Fiscal Restructuring in the Context of Trade Reform

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Abstract

Fiscal restructuring for India today must explicitly factor in the impact of trade tariff reform, which has resulted in an uncompensated drop in tax/GDP, of two percentage points (by actuals available upto 2001-02) relative to the pre-reform peak of 16 percent of GDP. The Twelfth Finance Commission is explicitly charged in its terms of reference with raising tax/GDP from present levels. The theoretical literature suggests that revenue compensation for lost trade revenues be sourced from domestic indirect taxes, and recommends a price-neutral destination-based VAT as the optimal instrument. In a federal setting, this will reduce relative tax collections at national level, where trade tariffs are levied, in favour of the subnational level, with which rights to levy domestic indirect taxes are typically shared. Possible resistance to such a restructuring, and the level from which it could originate will be a function of the history of collection shares in the federation; of the relative shares of discretionary and formulaic transfers from national to subnational level; and of the relative importance of redistributive criteria in formulaic transfers. The paper explores these issues for the Indian fiscal federation, and concludes that resistance to reduction in the revenue collection share of the centre is most likely to originate at subnational level. Coupled with the absence of any international

empirical evidence on revenue enhancement from introducing a VAT, especially in low-income countries, fiscal restructuring in India has to seek ways by which to enhance revenue collections at the level of the centre rather than at the level of states.

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Indira Rajaraman*

Introduction

Any fiscal restructuring contemplated for India today must explicitly factor in the revenue loss on account of reform of external trade tariffs, and the prospect of further losses on that account. The Twelfth Finance Commission is required in its terms of reference to raise tax/GDP from present levels. Fiscal compensation for lost trade tariff revenues acquires an added dimension in the context of a federal fiscal structure, such as that in India. Taxes on international trade are always levied only by national governments. National governments also typically, though not always, have exclusive rights of levy of direct taxes on income. Domestic indirect taxes on the other hand, are shared between national and subnational governments.

The paper addresses the issue of where fiscal compensation for lost revenue from trade tariff reform can be sourced, and on whether the level of government at which such additionality accrues matters.

Depending on whether fiscal compensation is achieved, and how it is sourced, there will be alterations in revenue collection shares by level of government during a process of trade tariff reform. Pressures to preserve the national share of gross collections could originate at either national or subnational level. If transfers from national to subnational governments are wholly discretionary, any reduction in the collection share of national government will clearly be more strenuously resisted at national level than if the transfers are wholly formulaic. However, to the extent the formulae used are driven by redistribution considerations,

resistance to enhancing subnational shares may actually emanate at subnational rather than national level.

This is an aspect of the political economy of trade reform not addressed at all in the literature. In an excellent review of the political economy of trade policy, Rodrik (1995), speaks of the puzzle of persistence of anti-trade bias in the presence of alternative sources of tax revenues. That puzzle may possibly be explained by the kind of federal compulsions examined here, for developing countries in the relevant set. To the extent there are constraints on enhancing revenues from sources that preserve pre-reform collection shares, there could as a consequence be resistance to the trade liberalisation process that is fiscal rather than protectionist in origin.

Table 1 sets out tax/GDP ratios at national and subnational levels of government in India since the all-time peak of 15.98 percent achieved in 1989-90. Overall, there was a fall in the tax/GDP ratio from 15.98 percent in 1989-90 to 13.97 percent in 2001-02, by 2 percentage points (the figures for 2001-02 for sates are pre-actual revised estimates). This is almost exactly equivalent to the loss in customs revenue, which therefore remains uncompensated. The table also shows the revenue loss and compensation figures for all years after 1989-90, relative to the base year.

There has also been a simultaneous sharp fall in central excise, which is a related decline, because a process of trade tariff reductions cannot really be introduced without reductions in excise levy rates on domestic production (notwithstanding the countervailing excise duty that is levied on imports after levy of the basic import tariff). The excise fall of one and a half percentage points of GDP has been compensated by a one percent point rise in central direct taxes, and a half percent point gain at state level (the final actuals may alter this).

Table 1 : Tax/GDP Ratios at Central and State levels: Changes over 1989-2002

Years	All India	States (own)	Central (gross)						
			Total	Direct	Indirect				
					Total	Cust oms	Exci se	Ser vice	Other s
Percent to GDP									
1989-90	**15.98**	**5.36**	**10.62**	**2.06**	**8.56**	**3.71**	**4.61**	**0.00**	**0.24**
Change over 1989-90									
1990-91	-0.55	-0.06	-0.50	-0.12	-0.37	-0.08	-0.30	0.00	0.01
1991-92	-0.18	0.13	-0.31	0.29	-0.60	-0.30	-0.30	0.00	0.01
1992-93	-0.72	-0.08	-0.65	0.36	-1.01	-0.53	-0.49	0.00	0.01
1993-94	-1.79	0.02	-1.80	0.30	-2.11	-1.13	-0.92	0.00	-0.06
1994-95	-1.38	0.13	-1.51	0.60	-2.11	-1.06	-0.92	0.04	-0.16
1995-96	-1.23	0.03	-1.26	0.77	-2.02	-0.70	-1.23	0.07	-0.17
1996-97	-1.36	-0.15	-1.21	0.78	-1.99	-0.58	-1.32	0.08	-0.17
1997-98	-1.49	-0.01	-1.48	1.11	-2.59	-1.07	-1.46	0.10	-0.17
1998-99	-2.60	-0.23	-2.36	0.62	-2.98	-1.37	-1.55	0.11	-0.17
1999-00	-1.80	-0.05	-1.75	0.93	-2.69	-1.21	-1.41	0.11	-0.18
2000-01	-1.47	0.19	-1.66	1.19	-2.84	-1.45	-1.35	0.12	-0.16
2001-02	-2.01	0.46	-2.47	0.95	-3.43	-1.96	-1.45	0.14	-0.17
Percent to GDP									
2001-02	**13.97**	**5.82**	**8.15**	**3.01**	**5.13**	**1.75**	**3.16**	**0.14**	**0.07**

Source: Public Finance Statistics 2002-03, supplemented by Central Finance Accounts for 2001-02. Figures for 2001-02 for states are pre-actuals (RE). The RE figures for 2002-03 for the centre show gross tax/GDP at 9 percent, but this is subject to further revision of both the numerator and denominator.

Customs revenue was a prominent contributor to central revenues prior to trade tariff reform, accounting in 1989-90 for 35 percent of total tax revenues at the centre. Since trade tariff reduction is itself based on the theoretical literature on the welfare gains of freeing trade, the appropriate point from which to start the search for fiscal compensation would be the theoretical literature on the joint welfare outcomes of trade tariff reduction with fiscal compensation.

