially, at any rate). After 1969–70, there was a gradual reduction again in the share of the formulaic component.

The focus in this paper is on the non-formulaic bargaining margin in total flows, aggregating across all states and across statutory and non-statutory. The paper does not address variations between individual states in access to non-formulaic grants (which has been addressed in recent papers in the literature). The bargaining margin in aggregate flows is quantified here for each year of the period 1951–2007, and found to vary inversely with the PFI of states in the federation, with a two-period lag. As fractionalization increases, the formulaic share rises. Thus in the absence of a formal platform, the system has ricocheted in response to the political kaleidoscope, with the potential for constant change itself unsuited to the unchanging funding requirements of basic developmental services. If one of the presently visualized forms of the proposed goods and services tax (GST) were to be implemented, states would have negligible revenue collection powers of their own, and the vertical gap would essentially equal their share in total expenditure. In that case, the properties of fiscal flows to states will matter even more than they do today.

The difference between the fiscal imbalance consolidated across Center and states, and for the Center taken by itself, yields the net borrowing by states in aggregate. The specifications estimated for the consolidated and Central imbalances together establish that Central control over the consolidated fiscal imbalance, in itself a laudable macroeconomic feature of the Indian federation, was subordinated to opportunistic behavior over the national electoral cycle. These temporal distortions, and the spatial distortions implicit in the non-transparent allocation of borrowing entitlements across states, added further to the expenditure uncertainty faced by states.

The formal results suggest that increasing political fractionalization has had a favorable upward impact on the formulaic share of total Central flows to states, and has thus been favorable toward creating enabling conditions for states to make steady expenditure commitments of the kind needed for primary education and health. However, the pre-election distortion in borrowing entitlements for states was greater in the period after 1969, when political fractionalization was in general higher than before 1969.

Starting 2005–06, there has been a regime change with cessation of direct Central lending to states for Plan expenditure, and a more inflexible system of caps on state borrowing as part of the conditionalities for debt concessions detailed in the previous section. Thus, the kinds of uncertainties and patterns in aggregate borrowing limits on states will not be visible after 2005, at least until 2010. This is one of the good outcomes of the TFC recommendations, but is potentially reversible beyond 2010.

The build-up of state debt and interest liabilities to the Center consequent upon the high loan content of the non-statutory flow was sought to be dismantled starting 2005 with fiscal correction conditionalities prescribed by the TFC with state-specific targets (appendix 1). This complex mandate was simplified in the executive order through which it was effected and distorted in the process of simplification into uniform targets on states with widely varying initial conditions. Thus, the adjustment distances imposed varied widely among states, with a range of nearly 10 percent of state GDP. The issue is the range itself in the first instance, which robbed states of any sense of control over their fiscal parameters. There is also the fact of the wrongful interpretation of recommendations which prescribed state-specific adjustment formulae.

These developments ran on unchecked in the absence of a standing platform whereby the *de facto* functioning of fiscal arrangements might have been open for continual examination and monitoring by all partners to the federation. There is no effective standing dispute resolution forum in which major issues spanning Central transfers, revenue rights, expenditure externalities, and unfunded mandates can be resolved in a participatory framework, such that the economic parameters within which state governments function are known to them within an acceptable margin of error.

There has been a fall over the last ten years in the share of states in expenditure on health and education because of the huge new Central expenditures on primary education and mid-day meals in schools, not routed through states. Thus, the policy response has been to alter the pattern of functional

responsibility, when the need of the hour is for restoration to states of their Constitutionally assigned functions, with correction of the adverse incentives that became embedded in the *de facto* structure of subnational funding.

A P P E N D I X

Appendix 1: The Conditional Debt Concessions for States of the Twelfth Finance Commission

The summary of the debt concessions in this appendix draws on the detailed account in Rajaraman and Majumdar, 2005. In accordance with the convention whereby Finance Commission recommendations are accepted in full by the Center, with a few minor exceptions along the way, the Twelfth Finance Commission (TFC) scheme for debt concessions was accepted, and by extension, the conditionalities attached to those concessions as prescribed in the report.[1]

The scheme was in two parts, each with separate sets of conditionalities.

The first part was a concessional rate of interest of 7.5 percent on state debt owed to the Center, a 300 basis point reduction from the then average across all states of 10.5 percent. All state debt owed to the Center was to be consolidated and rescheduled for a fresh term of twenty years, with twenty equal installments due. The second part of the scheme was a write-off of debt repayments due until 2009–10, essentially the first five of the twenty newly drawn annual repayments. The write-off was however pro-rated to achieved fiscal correction, so that a state might not achieve a full write-off even of the first five installments.

The first part of the scheme required enactment of fiscal responsibility legislation (FRBM Acts) by states with five features, one of which was that the fiscal deficit be reduced to 3 percent of Gross State Domestic Product (GSDP), in an unspecified target year. The report also suggested that the Center set borrowing limits for states so as to achieve an aggregate fiscal deficit target across all states of 3 percent of Gross Domestic Product (GDP) at market prices, by 2008–09, and held there in 2009–10.

---

1. The formal document in which this is done is the Explanatory Memorandum on the Action Taken on the TFC Recommendations, dated February 26, 2005. For a detailed chronicle of departures from full acceptance, see Twelfth Finance Commission, 2003.

There was thus a basic contradiction between the idea of centrally-set borrowing limits in this manner and the ostensible freedom given to states to design their own fiscal deficit paths in their FRBM legislation.