Accordingly, section II examines the theoretical literature, where there are some robust recent results on the welfare advantages of fiscal compensation from levy of a domestic destination-based VAT. The section also presents shares of national and subnational governments by type of levy in six countries with a federal fiscal structure. It is clear that replacement of taxes on external trade by domestic indirect taxes of whatever description will have an impact on the collection shares of national government in a federal structure.

Section III examines the historical data on collection shares of centre and states, as a prelude to a possible restructuring of collection shares in the Indian federation. Other things being equal, stability in this historical share will carry inertial resistance to any alteration of share.

Section IV examines the composition of central transfers to the states, aggregating across those mandated by Finance Commissions and those allocated under Plan provisions, in terms of their formulaic and discretionary components, aggregated by Plan periods over the last fifty years. Shared taxes, the most formulaic of central transfers, have steadily increased in share to 50 percent of total transfers in the Ninth Plan (1997-2002). Formulaic flows remained stable from 1970 until 1992, never falling below 85 percent in any Plan period. Thereafter there may have been some erosion of the formulaic share to around 80 percent in the Ninth Plan (as pointed out in Rao and Singh, 2003), but a more exact statement is impossible because the necessary data are simply unavailable from any source.

There is an appalling degree of discord between data from among the multiple sources on central transfers to states even on so straightforward a transfer as shared taxes, and a severe absence of the necessary breakdowns for a finetuned estimate of formulaic shares. These issues and the choices made are spelled out at length in Appendices I and II. Before going on to the implications of this finding, a few points have to be noted on definitions and data. central transfers are defined as flows on account of loans[1] and grants, and have been taken gross, not net of loan repayments. The loan and grant components of Plan assistance to states are jointly determined as prescribed percentages of the total. Finance Commissions transfers all take the form of outright grants.

The low, and more importantly, stable share of the discretionary component of central flows to states, even after factoring in the rise in

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[1] The role of the centre as a lender to states is a fundamental premise worked into the constitution. Article 293 prescribing the parameters for state borrowing, requires central consent, which is necessary for macroeconomic control in all fiscal federations, only as long as the state in question is indebted to the centre. The Twelfth Finance Commission may wish to look into whether Article 293 should be amended so as to delink indebtedness to the centre from the need for central approval of all state borrowing. There is also an urgent need for more comprehensive coverage of Article 293 to include all possible channels of borrowing by states, including from the National Small Savings Fund (NSSF).

the nineties, suggests that restructuring the public finances of the country towards a larger collection share for states will be possible upto a computable level without any loss of discretionary powers for, and hence resistance from, the centre. However, the distribution formulae used are relevant to identify whether possible resistance to such a restructuring could come from states. This issue is also examined in section IV. Appendix III tabulates the formulae adopted by a succession of Finance Commissions for distribution of shared taxes. Appendix IV lists the inter-state distribution formulae presently in use for two of the major central plan schemes.

Section V looks at the international empirical data to see if introduction of the VAT has led to revenue additionality anywhere.

Section VI concludes the paper.

II. Fiscal Compensation for Trade Tax Revenues : The Theory

Although the welfare benefits of eliminating taxation of external trade have long been indisputably established (Diamond-Mirrlees, 1971), there are no equivalently general results on the relative welfare properties of alternative paths to reduction (radial, concertina), as distinct from elimination, of trade taxes. Since reform of trade taxation is about cuts rather than elimination, this has left trade reform with no guidance from theory in terms of choice between alternative paths. An empirical literature showing the growth-promoting impact of reduced protectionism (summarised in Thomas, *et.al.*, 1991) served to suggest implicitly that the path itself did not matter.

Further, the fiscal problem of the optimal source of replacement revenue was largely disregarded, either because of the assumed availability of the lumpsum tax alternative, or because an equivalently welfare-neutral alternative was seen in a destination-based tax on consumption (Dixit, 1985).

The administrative ease of collecting taxes on goods crossing national borders has long been recognised, and is especially important for developing countries where administrative capabilities are limited. It explains the robust association of higher tax/GDP ratios with the importance of international trade (Leuthold, 1991; Tanzi, 1987 and 1992). A more recent result affirms this within a set of 70 developing countries (Rajaraman, 2003b) for the period 1994-95, for the share of imports in GDP (export taxation has all but disappeared as a part of structural reform programmes initiated in the 1980s).

Formal theoretical investigations of the joint welfare outcome of radial tariff reductions with revenue compensation until recently were ambiguous about the welfare-improving properties of replacement through a consumption tax. Anderson (1999) showed that a radial reduction of tariffs with a radial expansion of consumption taxes is not unambiguously welfare-improving. An earlier result showing welfare improvement was established only for the infinitesimal case by Hatzipanayotou, Michael and Miller, 1994. A robust result for the non-infinitesimal case is fairly recent (Keen and Ligthart, 2001). This establishes that any tariff cut, radial or otherwise, with a simultaneous price-neutral non-cascading consumption tax (a VAT) will enhance both welfare and net revenue (despite unchanged consumer prices negating a large part of the gains from trade liberalisation). Unlike earlier studies, this finding relates to cuts rather than total elimination of tariffs.

Thus the Keen-Ligthart finding establishes, for the first time, the theoretical underpinning for a trade-fiscal policy package that compensates tariff cuts with a (price-neutral) domestic destination-based VAT on consumption.

An explicit, and perfectly justifiable, assumption underlying the Keen-Ligthart study, as indeed the entire literature, is that the reforming economy is small and open. Even while preserving this, it is not always possible to grant another implicit assumption, that trade and domestic indirect taxes are levied by the same (national) level of government.

Taxes on international trade are always levied only by national governments. But in countries large enough to have multilevel government, rights of levy of domestic indirect taxes are shared between national and subnational governments.

Table 2 shows shares of national government in domestic taxes by type of levy for six federal countries, three developed (Canada, USA, and Australia), and three developing (India, Argentina, and Brazil). These are averages over the period 1975-97/8/9, using data from IMF Government Finance Statistics. There are clear exclusions in the IMF data, as for example for India, where local bodies collect taxes amounting to an average of approximately 2.7 percent of aggregate collections.[2] The limited span of data availability for subnational revenue collections, even in country sources, weighed against inclusion of these to supplement the IMF figures. An obvious exclusion despite its large size, is the former Soviet Union, which has seen too many alterations of boundaries for a consistent data series during the period studied. No attempt was made to fill data gaps from country sources, which refer to the fiscal year of each country rather than a standardised calendar year, and often not in categories synchronous with those in standardised sources.

Table 2 : National Government Tax Collection Shares By Type of Levy
(Percent)

Country	Period	Domestic indirect taxes			Income taxes		
		Aver-age	Std. dev.	Coeff. of var.	Aver-age	Std dev.	Coeff of var.
USA	1980-98	**17.84**	3.61	0.20	**87.61**	0.67	0.01
Canada	1978-97	**38.98**	3.72	0.10	**63.81**	1.86	0.03
Brazil	1977-97	**47.15**	7.50	0.16	**97.64**	0.89	0.01
India	1975-97	**50.71**	4.65	0.09	**100.00**	0.00	0.00
Australia	1975-98	**72.81**	4.41	0.06	**100.00**	0.00	0.00
Argentina	1975-98	**81.72**	11.08	0.14	**74.58**	6.27	0.08

Source: International Monetary Fund*, Government Finance Statistics Yearbooks,* assorted issues*.*
Notes: The time periods stop where they do because of data availability limitations on the breakdown of subnational revenue by source.

The key point to note is that national government shares in domestic indirect taxes collections are well below 100 percent. National shares in income taxes on the other hand are higher, and more stable, than for domestic indirect taxes.[3] Argentina is an exception, where the

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[2] Computed for the latest available years, 1995-98, from the *Report of the Eleventh Finance Commission*, Annexures VIII.2A and VIII.3A.
[3] There are shares in three types of levy: income taxes, social security taxes, and payroll taxes.

national share of income taxes is lower than for domestic consumption taxes.[4]

The question that then arises is whether the political economy of fiscal compensation for trade tariff revenues could be driven by national government attempts to retain collection shares *vis-à-vis* subnational governments, as distinct from the prescriptions of theory which could lead to a loss in national collection shares. Other things being equal, the higher the share of formulaic flows to subnational government, the more willing the national government should be to acquiesce to a reduction in its collection share. This issue is addressed in section IV.
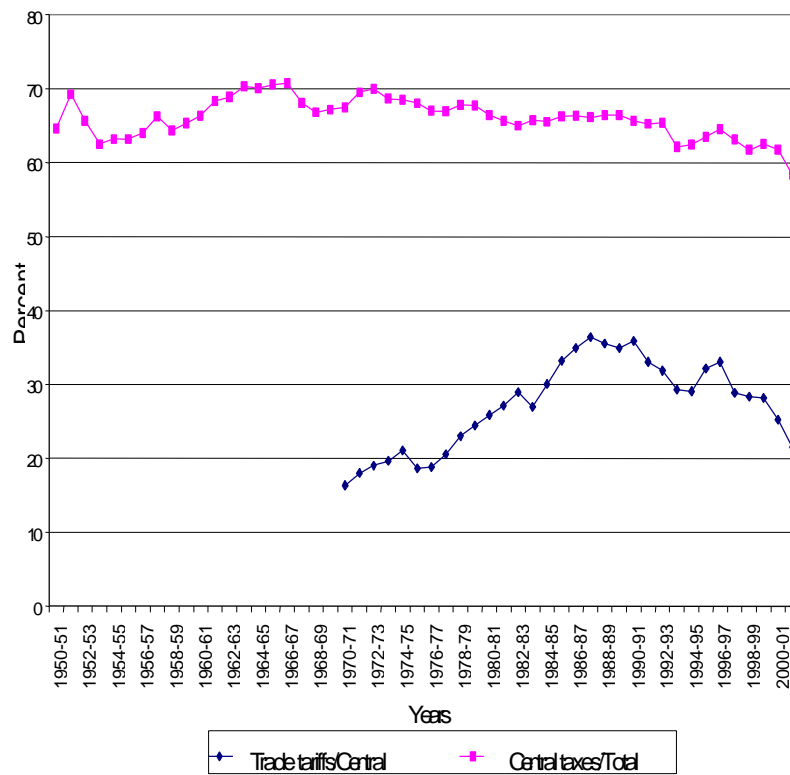

III.   Collection Shares by Levels

Chart 1 below shows that the share of the centre in total tax revenues has remained remarkably stable within a 5 percent band from 1957 to 1992, a period of 35 years. It is only in the last year, 2001-02 that the share of the centre has dipped below the 60 percent mark. The chart also shows the share of trade tax revenues in central tax collections, limited on account of data availability to the last 30 years. It is very clear that this is what has driven the decline in the share of the centre since the mid-eighties.

A history of stability in collection shares in a federation by itself suggests that an alteration of shares might face resistance, although where this resistance comes from will be a function of two things. The larger the share of discretionary transfers to subnational governments, the greater will be the resistance of national government to any reduction of its discretionary powers. But resistance could also come from subnational governments that stand to gain from redistributive entitlements to national tax collections. These issues are explored in the next section.

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[4] Argentina is also somewhat of an exception to the general finding of stability in shares in fiscal federations over time, as is Brazil; see Rajaraman (2003a).

Chart 1 : Central Share in Tax Collections 1950-2002

The Eleventh Finance Commission (EFC) was the first explicitly charged in its terms of reference with the task of restructuring public finances towards restoration of budgetary balance, and maintenance of macroeconomic stability. The fiscal adjustment programme recommended by the EFC for the period 2000-05 is therefore of interest

in itself, quite independently of whether the adjustment has actually been achieved in the first three years (it clearly has not).

There are two features of the adjustment (Table 3), which are of relevance, and these will be taken in turn in what follows. The first is the overall adjustment, aggregating across centre and states. The second is the disaggregation of the adjustment between centre and states.

Table 3 : Fiscal Restructuring Programme of Eleventh Finance Commission

	1999-00 (% GDP)	2004-5 (% GDP)	Change (% GDP)
CENTRE+STATES			
Fiscal Deficit	9.84	6.50	-3.34
Total Revenue	16.57	19.96	3.39
Tax Revenue	14.09	16.73	2.64
OF WHICH			
States' Own Revenue	5.29	6.44	1.15
Central Tax	8.80	10.28	1.48
OF WHICH			
Income Tax	2.93	3.95	1.02
Union Excise (incl. Service Tax)	3.26	3.69	0.42
Customs Duties	2.47	2.57	0.09

Source: *Report of the Eleventh Finance Commission*.

The entire burden of the required adjustment in the overall fiscal deficit (3.34 percent of GDP), was to be achieved through an increase in revenue receipts of equal magnitude. Any downward adjustment targeted in revenue expenditure was fully compensated by an equivalent provision for increase in capital expenditure.

The justification or rationale for this programme does not immediately concern us here, although it is clearly extremely important from the overall perspective of the objective to be achieved by the fiscal adjustment. What is of importance and relevance is that the fiscal adjustment was seen, by a deliberative body set up for the purpose, to require additional revenue effort (overall) rather than expenditure containment (overall). Tax revenue in particular was projected to increase by 2.64 percent of GDP.

The distribution of this additional tax effort between centre and states placed the largest burden of adjustment on the centre (1.48 percent of GDP), and less on the states (1.15 percent).