The external cap on state borrowing was to be set by a formula allowing for variations in three parameters, for the individual state (subscript j), relative to all states taken in aggregate (subscript a). The three parameters were the ratio of revenue receipts (inclusive of taxes and grants from the Center) to GSDP (r); the interest rate on debt (i); and the nominal growth rate (g).[2]

$$f_j = f_a \left[\frac{i_a r_j g_j}{i_j r_a g_a} \right]$$

The formula enabled a higher target deficit for states with a higher nominal growth rate, for constant values of the other two parameters. The report suggested time-invariant values for all parameters, but the state nominal growth rates projected in the report were sufficiently at odds with achieved growth rates of states as to lead to serious misallocations of the required correction if used. A correction path in conformity with the formula could only be set iteratively over time with adaptive adjustments to parameter values. Even for constant values of GSDP nominal growth rates, and constant revenue buoyancies, the ratio of revenue receipts to GSDP is time-varying as long as these buoyancies are not equal to one.

The second part of the scheme was the debt write-off, which was pro-rated to achieved correction,[3] and carried in addition an absolute cap on the fiscal deficit at the level in the year 2004–05. A state fully in conformity with the externally prescribed correction formula, which was configured in terms of percentages to State Domestic Product (SDP), could easily exceed this cap, because of a higher nominal growth rate, for example. There were other issues, detailed in Rajaraman and Majumdar, 2005.

The executive order for implementation of these recommendations, with all their internal inconsistencies, essentially threw out the formula, capped the fiscal deficit at the absolute level in 2004–05, and set the absolute amounts for successive years as well so as to reach a uniform 3 percent of SDP for all states in 2008–09 (failing even to set the correct equivalent for 3 percent of GDP at 3.99 percent of aggregate GSDP at factor cost).[4]

---

2. The formula as given in the Report was incorrect. This is the corrected formula.

3. To the achieved reduction in the deficit on current account (the revenue deficit), rather than the fiscal deficit.

4. Details are in Government of India, 2005; Rajaraman and Majumdar, 2005, table 1.

Appendix 2

T A B L E   A - 1 .   Descriptive Statistics

Variable	Period	Mean	Std. Dev.	Minimum	Maximum
Bargaining Margin	1951–52				
	2007–08	0.33	0.21	0.05	0.72
Bargaining Margin ($t - (t - 1)$)	1952–53				
	2007–08	–0.01	0.08	–0.46	0.12
PFI	1951–52				
	2006–07	0.31	0.20	0.00	0.50
PFI (($t - (t - 1)$))	1952–53				
	2006–07	0.01	0.10	–0.16	0.48
POI	1951–52				
	2006–07	0.29	0.23	0.00	0.80
POI ($t - (t - 1)$)	1954–55				
	2006–07	–0.01	0.14	–0.53	0.40
Center PFD/GDP (%)	1950–51				
	1998–99	2.60	1.57	–0.42	5.86
Center PFD/GDP % ($t - (t - 1)$)	1951–52				
	1998–99	0.01	0.99	–2.58	2.36
Consolidated PFD/GDP (%)	1950–51				
	1998–99	3.43	1.51	0.48	6.80
Consolidated PFD/GDP % ($t - (t - 1)$)	1951–52				
	1998–99	0.07	0.88	–2.70	1.67
	1951–52				
GDP Growth Rate (%)	2004–05	4.57	3.08	–5.20	10.47

Source: Computed by author from sources to figures 3 and 4.

Notes: 1. The periods for which the descriptives of the first differences of the Bargaining Margin, the PFI, the POI and the PFD/GDP are reported are not the same as the periods over which the specifications of tables 1–3 are estimated, because of the two-period lag applied to the PFI. The PFI is terminated at 2006–07 because the closing value of 2007–08 could be known only after the end of that fiscal year. The first difference of the POI is calculated with a forward lag of two years, and therefore begins in 1954–55; see text. The time period for the Center PFD/GDP is terminated at 1998–99 because of the accounting change starting 1999–2000, which made the fiscal imbalance non-comparable. This change does not affect the consolidated (Center plus states) fiscal imbalance, but descriptives for this series are similarly terminated so as to provide comparable statistics.

2. The pre-election year intercept applied to thirteen years over the period 1951–52 to 2004–05. The election year dummy is for general elections, when voting takes place to the Parliament. Concurrence with state elections broke down after about 1971. The election dummies were assigned a value of one for the fiscal year immediately preceding an election, anticipated either because the government had reached the last year of the five-year term (recent examples are FY90 and FY96), or because the government expected to be voted out of power in the course of the year.

Comments and Discussion

Jessica Wallack: "The Political Economy of the Indian Fiscal Federation" is a very broad and deceptively simple title. The paper's provocative stylized facts, analysis, and discussion are more like a research agenda than a single paper.

Indira Rajaraman has three main arguments. First, India's low level of expenditure on health and education is a symptom of the inadequacies of India's fiscal arrangements, specifically the lack of political certainty about the amount of the Center–state transfer and the overall limit on borrowing imposed by the Central Government. Second, India's politicians erred and directly disobeyed the orders of the Finance Commission by imposing the same deficit target on all states, regardless of the initial deficit position or the state's growth potential. Third, India needs a better forum for hashing out Center–state relations and the fiscal framework—right now there is no effective way for states to voice their concerns. The paper contains a number of other points, but these are the ones emphasized the most.