These numbers are extremely important and interesting by themselves. As much as 1 percent out of a total adjustment of 3.3 percent of GDP, was targeted from the central income tax alone. Another 0.4 percent was projected to come from union excise, defined to include service taxes levied by the centre. Service taxes levied by the centre, which began in the year 1994 have exploited an undefined area lying between the fiscal domain of centre and states, an area increasingly contested by the proposed introduction of VAT at the level of states.

Even this distribution of revenue effort however would as targeted have led to a fall in the relative share of central tax revenues by one percent relative to 1999-2000, the base year. Actuals in the first two years of the adjustment period show a rise in central direct tax collections of only 0.02 percent relative to the base year, and a decline in excise inclusive of services of 0.01 percent (Table 1). There is a rise in states' own revenue of 0.46 percent of GDP, but these are pre-actual subject to revision. The actual decline in the relative share of central tax revenues can be seen to have far exceeded the mild fall targeted in the macroeconomic adjustment programme of the Eleventh Finance Commission.

IV. Formulaic Share of Central Transfers   to States

Formulaic central transfers are defined as those where the central government has no discretionarity in respect of distribution between receiving state governments. They are obtained here from the unconditional subset of statutory flows as prescribed by Finance Commissions, and central assistance for state plans, the distribution of which between states has been subordinated since 1970 to the Gadgil formula, with exceptions and recent erosions pointed out by Rao and Singh (2003) which will be dealt with below. The formula also prescribes

the loan and grant components of total plan assistance, which apply uniformly across states (but see further below). Unconditional Finance Commission flows are principally the sum of shared taxes and gap-filling "deficit grants". The principles by which these entitlements are determined may be hotly contested, but once prescribed by the Commission and accepted, they are binding on the central government without modification. Other components of unconditional grants are listed in Appendix I. Appendices I and II deal with the massive discrepancies between different data sources on central transfers. The critical need for reliable accounting as a foundation for good governance, as underlined in Rangarajan (2003) is reiterated here.

Table 4 shows the formulaic share of central transfers by Plan period starting from 1950-51. State plan assistance prior to 1970 is classified as discretionary. After 1970 there has always been a component that is awarded to the special category northeastern states, before application of the formula to the residual. This portion has not been partitioned out, but does not make a material difference. Although the loan share is different for the special category, it is formulaic again within the special category.

What could make a difference is the increasing recourse in recent years reported in Rao and Singh (2003) to inclusion of central plan schemes not subjected to the Gadgil formula within assistance to state plans. Some of these are formula-driven, like the Minimum Needs Programme. Others are not. Another recent development is inclusion of external assistance bilaterally negotiated by state governments, and not thereby subject to any formula. It is impossible to extract these components even from the Central Finance Accounts (CFA). The Budget documents of the central government do record a "normal assistance" subtotal, which differs from total assistance only by 4239 crore over the Ninth Plan, roughly one percent of total transfers (*see,*Table 4). However, such are the data discrepancies between different sources that normal assistance over the Ninth Plan summed to only 1774 crore less than the figure from the processed RBI source used here (*see* notes to Table 4). The issue will be addressed again further below.

Three points need to be made at this juncture. First, no judgement is made here about the fairness or implicit incentives embedded in the formulae or principles adopted. Second, the tax-sharing formula used has itself changed from one Finance Commission to the

next, as shown in Appendix III. Since Finance Commissions are statutorily independent, it has to be assumed that the alterations in formula were not dictated by the preferences of the central government. Finally, the disincentive for fiscal discipline at state-level embodied in having a deficit grant provision is also not taken into consideration. All that is necessary for classification purposes is that the deficit grants are paid as prescribed, and are not subject to discretionary modification.

Table 4 : Centre State Transfers Through Finance/Planning Commissions

Plan period	Percent share in total transfers				
	FC total	Tax sharing	Unconditio nal FC lows	Conditiona l FClows	Formulaic total
1951-56	33.69	25.92	33.69	0.00	33.69
1956-61	46.21	33.50	46.21	0.00	46.21
1961-66	36.75	27.65	36.75	0.00	36.75
1966-69	48.15	34.62	48.15	0.00	48.15
1969-74	53.65	44.60	53.65	0.00	87.94
1974-78	56.16	42.33	56.16	0.00	84.27
1978-80	48.52	41.81	47.88	0.65	88.52
1980-85	50.37	45.73	49.15	1.22	84.33
1985-90	51.27	44.38	49.31	1.96	84.06
1990-92	53.21	44.09	53.21	0.00	85.76
1992-97	54.02	46.24	53.73	0.29	86.37
1997-02	57.07	49.58	55.93	1.14	90.02 *(80.00)

Sources: Public Finance Statistics for shared taxes; *Finance Commission Reports* for statutory grants; Vithal and Sastry, 2002, for Plan flows up to 1997; *RBI State Finances* and *Central Finance Accounts* for Plan flows in the period after 1997.

Notes:
1. Periodisation according to Plan Periods. PC transfers sum across loans and grants and exclude special plan schemes (*see* appendix I).
2. The formulaic total is the sum of unconditional Finance Commission (FC) transfers, and state plan transfers which are subordinated to the Gadgil formula starting with the Fourth Plan, with exceptions. The asterisk marks an estimate for the period 1997-02 after exclusion of assistance for state plans not subordinated to the Gadgil formula (see text).
3. Tax sharing in 1997-98 includes an amount in addition to the mandated sum due to the VDIS in that year, with no spillovers in subsequent years.
4. Unconditional FC flows include shared taxes; deficit grants; grants in lieu of tax on railway passenger fare; centre's contribution to Calamity Relief Fund and grants-in-aid to local bodies (only for the Eleventh FC). The Tenth FC provision for local bodies was included in the state plan flow. Transfers for

the Central Road Fund have not been included, unlike the practice in RBI State Finances; *see* Appendix II.

5. Total FC flows are aggregated across unconditional and conditional flows. The latter include upgradation and special problems grants (from the Seventh FC on), which are conditional on expenditure incurred; centre's contribution to margin money for calamity relief (from the Eighth FC on), which is accessible only after crossing prescribed state expenditure caps.

Total central transfers to states are obtained by aggregating across formulaic and non-formulaic (discretionary) transfers. The latter are the sum of conditional Finance Commission provisions, and transfers to states under central plan schemes (CP) or centrally-sponsored schemes (CSS). Large components of CSS, such as the employment generation or self-employment schemes,[5] are actually subordinated to formulaic determination of their distribution across states. But because these formulae have originated essentially unilaterally within the central government, rather than being in any sense an outcome of an inter-governmental process, as the Gadgil formula was,[6] CP and CSS flows to states have been classified in the discretionary component of central transfers.

Conditional FC provisions, such as upgradation and special purpose grants, need to be claimed on the basis of either prior expenditure, or crossing of prescribed expenditure caps, or other evidence of need. These are classified as discretionary. Some transfers (other than central assistance for state plans) have moved over the years between the unconditional and conditional categories. Grants for calamity relief were conditional during 1984-90, unconditional during 1990-95, and were of both types during 1995-2000.[7] Thereafter they have been entirely unconditional, as prescribed by the Eleventh Finance Commission.

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[5] These accounted for half of total projected spending on CSS in 2003-04.

[6] Full details on the political economy of the evolution of the Gadgil formula are available in Vithal and Sastry (2002).

[7] Calamity relief in an earlier margin money scheme could only be accessed after the recipient state crossed prescribed expenditure caps. The central contribution towards a National Calamity Relief Fund provided by the Tenth Commission, is accessible by states only for exceptional calamities.

Data on statutory Finance Commission grants proved to be a major problem. A very widely used[8] processed source is *RBI State Finances*. However, from a comparison performed for the four years 1997-2001 with State Finance Accounts, the RBI definition of statutory non-plan grants proved to be definitionally incomplete, and more problematically, variable across years in terms of inclusions and exclusions even for a particular state (*see* Appendix II).

At the same time CFA figures for the four year period 1997-2001 actually far exceeded the total Finance Commission mandated provision in some years, even after inclusion of the conditional component of that provision in its entirety. The aggregate utilisation percentage of upgradation grants has never fallen below 70 percent. Even so, clearly these flows as actually realised need not match, let alone exceed, the totals mandated by the Finance Commissions. The CFA figure is not broken down by component.

On balance it seemed best to stay with the yearly configuration as conceived by the Finance Commissions, with formulaic flows defined to exclude conditional provisions. From the percentage shares in total transfers shown in Table 4, conditional Finance Commission flows can be seen to be insignificant. Any overstatement of actuals on account of having included mandated provisions by Finance Commissions instead of actuals will have an impact well under one percent on the formulaic percentage.
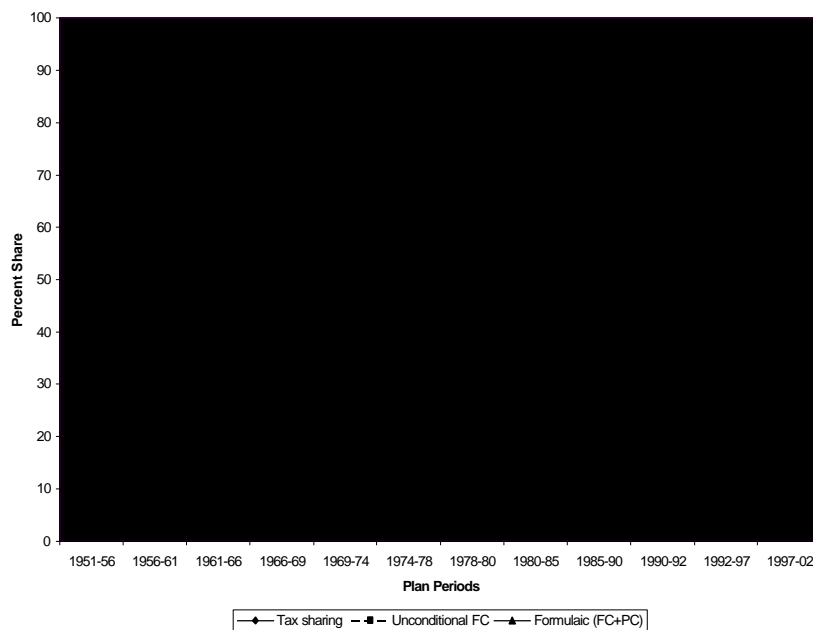
Formulaic transfers, graphed in Chart 2, shows a sharp rise in the share of formulaic flows in 1969-70 with the introduction of the Gadgil formula. Thereafter the formulaic share held essentially steady in the 84-88 percent range over a twenty-year period until the erosion over the nineties of formulaic assistance to state plans referred to earlier. Knowledgeable officials place the discretionary component of this at roughly 40 thousand crore over the Ninth Plan period. Even with this, the formulaic share of central transfers comes down to 80 percent.

The implications of this finding are immense. The dominant and stable share of formulaic transfers is important simply by itself, as an indicator of the political economy of the Indian federation. Further, even after recent erosions, the limiting of discretionarity to 20 percent of total

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[8] Such as for example in Vithal and Sastry, 2002.

transfers limits to that extent the resistance, if any to a restructuring of collection share at national level.

Chart 2 : Centre-State Transfers

The tax sharing component alone shows a steady rise from around 25 percent of total central transfers to states in the first plan, to more than 50 percent in the ninth plan period.[9] This, the most statutory component of formulaic flows,[10] by itself suggests that the bargaining process between national and subnational governments in the Indian federation has worked over the years towards a reduction in the element of discretionary in central transfers to states. This is unaffected by recent erosions in application of the Gadgil formula to central assistance

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[9] If loans are excluded from the total the tax sharing percentage would be higher still.
[10] There may have been a short-lived discretionary component to sharing of the Union Excise Duty in periods prior to 1984; see Appendix III. If so, that would only reinforce the trend towards less discretionary over the years in sharing provisions.
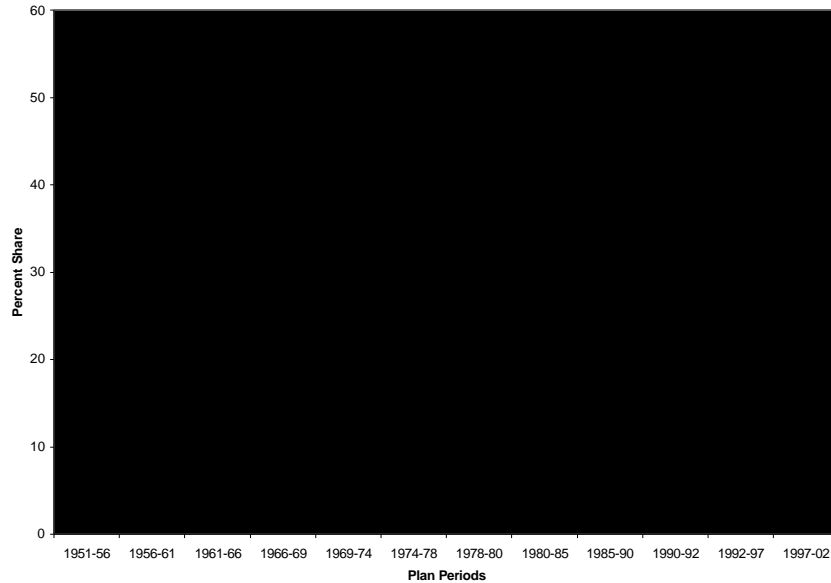
for state plans. Unconditional FC flows also show a rise over time to 56 percent in the period 1997-2002. Total FC flows, shown in Chart 3, aggregating across all components, have also increased as a share of total central transfers, although not monotonically.