The paper shines a spotlight on several important aspects of the functionality of fiscal federalism. Rajaraman moves the attention from the existence of a vertical fiscal gap—a nearly universal (and somewhat unsurprising) feature of federalism—to its characteristics. She states that it is not the magnitude of the gap, but how it is filled that is important. This is a pragmatic and fruitful line of research; there are many dimensions of "how" that could affect states, Center, and the intergovernmental relationship functions. Indira's paper focuses on the potentially detrimental effects of political uncertainty, and on the magnitude of transfers and the credit limits for state borrowings on public expenditure decisions.

Second, Rajaraman raises the importance of acknowledging inter-state differences in Central Government "reform prodding" efforts such as the deficit restrictions. In practice, this can be a delicate balance between acknowledging different starting points and maintaining the credibility and perceived fairness in applying "carrots and sticks" to motivate reform. Her section on the debt write-off scheme criticizes the Central Government for imposing the same deficit target on states, regardless of their initial conditions, but it is not clear whether the Finance Commission's detailed recommendations would have necessarily been administered apolitically.

Politicization of the state-specific benchmarks would create even greater uncertainty about the adjustment cost. At least the simple straightforward uniform target gave some certainty about what was expected.

Third, Rajaraman highlights the absence of a formal mechanism giving states a voice in fiscal and other dimensions of intergovernmental relations. This issue has been raised in other articles—notably by T. N. Srinivasan in a *Economic & Political Weekly* (EPW) article (2007) and in this session—but Rajaraman's paper highlights the additional possibility that a participatory forum would enable states more effectively to protest the divergence between the *de jure*/recommended regime and the actual fiscal regime.

Finally, the paper is state-sympathetic in a literature that often portrays states as the recalcitrant anti-reformers, or the free-riders on the national common fiscal pool.[1]

That said, each of Rajaraman's arguments deserves a much closer theoretical and empirical examination than is given in the paper. The paper shows results to support three stylized facts. Each of the points is based on impressive datasets. But these are neither all of the facts that would be required to support her arguments, nor are they uncontroversial as facts. This is why the paper is an agenda rather than a single statement: no one paper could do justice to all of the arguments.

The first result is that the change in the portion of the transfers that are non-formulaic and assumed to be open for political horse trading—the "bargaining margin"—is negatively correlated with the change in the level of political fractionalization and the percent of states ruled by parties in the opposition among states two years before. The relationship between the "bargaining margin" and the political fractionalization index (PFI) clearly varies between two regimes (low and high fractionalization) in figure 4 and the negative relationship in the latter is less obvious than in the first. Rajaraman acknowledges this difference in the empirical analysis, and her choice of dividing point between the two regimes makes sense. The negative relationship is still present in the second regime starting with 1969–70 for the non-formulaic transfers and 1967–68 for PFI, although there is clearly a strong influence from the first observation.

Given the short time period and necessarily limited evidence that the author has to work with, it would also be helpful to understand the motivation for regressing the bargaining margin on the PFI. This might also clarify the rationale for using first differences rather than levels. The first differences imply that governments adjust the bargaining margin in response

1. *The Regional Roots of Developmental Politics in India: A Divided Leviathan* (Bloomington, Indiana: Indiana University Press) by Sinha, A. (2005a)—is an exception.

to changes in the political scenario; levels would imply that governments set the bargaining margin based on the situation observed. The logic of the governments' reaction and its choice are both interesting questions.

The PFI results suggest that the Center reduces its room to maneuver when states become more fractionalized, while the index measuring political opposition (POI) results suggest that the Center reduces its room to maneuver as opposition parties rule more states. The results are somewhat contradictory about what happens when states move from being evenly split between aligned and opposition parties to being majority in opposition: PFI would show this as less fractionalization/more bargaining margin, while the POI would show that this is more opposition/reduced bargaining margin. The results are also surprising. One would think that the Center would want to increase its bargaining margin as states move toward maximum fractionalization: the room to negotiate could help it gain needed marginal support from the half of the states in opposition.

Second, the first difference of the consolidated fiscal deficit (Center plus states) does show a statistically significant increase in pre-election years while the first difference of the Central Government deficit alone does not. The difference between the two dependent variables is the aggregate state borrowing, which would equal the overall cap if states borrowed up to the limit. The paper interprets the difference in significance between these two regressions as an indication that the Center's cap on state borrowing increases in election years.

While it may make sense to assume that states are borrowing up to the cap, the leap from a difference in coefficients' significance to conclude something about the difference between the two dependent variables does not. The statistical significance shows that elections explain part of the variance in the consolidated fiscal deficit, but that variance is made up of the variance of the Central Government deficit, the variance of the state borrowing, and the covariance between these two. The statistical significance does not necessarily mean that elections explain part of the variance in state borrowing. A more direct test would have been simply to use the difference between Center + state and Center alone as dependent variable. It is not clear why the dependent variable needs to be first differenced as it is in the regressions. The argument is that the cap is higher in election years, not that expansion is greater in election years.

Third, the uniform deficit target imposed as part of the debt dismantling initiative imposed widely varying adjustment distances and presumably adjustment costs on states. The variation in this cost did not seem to be related in any way with states' capacity to reduce their deficit, as measured

by the state growth rates. Figure 5 shows a striking scatter plot showing the very different magnitudes of the adjustment challenge.

The remainder of my comments discuss ways to delve deeper into how the analysis could be deepened. The research agenda needs to present more detailed positive analysis in order to support its normative statements.

Establishing the transfer regime as at least part of the cause of low state expenditures on education and health is a two-part argument. First, the author needs to establish that states are in fact uncertain about the revenues that they will receive. The existence of political bargaining does not mean that the results are uncertain, nor does the presence of a formula mean that the revenues are certain. The winners and losers of the bargain may be very obvious to all concerned—if political effects can be picked up in a regression as in Khemani (2003), they can likely be anticipated by savvy politicians. The electoral swings in the credit cap could also probably be predicted if the regression can pick them up. Is this really unpredictable from a state perspective just because it is opaque to an outsider?