Until the Eighth Commission, inter-state allocation formulae for the tax sharing component differed between the income tax, which was mandatorily shareable under Article 270 of the Constitution,[11] and Union Excise which, governed by Article 272, was interpreted as shareable at the discretion of the central government. This led, in a manner not immediately traceable to the distinction itself, to a convention whereby there was greater progressivity in the formula for sharing excise revenue, than there was for the income tax. Starting with the Eighth Commission, the income tax formula converged towards the greater progressivity of the excise formula. The two however remained distinct streams until the Eleventh Commission unified them. Appendix III shows the tax sharing formulae used by Finance Commissions, starting with the Sixth, covering the last thirty years. Even prior to the Eighth Commission, the income tax carried only a ten percent weight for distribution by jurisdiction of collection, with the remainder based on population. Thus, even income tax transfers have been redistributive, away from the pattern of collections by origin.

Taking the two taxes together, there is a clear move towards greater weightage for the redistributive aspect of central transfers, with correspondingly less weightage for income-neutral factors like population and area. The redistributive measures used have differed from one Commission to the next, some using poverty estimates, others constructing an index of backwardness. But the overall redistributive properties of the Finance Commission tax sharing can very clearly be seen to have moved towards greater progressivity over time.

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[11] Since 1959, only on individuals, not corporate entities.

Chart 3 : Finance Commission Share in Total Central Transfers

The large weightage for redistribution in the tax sharing formula, coupled with the steady rise over the last fifty years in the percentage of shared taxes to total central transfers is strongly suggestive that any further reduction in the centre's share of tax collections would find subnational resistance from poorer states. It has to be added that gap-filling deficit grants, which are not discretionary for the centre, are not redistributive in intent nor in practice. But these are not a major component of total transfers and have not increased in percentage share over time (*see* Table 1).

The Gadgil formula is also shown in Appendix III. Here too the minor modifications over the years (Vithal and Sastry, 2002: 152) have deepened what has all along been a strongly redistributive formula.

V. Vat Impact on Revenues

The Keen-Ligthart theoretical results (section II) show a price-neutral VAT as replacement for lost trade tax revenues to be both welfare-enhancing and revenue-enhancing. Price-neutrality is not in general targeted when a VAT is introduced. Regardless however of whether revenue was the immediate motivation for its introduction, a VAT can lead to a rise in tax/GDP through the static efficiency gain from introducing a VAT, in terms of higher GDP. The GDP effect has been estimated to exist through computable general equilibrium models calibrated to particular economies.[12] If public expenditure is a normal good, which is certainly the case in developing countries, this could lead to higher tax/GDP. Other reinforcing considerations are the possible information externalities from the VAT, in terms of compliance-enhancing effects on other taxes, which could lead to higher tax/GDP ratios overall.

An IMF exercise estimates revenue outcomes for 183 countries across the entire income scale, of which 99 had a VAT (Ebrill *et.al.*, 2001). The impact on overall (including non-tax) government revenue as a percent of GDP does show a positive gain from a VAT, but only interactively with per capita income (*see* Table 5). There is a significant negative coefficient to an interactive VAT dummy with the importance of trade, showing a revenue loss with a VAT that varies directly with the importance of international trade. The latter is an empirical finding of particular relevance in light of the recommendation in the fiscal compensation literature that trade tariff revenues can be fully or more than fully compensated by a VAT. To quote the authors of the estimates; "This may reflect the availability in such economies of other devices – most obviously tariffs – that are no less effective at raising revenue than the VAT" (Ebrill, *et.al.*, 2001:39).

When the cross-sectional exercise is performed with tax revenue alone, instead of overall including non-tax revenue, the VAT intercept is negative, and almost significant at 10 percent. The coefficient of the interaction term for VAT with per capita income continues to be positive

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[12]   There is also a possible dynamic growth gain from the reduced cost of capital resulting from set-offs on taxes on capital goods, where the VAT is structured to do; these remain unestimated.

and significant, thus implying that the impact of VAT is negative only for poorer countries. Finally, when the dependent variable is tax revenue of national-level government alone, there is no evidence of any impact, positive or negative, of introduction of a VAT. This is further empirical validation of the impact of fiscal compensation through a VAT on the balance of power in a fiscal federation.

Cross-country regressions of this type are subject to a number of criticisms, acknowledged by the authors themselves. VATs in practice may carry features that depart from the efficiency-enhancing ideal. There is also self-selection bias, which however may serve to exaggerate rather than reduce the revenue impact.

Table 5 : Cross Country VAT Impact on Revenues

| | General govt. revenue | Tax revenue | |
		General govt.	Central govt.
Constant	-2.99*	0.29	-3.86*
	(-4.92)	(0.14)	(-3.48)
$L_n(Y)$	0.04	-0.26	0.21*
	(0.58)	(-1.26)	(2.31)
L_n (OPEN)	0.67*	0.29**	0.31*
	(5.33)	(1.81)	(1.99)
VAT	-0.79	-4.25	0.27
	(-1.08)	(-1.67)	(0.23)
VAT*ln(Y)	0.25*	0.53*	-0.06
	(3.22)	(2.32)	(-0.53)
VAT* ln(OPEN)	-0.44*	-0.06	0.02
	(-2.81)	(-0.21)	(0.08)
$\bar{R}^2$	0.56	0.38	0.31
N	170	71	101

*Source***:** Ebrill, *et.al.*, 2001; tables 3.3, 3.4 and 3.5.
Notes: The dependent variable is ln $(\theta/1-\theta)$, where θ is the share of central government tax receipts in GDP; t-statistics are in are in parentheses;
* Indicates significant at 5 percent;
** at 10 percent.
Definitions: Y: GDP per capita.
              OPEN: (Imports+Exports)/GDP.
                  V: Intercept dummy = 1 for a VAT.

Overall, however, the results do not encourage faith in the revenue-compensating features of a VAT as a replacement for trade taxes, notwithstanding its welfare properties.

VI. Conclusion

The paper addresses the issue of where fiscal compensation for lost revenue from trade tariff reform can be sourced, and on whether the level of government at which such additionality accrues matters.

Lost trade tariff revenues in India since 1991 have resulted in an uncompensated loss in aggregate tax revenue which had amounted to two percentage points of GDP by 2001-02 (latest actuals).[13] This is a disastrous decline in a developing country critically in need of growth-promoting public goods. Since trade taxes are levied exclusively at national level, there has been a corresponding decline in the share of tax collections at the centre relative to the states.