Similarly, the formulaic transfers in India are sometimes expressed as a percentage of tax revenues that have yet to be collected. The paper dismisses this uncertainty as a "statistical margin of error" that is "very different" than the bargaining over the aggregate Plan assistance, but it would be helpful to know how different (see fn 27). Even if one ignores the economic uncertainty, the formula allows for continued political uncertainty if the Central Government's taxation decisions can affect the yield from the ones assigned to subnational governments. The state complaints cited in various Finance Commission reports suggest that the Central Government did exactly that until 2000, when the Tenth Finance Commission recommendation to base transfers on the overall central pool was accepted. In any case, the formula in the formulaic transfers is up for revision every five years.

States' uncertainty about revenues also presumably involves some uncertainty about own revenues as well. To what extent are subnational tax bases predictable? And are subnational revenues and transfers likely to be positively or negatively correlated? This matters for the overall variance that states have to cope with.

Uncertainty also has to be separated from volatility, or anticipated fluctuations over time. States' response to ups and downs that they can predict is likely to depend on their ability to and interest in smoothing revenues more than anything else.

Lastly, the author needs to show the uncertainty that any individual state faces. The paper explicitly says that it is not trying to analyze inter-state differences, but in the end, its claims are about the behavior of individual

states' decision makers. The predictability of the aggregate numbers says very little about the predictability of the states' budgets.

Second, the author needs to develop and test hypotheses about state policy makers' response to uncertainty. What is a reasonable way to characterize states' risk aversion? How do politicians, or better yet, groups of politicians, react to the uncertainty? Are there inter-temporal games between alternating parties, for example, that encourage the current regime to seize good times while they can and leave the next group to deal with the aftermath? Or are there games between the Center and state governments, in which state governments squeeze the Center to make up for unexpected downturns by airing the debate in front of the same voters that participate in national elections? How can a national government be completely immune to the charge that its transfer decisions forced a state government to cut a popular education or health program?

In particular, the author needs to establish that states' uncertainty about revenues affects its willingness to make multi-year expenditure commitments in education and health.[2] Uncertainty could also have more effects than just fear of multi-year commitments. It could plausibly affect many other dimensions of state public expenditures: its timeliness in paying contractors, or its attention to maintenance and less politically visible expenditures, among other patterns.

The paper's argument is hard to reconcile with the facts that states often do not spend all of the resources available to them, and they do seem to make multi-year expenditure commitments elsewhere—in civil servants' wages, for example. States' inability to spend money allocated for central sector schemes could be related to uncertainty if they are not using the resources because they cannot guarantee co-payments throughout the project or if they cannot find contractors because the government copes with revenue fluctuations by paying the contractors late. But this is a different mechanism than the one proposed here.

Hypotheses about states' response to uncertainty could be tested using cross-state variation. Smaller-population states, for example, might face greater political uncertainty if their weight in national politics depends on one of their small number of representatives being: *a*) part of a party in coalition and *b*) a leader in that party so that he or she actually has some influence. States whose economic cycles were negatively correlated with

---

2. It is also an untested assumption that multi-year expenditure commitments would be sufficient to deliver better health and education outcomes. But the object here seems to be to explain India's relatively low levels of education and health expenditure, which are obviously correlated with the poor outcomes.

national economic cycles might be less concerned about fluctuations in the formulaic shares of taxes. Similarly, states' expenditure varies.

Rajaraman's argument that the common fiscal deficit target is harmful to states also needs some empirical support. The paper seems to take issue with the procedure as much as the outcome, but she does not explain why the outcome is so harmful. What kinds of expenditures are being cut by states struggling to meet their targets? And is there any way to mitigate the harm from interrupting longer term investments while still ensuring that fiscal profligacy is not rewarded. Should states that have high deficits have less stringent targets? Wouldn't this send the wrong signals about bailouts? It would be helpful to know what kind of provisions the Finance Commission's plan offered.

More than anything else, it would be interesting to understand why the Finance Commission's recommendations were ignored when so many other proposals are accepted. What is the political economy of listening to the Finance Commission? What are the limits to its influence and the implicit or explicit boundaries that constrain its statements? This is important to understand as a part of Rajaraman's overarching argument about the need to revisit institutions for state–Center coordination.

Finally, the third paper on the agenda would almost have to be a theory or comparative politics paper to make a proactive case for a superior institution. What would be the dynamics of a participatory forum? When would they increase or decrease certainty about shares in the national pie or changes in national policy, from the perspective of individual states? Which kinds of states would see an increase or decrease in certainty? What should voting rights look like, and what should be the balance between rights of citizens to equal representation and rights of states to equal representation? Other federations around the world have struggled with these questions.

That is three significant papers so far. I have no doubt that more could be written on the basis of the agenda Rajaraman proposes—the paper raises important questions about how the Indian federation functions.

Mihir A. Desai: The structure of fiscal federalism within developing countries can help dictate patterns of social spending and can interact with a variety of political economy considerations. In India, a vertical gap—the difference between revenues and expenditures at the state and federal level—of more than 20 percent of taxes has led to a labyrinthine set of arrangements by which revenues are distributed to states for expenditure at the state level. These solutions to the vertical gap have the potential to alter the nature of

critical spending areas by states—such as health and education—and to be swayed by the nature of political currents.