Theory prescribes replacement of trade tariffs by domestic indirect taxes, and a destination-based VAT as the optimal instrument. But in most federal countries, national governments collect far lower shares in domestic indirect taxes than in income taxes, to which they enjoy dominant or exclusive rights. Even if revenue replacement is possible through a VAT, despite international evidence not showing revenue enhancement from introduction of a VAT in low-income countries, the additional revenue would in a federal country like India accrue at the level of states (unless a dual VAT is contemplated). This will further reduce the central share in aggregate tax collections.

The critical issue then becomes one of whether restoration of what has been a historically stable central share of aggregate tax collections is required for the balance of power in the federation. If it does, incremental revenue efforts in the system should focus on the central fiscal domain rather than that of the states.

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[13] The states component in this is the pre-actual figure (RE).

The dominant share of the formulaic component at 80 percent of central transfers to states, even after adjusting for the non-transparent erosion over the nineties in the sphere of application of the Gadgil formula, suggests that there will be far less resistance from the centre to raising the share of states in aggregate tax collections than if the discretionary component had been larger. But given the overwhelming share of redistributive elements in the formulae used to determine inter-state apportionment of transfers, a decline in the share of the centre in aggregate tax collections could face resistance from states, especially from poorer states. And the remarkable stability in the revenue collection share of the centre prior to the start of trade reform adds its own inertial force to the case for preserving the share of the centre.

It has long been known (GoI, 1991 and 1995) that the two sectors that have been inadequately taxed in India are the services sector and agriculture. Services account for more than half of GDP today, and have over the past decade recorded the highest and most stable rates of growth. Indirect taxation of services faces a well-known assignment vacuum in the constitution. Since the enactment of the *Service Tax Act of 1994*, the centre collects indirect taxes on a list of service that has now grown to 58 in number, using residuary powers under the constitution. Upto 2001-02, the services tax has compensated by 0.14 percent of GDP for the loss in revenue from trade tariffs (Table 1), and this additionality has accrued at central level.

The issue is whether service taxes should continue to be taxed at the centre, so as to stem the decline in the centre's share, or whether some or all of these services should be transferred to states as part of a full-blown destination-based VAT. The efficiency argument in favour of such a transfer is certainly very strong, but it will only serve to further reduce the share of the centre in aggregate tax collections. If this is a concern of states, because of the redistributive properties of central transfers to states, then states may paradoxically prefer not to have service taxation transferred out of the centre.

The other sector which is undertaxed, agriculture, is unambiguously assigned to the fiscal domain of the states under the constitutional provisions. The argument in favour of transfer of agricultural income to the domain of the central income tax is that it will unify the income tax and make it a global rather than a schedular tax. The argument against transferring agricultural income taxation to the

centre is that the reasons for the revenue-insignificance of the tax at state-level will only gain force at central level. It has been argued at length elsewhere (Rajaraman, 2003c), that it is only through transfer of the right to tax agriculture to the local, *panchayat* level, that agriculture can be taxed in a way that brings revenue additionality to the system. A land-based crop-specific levy at the local level is feasible, is in accordance with widely-accepted principles of assignment of taxes by domain, and will lead to revenue-additionality in the system taken as a whole. These revenues will accrue jurisdictionally at the local level. The redistribution objective between local governments can always be attained through independent and transparent state government grants, so structured as not to rob the local level of incentives to collect the tax. The formula itself can be left to the discretion of state governments.

There is an acute need for correction of the discord between alternative sources of data on central transfers to states. The choices made for this paper are presented in detail in the appendices that follow. The Twelfth Finance Commission could perhaps make a provision for placing the fiscal database of the country on a sound footing, so that it is possible to focus on the issues instead of having to focus on getting the numbers right.

In conclusion, the fiscal stress in India today, and in all developing countries undergoing a process of trade tax reform, is a result of both theoretical and practical neglect of the revenue loss from falling trade taxes. In a fiscal federation, the problem is compounded because of what uncompensated revenue loss at the level of national government does to the balance between national and subnational governments.

The fiscal restructuring recommended by the Eleventh Finance Commission proposed that 1.5 percent out of a total adjustment of 3.3 percent of GDP be sourced from additional tax revenues at central level, 1 percent from the central income tax alone, and the remainder from indirect taxation of services. Only 1 percent was to come from states' tax revenue. This implicitly endorses the direction for fiscal restructuring which emerges from the examination in this paper of the pattern of central transfers to states, although even the targeted numbers would have led to a further decline in the central share of tax collections. The actual decline sofar has of course been far greater.

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Appendix I : Data Discrepancies

I.   Share in Central Taxes

There are the following sources:

1. Finance Accounts of the Centre (CFA) and States (SFA)
2. Public Finance Statistics (PF); a processed source based on CFA and State Finance Accounts.
3. *RBI State Finances*; a processed source based on State Budget documents.

      The PF figures were used, supplemented by CFA for 2001-02. The two tally except for the year 2000-01; in previous issues of the publication, states' share of collections under the VDIS income tax amnesty scheme in 1997-98 was excluded from the total for shared taxes. The *RBI State Finances* consolidated figure does not tally with CFA, and for 2000-01 not even internally between the reported consolidated figure and the sum across states. The discrepancy between CFA and RBI was Rs 3000 crore in 1997-98.

		1997-98	1998-99	1999-00	2000-01	2001-02
PF						
	Share in Central taxes	**43548.0**	**39145.0**	**43481.0**	**51945.0**	
CFA						
3603	Union Excise Duties	22446.0	24665.1	26958.0		
0020(901)	Corporation Tax	0.0	0.0	0.0	10518.7	11475.83
0021(901)	Income Tax	13507.7	14480.4	16522.8	7997.6	9898.12
0028(901)	Income and exp.				97.4	87.39
0032(901)	Wealth				41.2	30.59
0037(901)	Customs				13379.2	11928.43
0038(901)	Excise				18768.4	18085.88
0044(901)	Service				649.0	1062.00
0045(901)	Other taxes & duties on commodities				236.0	273.29
3601(01) 111	States share in VDIS	7594.0				
	Total	**43547.7**	**39145.4**	**43480.8**	**51687.5**	**52841.5**

	1997-98	1998-99	1999-00	2000-01	2001-02
RBI (reported)					
Share in Central taxes	40411.2	39421.2	44121.1	50733.7	
RBI (sum across states)					
Share in Central Taxes	40411.2	39421.2	44121.1	52629.4	

II.   Statutory Non-Plan Grants

There are the following sources:

1.   Finance Accounts of the Centre (CFA) and States (SFA).
2.   Finance Commission Reports(FC)
3.   *RBI State Finances* (processed).
4.   Finance Accounts of States (SFA)

The source opted for is the Finance Commission Reports, for reasons spelled out below.