Indira Rajaraman provides a detailed overview of fiscal federalism issues in India. Given the relative paucity of work in this area and the importance of the underlying questions, this is a welcome contribution. Her discussion of the federalism structure in India emphasizes the formulaic and non-formulaic nature of the correctives for the vertical gap. In particular, formulaic correctives to the vertical gap are implicitly considered favorable as they are assumed to lead to more steady allocations of expenditures at the state level. In addition to her overview of the arrangements, she makes a number of related claims. Most importantly, she claims that "increased political fractionalization in India over time has had a favorable upward impact on the formulaic share of total Central flows to states, and has therefore been favorable towards greater willingness by states to make steady expenditure commitments to provision of primary education and health." These are significant and surprising claims.

The first claim—that political fractionalization has increased formulaic allocations—is surprising as a simple political economy logic would suggest that fractionalization might lead to more discretion in the system. As fractionalization increases, politicians might search for more instruments by which to build coalitions, particularly those they can alter at their will. As such, increased discretion would accompany political fractionalization. It is hard to assess her claim that the opposite is the case without knowing the political economy mechanism by which this would operate. Similarly, the evidence to support this claim is complicated, as the author acknowledges, by the presence of a highly influential observation. It would be particularly helpful to know more about the period during which the simultaneous reduction in the bargaining margin and increase in political fractionalization occurred. Were there other factors that might have led to these simultaneous developments? At a minimum, it is difficult to conclude that a strong causal link exists given these considerations.

The second claim—that more formulaic allocations spurred by increased political fractionalization has been beneficial for health and education spending—is, unfortunately, untested. Health and education spending is presumed to be aided by steady allocations from the Center to the states. This claim is complicated by the considerable variation in what might be termed formulaic or non-formulaic allocations. It would be useful to know if formulaic allocations were truly more stable as they are assumed to be in this analysis. As Rajaraman's discussion demonstrates, words like "statutory

and "plan" in the Indian fiscal federation often do not in fact imply the stability that they usually do. Similarly, it is not clear that increased formulaic allocations necessarily lead to more health and education spending. Indeed, the figures demonstrate considerable variation in the bargaining margin with limited variation in the level of expenditure on health and education. As such, it is hard to know how to assess this claim.

These underpinning assumptions are problematic as reality might actually be quite different. Could it be that non-formulaic allocations foster competition between states to demonstrate more effective spending on health and education? In this case, more discretion at the Center can lead to more effective spending and perhaps even more spending on health and education. In other words, would it really be ideal for states to face no uncertainty over their allocations? It would be useful to test this underlying assumption that stable allocations lead to more or better health and education spending. Similarly, increasing political fractionalization could indeed lead to more health and education spending but by the completely distinct mechanism of politicians seeking to sway votes in a more fractured political setting.

The structure of fiscal federalism is a critically important aspect of the Indian political economy picture and of the delivery of social services. Rajaraman's paper provides a comprehensive overview of the complex arrangements at work and takes some provocative, initial steps in what promises to be an important line of inquiry.

General Discussion

Anjini Kochar queried whether Plan expenditures under Centrally-sponsored schemes should really be considered unpredictable. The eligibility guidelines were clearly laid out, and such variability as existed in access *ex post* arose from the provision of counterpart funds by the individual states and their ability to implement the relevant scheme as per the prescribed guidelines, factors that were clearly within their control.

T.N. Srinivasan noted that it was difficult from theory to predict the expenditure response by states to increased uncertainty in the availability of federal transfers. Uncertainty pertained both as to the expected level of the transfer and as to the variance around that expected level. It could not be automatically assumed that the response by an individual state (or states as a whole) would necessarily be a reduction in current expenditure on health and education, as the paper suggested.

He agreed though with the paper that there was an urgent need to review the institutional (and Constitutional) framework for fiscal federalism. The India of 2007 was not the India of 1950. At that time the Planning Commission was an extra-Constitutional body created by a resolution of the Central Cabinet, to devise national plans for development and to recommend transfers to states in support of their plans. Over time, these discretionary transfers and those for Centrally-sponsored schemes together came to dominate the transfers recommended by the Constitutionally mandated Finance Commission. The rationale for planning no longer exists. In his own writings, he had proposed the creation of a two institutions: a Fund for Public Investments to replace the Planning Commission and a Fiscal Review Council, a body in which the states would be represented along with the Center. The Fund would focus exclusively on the financing, monitoring, and evaluation of public investment. The Council would provide a forum where the communication between the states and the Center could be two-way, rather than unidirectional, from the Center to the states, as was currently the case. Crucially, it would provide a collective forum for the sates to monitor the policies and actions of the Center, a forum that was currently absent. In any case what was needed was fundamental reform of the country's fiscal Constitution, not tinkering at the margin. In this regard, Rakesh Mohan, the session's chair, noted that the capital expenditure component of Plan spending was now as low as 10–15 percent. If the Planning Commission were to be restructured to focus on public investment (along the lines proposed by Professor Srinivasan) its financial scope would be considerably smaller than at present.

Nirvikar Singh noted that the regression results were heavily influenced by the treatment of certain influential observations. He made two other points. First that Plan transfers were actually more variable than statutory transfers from the Finance Ministry. To him, this suggested that Plan transfers were more subject to political influences. But second, he felt that the right way to address the impact of various fiscal regimes on state-level social expenditure was to exploit cross-state variation, on which there was a substantial existing literature.

Jessica Wallack noted that Professor Rajaraman's presentation had normalized transfers to the states as percentages of gross revenue receipts of the Center. The formulaic transfers were, however, more appropriately related to the underlying tax base for shared revenues. While it was not easy to measure this base, the base itself was subject to various shocks which generated fluctuations, even with a known and stable sharing ratio. Predictability of the formula was no guarantee of stability of revenues, and formulaic

transfers were not necessarily more predictable in terms of quantum than the apparently more discretionary Plan transfers.

Still on the issue of the predictability and stability of transfers, Govinda Rao noted that the paper had correctly noted that Plan transfers themselves were of two kinds: formula-based Central assistance for state Plans (allocated as per the "Gadgil formula") and truly discretionary transfers, including transfers under so-called Centrally-sponsored schemes.

The "predictability" of formulaic transfers via the Finance Commission award was necessarily dependent on the underlying tax base, as Jessica Wallack had noted. In 2000–01, for example Central tax collections had undershot projections by 20 percent causing severe difficulties for the states. The difference in predictability between formulaic transfers and specific purpose transfers under Centrally-sponsored schemes was therefore more one of degree than of kind. Rao also noted that in recent years, funds for certain important central schemes (education, rural health) had begun to go directly to local governments. This could have affected the recent state level expenditure data, and may have impacted on state budgetary planning overall by reducing one predictable element of Central transfers. Finally, Govinda Rao thought Indira Rajaraman was unfair in her criticism of the Union Finance Ministry in its imposition of a uniform 3 percent fiscal deficit target, as the Finance Commission itself had not been clear on the matter.

Returning to the institutional issues, Devesh Kapur remarked that the National Development Council (NDC), which approved the Central Five-Year Plans, did exist as a Constitutional mechanism for Center–state dialogue on fiscal federalism. In addition, the recently demonstrated ability of the nation to negotiate a value-added tax across the states (through the mechanism of an Empowered Committee of State Finance Ministers, with the Union Finance Ministry providing the secretariat), suggested that the asymmetry of power, or the lack of dialogue, between the states and the Center was not as acute as the paper suggested.

In addition, the states have voice in the Parliament, particularly in the Rajya Sabha (the Upper House: literally the Assembly of the States), which could be used to influence the country's fiscal Constitution. Finally, he cautioned on the applicability of Western models of political behavior to the Indian environment. If there was one constant in the Indian political landscape, it was the high anti-incumbency disadvantage. There was little evidence that populist public expenditure actually helped the incumbents. So even if the empirical analysis revealed such behavior, at best it represented the triumph of hope over experience.

Dilip Mookherjee remarked that there had been a major structural break in the bargaining margin in the 1967–69 period linked to the introduction of the Gadgil formula. He asked whether indeed health and education expenditure had risen subsequently. Suman Bery noted that, in contrast to federations in South America, notably Brazil and Argentina, India had been remarkably free of debt crises emanating from the states. This suggested to him that the Indian controls over sub-national borrowing, even if discretionary and opaque, had by and large worked. But he also asked if this greater Central control was in any way derived from underlying Constitutional differences, since in the South American countries the sub-national entities had preceded the Center, while in India to some degree the process had been reversed.

Responding to these observations, Indira Rajaraman first noted that spending on health and education had indeed jumped after 1969–70, consistent with the reduced "bargaining margin" in the subsequent period. She emphatically disagreed that her hypotheses were best tested by looking at cross-state variation. Her purpose was to look at the behavior of the fiscal federation as a whole. She also defended leaving in the so-called influential observation in the PFI.

On the uniform fiscal deficit target of 3 percent of GDP for all states, the issue for her was not the ambiguities in the report of the Finance Commission, but rather that the Union Ministry had misinterpreted the aggregate fiscal correction across all states, as recommended in the report and as accepted in Parliament. She did not know why this was not pursued politically by the states through the Parliament, but she was clear that the NDC was not a serious forum for debate. On Central control over state borrowing, given the fragile nature of Indian financial markets, she felt that aggregate limits on state borrowing were sensible.

Finally, given the paper's underlying concern for orderly social spending, she stressed that in her view there was indeed a crucial difference between the volatility of formulaic transfers and the unpredictability of discretionary Plan transfers. The rules of the game of the former were known in advance and facilitated forward planning, in the way that the latter did not. The "predictability distance" between statutory and non-statutory transfers was something that she wished to stress.

In his concluding remarks, Rakesh Mohan made three points. First, that there was much to be learned from other federations on cost-sharing in federal programs, and this needed to be examined further. Second, that the shift of the states to market borrowing had not yet begun to bite because they had continued to have access, at relatively high cost, to resources from

the small savings program. If there was reasonable alignment between the relative cost of market borrowings and small savings, the better-managed states would in time gravitate toward the former in order to obtain greater control over their financing. Finally he noted that the RBI had taken the initiative a decade ago to convene semi-annual meetings of the State Finance Secretaries (the senior-most finance civil servants). These meetings had clearly filled a void to address myriad of issues at a level below the basic policy level. So he agreed that there was a need for a higher-level forum to address the kinds of issues raised by Indira Rajaraman in her paper.

References

Alesina, Alberto, Nouriel Roubini, and Gerald D. Cohen. 1997. *Political Cycles and the Macroeconomy.* Cambridge: The MIT Press.

Arora, Balveer. 1995. "Adapting Federalism to India: Multilevel and Asymmetrical Innovations." In *Multiple Identities in a Single State: Indian Federalism in Comparative Perspective*, edited by Balveer Arora and Douglas V. Verney, pp. 71–104. Delhi: Konark.

Arulampalam, Wiji, Sugato Dasgupta, Amrita Dhillon, and Bhaskar Dutta. 2007. "Electoral Goals and Center–State Transfers: A Theoretical Model and Empirical Evidence from India," *mimeo*, Department of Economics, University of Warwick.

Baron, David, and John A. Ferejohn. 1989. "Bargaining in Legislatures." *American Political Science Review* 83 (4): 1181–1206.

Barro, Robert J. 1979. "On the Determination of the Public Debt." *Journal of Political Economy* 87 (5): 940–71.

Besley, Timothy, and Anne Case. 1995. "Incumbent Behaviour: Vote Seeking, Tax-setting and Yardstick Competition." *American Economic Review* 85 (1): 25–45.

Biswas, Rongili, Sugata Marjit, and Velayoudom Marimoutou. 2007. "Fiscal Federalism, State Lobbying and Discretionary Finance in India," *mimeo,* Centre de Sciences Humaines, New Delhi.

Breton, Albert. 1987. "Towards a Theory of Competitive Federalism." *European Journal of Political Economy* special issue, 3 (1 & 2).

———. 1996. *Competitive Governments: An Economic Theory of Politics and Public Finance.* New York: Cambridge University Press.

———. 2006. "Modeling Vertical Competition." In *Handbook of Fiscal Federalism,* edited by Ehtisham Ahmad and Giorgio Brosio, pp. 86–105. Cheltenham (UK): Elgar.

Butler, David, Ashok Lahiri, and Prannoy Roy. 1995. *India Decides: Elections 1952–1995.* Third edition. New Delhi: Books and Things.

Cashin, Paul, Nilss Olekalns, and Ratna Sahay. 2001. "Tax Smoothing, Financial Repression and Fiscal Deficits in India." In *India at the Crossroads: Sustaining Growth and Reducing Poverty*, edited by Tim Callen, Patricia Reynolds and Christopher Towe, pp. 53–74. Washington, D.C.: International Monetary Fund.

Davis, S. Rufus. 1978. *The Federal Principle*. Berkeley: University of California Press.

Government of India. *Reports of Finance Commissions: First to Twelfth.* New Delhi.

———. 1975–2006. *Indian Public Finance Statistics*. Assorted issues. New Delhi: Ministry of Finance.

———. Various Issues. *Central Government Finance Accounts 2003–04 and 2004–05*. New Delhi: Ministry of Finance.

———. 2005. *The States' Debt Consolidation and Relief Facility 2005–06 to 2009–10.* New Delhi: Ministry of Finance.

Government of India. 2007. *Economic Survey 2007*. New Delhi. Ministry of Finance.

———. *Budget Papers*. Assorted years. New Delhi. Ministry of Finance.

———. *Budget Documents*. Assorted years. New Delhi. Ministry of Finance.

Inman, Robert P. 1985. "Markets, Governments, and the 'New' Political Economy". In *Handbook of Public Economics*, edited by Alan J. Auerback and Martin Feldstein, pp. 647–777. Amsterdam: North Holland.

Inman, Robert P., and Daniel L. Rubinfeld. 1997. "The Political Economy of Federalism." In *Perspectives on Public Choice: A Handbook*, edited by Dennis C. Mueller, pp. 86–105. Cambridge: Cambridge University Press.

Kapur, Devesh. 2005. "Explaining Democratic Durability and Economic Performance: The Role of India's Institutions." In *Public Institutions in India: Performance and Design*, edited by Devesh Kapur and Pratap Bhanu Mehta, pp. 28–76. New Delhi: Oxford University Press.

Khemani, S. 2003. "Partisan Politics and Intergovernmental Transfers in India". Working Paper No. 3016, Development Research Group, The World Bank.

Khemani, Stuti. 2004. "Political Cycles in a Developing Economy: Effect of Elections in the Indian States." *Journal of Development Economics* 73 (1): 125–54.

———. 2007. "Does Delegation of Fiscal Policy to an Independent Agency Make a Difference? Evidence from Intergovernmental Transfers in India." *Journal of Development Economics* 82 (2): 464–84.

Kletzer, Kenneth, and Nirvikar Singh. 2000. "Indian Fiscal Federalism: Political Economy and Issues for Reform." In *Institutions, Incentives and Economic Reforms in India*, edited by Anthony Lanyi, pp. 38–76. New Delhi: Sage.

Kohli, Atul. 2006. "Politics of Economic Growth." *Economic and Political Weekly* 41 (13 & 14): 1251–59 and 1361–70.

Mankiw, G. 1995. "The Growth of Nations." *Brookings Papers on Economic Activity* 1: 275–310.

Musgrave, Richard A. 1983. "Who Should Tax, Where and What?" In *Tax Assignment in Federal Countries*, edited by Charles E. McLure Jr., pp. 2–19. Canberra: Australian National University.

Oates, Wallace. 1991. *Studies in Fiscal Federalism*. Brookfield: Elgar Publishing.

———. 1999. "An Essay on Fiscal Federalism." *Journal of Economic Literature* 37 (3): 1120–49.

Penguin Books India. 2005. *The Penguin Guide to the States and Union Territories of India*. New Delhi: Penguin Books India.

Rajan, Raghuram. 2006. "The Persistence of Underdevelopment: Constituencies and Competitive Rent Preservation," *mimeo,* Chicago Graduate School of Business.

Rajaraman, Indira. 2003. *A Fiscal Domain for Panchayats.* New Delhi: Oxford University Press.

———. 2004. "Fiscal Restructuring in the Context of Trade Reform." Working Paper No. 7. New Delhi: National Institute of Public Finance and Policy. Summary version in *Economic and Political Weekly* 39 (26): 2787–94.

Rajaraman, Indira. 2006. "Fiscal Developments and Outlook in India." In *A Sustainable Fiscal Policy for India: An International Perspective*, edited by Peter Heller and M.G. Rao, pp. 8–43. New Delhi: Oxford University Press.

Rajaraman, Indira, and Debdatta Majumdar. 2005. "Equity and Consistency Properties of the Twelfth Finance Commission Recommendations." *Economic and Political Weekly* 40 (31): 3413–20.

Rajaraman, Indira, C. Bhujanga Rao, O. P. Bohra, Manish Gupta and P. R. Jena. 2007. *Rural Decentralization and Participatory Planning for Poverty Reduction*. Overall Report and Four State Reports. New Delhi: National Institute of Public Finance and Policy.

Rangamannar, T. S. 2002. "Long Term Fiscal Trends in India 1950–57 to 2000–01: A Conspectus," *mimeo,* New Delhi: National Institute of Public Finance and Policy.

Rao, M. Govinda. 1995. "Indian Fiscal Federalism from a Comparative Perspective." In *Multiple Identities in a Single State: Indian Federalism in Comparative Perspective*, edited by Balveer Arora and Douglas V. Verney, pp. 272–316. Delhi: Konark.

Rao, M. Govinda, and Nirvikar Singh. 2005. *The Political Economy of Federalism in India*. Delhi: Oxford University Press.

Rao, M. Govinda, and Kavita Rao. 2006. "Trends and Issues in Tax Policy and Reform in India." In *India Policy Forum: 2005–06*, edited by Suman Bery, Barry Bosworth, and Arvind Panagariya, pp. 55–122. New Delhi: Sage.

Reserve Bank of India. 2004. *Handbook of State Finances*. Mumbai: Reserve Bank of India.

———. 2006. *Handbook of Statistics 2005–06.* Mumbai: Reserve Bank of India.

———. 2007. *Handbook of State Finances*. Mumbai: Reserve Bank of India.

Rudolph, Lloyd I., and Susanne Hoeber Rudolph. 1987. *In Pursuit of Lakshmi: The Political Economy of the Indian State*. Chicago: University of Chicago Press.

Saez, Lawrence. 2002. *Federalism with a Centre: the Impact of Political and Economic Reform on India's Federal System*. Delhi: Sage.

Salmon, Pierre. 2006. "Horizontal Competition Among Governments." In *Handbook of Fiscal Federalism*, edited by Ehtisham Ahmad and Giorgio Brosio, pp. 61–85. Cheltenham (UK): Elgar.

Sen, Kunal, and Rajendra R.Vaidya. 1996. "Political Budget Cycles in India." *Economic and Political Weekly* 31 (30): 2023–27.

Shah, Anwar. 2007. "Emerging Issues in Fiscal Federalism: An Overview of Principles and Practice." Paper prepared for Fourth International Conference on Federalism. November.

Singh, Nirvikar, and T. N. Srinivasan. 2006. "Indian Federalism, Economic Reform and Globalisation." In *Federalism and Economic Reform: International Perspective,* edited by Jessica Wallack and T. N. Srinivasan, pp. 301–63. Cambridge,

U.K.: Cambridge University Press.

Sinha, Aseema. 2005. "Political Foundations of Market-Enhancing Federalism: Theoretical Lessons from India and China." *Comparative Politics* 37 (3): 337–56.

Sinha, Aseema. 2005a. *The Regional Roots of Developmental Politics in India: A Divided Leviathan*. Bloomington, Indiana: Indiana University Press.

Subramanian, Arvind. 2007. "Rupee Appreciation: Lessons from China." *Business Standard*, 22 May.

Srinivasan, T. N. 2007. "Poverty Lines in India: Reflections after the Patna Conference." *Economic & Political Weekly*, October 13.

Ter-Minassian, Teresa ed. 1997. *Fiscal Federalism in Theory and Practice*. Washington, D.C.: International Monetary Fund.

Tiebout, Charles M. 1956. "A Pure Theory of Local Government Expenditures." *Journal of Political Economy* 64 (5): 416–24.

Twelfth Finance Commission. 2003. *Fifty Years of Fiscal Federalism: Finance Com-missions of India*. Twelfth Finance Commission.

United Nations Development Programme. 2006. *Human Development Report 2006*. New York: UNDP.

Verney, Douglas. 1995. "Are All Federations Federal? The United States, Canada and India." In *Multiple Identities in a Single State: Indian Federalism in Comparative Perspective*, edited by Balveer Arora and Douglas V. Verney, pp. 19–51. Delhi: Konark.

Vithal, B. P. R., and M. L. Sastry. 2002. *The Gadgil Formula for Allocation of Central Assistance for State Plans*. New Delhi: Manohar.

Wallack, Jessica, and T. N. Srinivasan. 2006. *Federalism and Economic Reform: International Perspectives*. Cambridge, U.K.: Cambridge University Press.

Watts, Ronald L. 1999. *Comparing Federal System*. London: McGill Queen's University Press. Second Edition.

———. 2001. "Introduction: Federalism in an Era of Globalisation." *International Social Science Journal* 53 (167): 9–12.

Weingast, Barry. 1995. "The Economic Role of Political Institutions: Market Preserving Federalism and Economic Development." *Journal of Law, Economics and Organisation* 11 (1): 1–18.

Wheare, Kenneth C. 1953. *Federal Government.* Oxford: Oxford University Press.

Wildavsky, Aaron. 1990. "A Double Security: Federalism as Competition." *Cato Journal* 10 (1): 39–58.