The most commonly used source is *RBI State Finances* which provides a processed aggregate for statutory grants, for example in Vithal and Sastry, 2002. However, the RBI total is obtained from the sum of the entries 3601(01): 102 to 106 in the Budget Documents (see Appendix II). It systematically excludes upgradation and special purpose grants and is therefore seriously incomplete (and includes contributions to the Central Road Fund, an insignificant but nevertheless erroneous inclusion). An exercise was performed, nevertheless to check the RBI aggregate against its stated constituents from the Finance Accounts of States, for four years 1997-2001. There are discrepancies even within the limitations of the RBI definition, listed in Appendix II.

The RBI figure was rejected, therefore. Since the yearly provisions listed in Finance Commission Reports are mandated by statute, they should provide reliable figures of actuals, certainly for unconditional grants. The Finance Commission provisions for statutory grants carry the following unconditional components:

i)   Deficit Grant
ii)   Grant in lieu of tax on railway passenger fares.

iii)   Calamity Relief (unconditional starting 1990-91)
iv)   Local Government (starting 2000-01)

There are also the following conditional components:

i)   Upgradation and Special Purpose (1979-80 onwards); conditional on prior expenditure.
ii)   Calamity Relief (1984-90; conditional on crossing prescribed state caps); 1995-2000 accessible only through NFCR for exceptional calamities.

        The CFA category 3601(01), subhead 104, sums all flows under Article 275 and therefore does not separate unconditional flows from conditional flows. Summing this with grants in lieu of tax on railway passenger fare, the total figure actually exceeds the FC provisions including conditional grants for all years after 1997-98 as shown in the table below, except 2000-01, when the CFA figure was less than even the unconditional FC provisions for that year. Finally, the table below shows RBI figures are well below even the FC figures for all years except 1999-2000. The discrepancy between the CFA and the RBI was of the order of Rs 1000 crore in 1997-98 and has grown since to more than 2500 crore.

        In view of this, the FC figures were chosen here, as being the more accurate yearly estimate of central transfers, with a distinction always maintained between the unconditional and conditional components.

		1997-98	1998-99	1999-00	2000-01
CFA					
3601	Grant-in-Aid to State Govts.				
(01)	**Non-Plan Grants**				
102	Grants in lieu of Rail. Passenger	380.00	380.00	380.00	0
104	Proviso to Art. 275(I)	2717.00	2511.46	3407.50	11578.85
	Total(102 + 104)	**3097.00**	**2891.46**	**3787.50**	**11578.85**
FC					
	Non-tax grant unconditional	2104.93	1634.87	1418.44	13647.83
	Non-tax grant (cond. + uncond.)	**2832.06**	**2492.41**	**2145.57**	**15647.83**

			1997-98	1998-99	1999-00	2000-01
RBI (reported)						
a)	Statutory Grants		**1682.76**	**1420.25**	**1987.90**	**8372.38**
b)	Relief on Natural Calamities		476.14	607.86	409.00	499.72
	Total		**2158.90**	**2028.11**	**2396.90**	**8872.10**
RBI (sum across states)						
	Statutory Grants		**1682.76**	**1501.85**	**1987.90**	**8372.38**

III. Plan Grants and Loans to States

Summing across all Plan flows, the RBI figure was higher than the CFA (except for 2000-01) and was therefore chosen as possibly the more inclusive figure. But the sign varies across schemes and years, and between revenue and capital figures for the same scheme/year. No checks were done of the RBI figure with SFA's.

a) Central Assistance for State Plan Schemes

The RBI figures are consistently higher than the CFA figures over 1997-01, both revenue and capital. The discrepancy on the revenue account for 2000-01 would have been far higher because of deduction in the CFA figures of 2414 crore for amounts taken out of the Central Road Fund. That deduction has not been included in the CFA total given here, so as to make a comparison without intrusion of a clear exclusion in the RBI figures. There is fair internal consistency between the RBI consolidated figure and the sum across states, except for minor discrepancies for CSS in 1998 and in both CPS and CSS for 1999-00 in the case of the revenue figures. But there are internal discrepancies on the capital account within the RBI data for the two-year period 1999-01.

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Revenue & Capital Flows

		1997-98	1998-99	1999-00	2000-01
RBI					
State Plan Scheme					
	R	12008.18	13267.02	16316.45	16200.36
	C	14123.48	15253.17	17166.75	17313.35
Total		**26131.66**	**28520.19**	**33483.2**	**33513.71**
Central Plan Scheme + CSS					
	R	6636.32	7009.55	8095.12	8315.05
	C	354.51	206.36	206.94	181.63
Total		**6990.83**	**7215.91**	**8302.06**	**8496.68**
Special plan schemes					
	R	119.91	109.52	109.5	127.35
	C	609.52	109.81	1686.05	-742.77
Total		**729.43**	**219.33**	**1795.55**	**-615.42**
CFA					
State Plan Scheme					
	R	11461.79	12807.93	14796.89	16043.91
	C	13129.57	14078.59	16094.85	17023.77
Total		**24591.35**	**26886.52**	**30891.73**	**33067.68**
Central Plan Scheme + CSS					
	R	6647.06	7646.49	8421.21	8932.54
	C	166.02	199.72	183.58	134.68
Total		**6813.08**	**7846.21**	**8604.79**	**9067.23**
Special plan schemes					
	R	62.79	61.47	75.58	104.67
	C	5.75	5.64	6.87	9.75
Total		**68.54**	**67.10**	**82.45**	**114.43**
Discrepancy(RBI - CFA)					
State Plan Scheme		1540.31	1633.67	2591.47	446.03
Central Plan Scheme + CSS		177.75	-630.30	-302.73	-570.55
Special plan schemes		660.89	152.23	1713.10	-729.85

b) Central Plan Schemes and Centrally Sponsored Schemes

Here the RBI figures are lower on the revenue account, but higher on the capital account. Overall, the RBI figure is lower though not in all years.

c) Special Plan Schemes

The discrepancies between the two sources are so wide and erratic, with the RBI carrying a negative entry on the capital account for

one year (suggesting the figures are entered net of repayments), that it seemed best to exclude these flows altogether. Going by the CFA figures, the absolute amount of the exclusion in any year of this period amounts only to about 100 crore or so, annually.

Appendix II : Data on Statutory Central Transfers to States

Statutory grants in *RBI State Finances* are reported in aggregate, and are stated (private communication) to be the sum of entries under minor heads 101 to 106 of non-plan grants, as listed below. State Budget papers and Finance Accounts provide no aggregate figure for statutory grants.

1601 Grants-in-aid from central government.

01 Non-Plan Grants
a)   Statutory Grants (101 – 106)
101 Grants under the constitution (Distribution of Revenue order)
102 Grants in lieu of Tax on Railway Passenger Fares
103 Grants on account of Agricultural Wealth Tax
104 Grants under the proviso to Article 275 (I) of the constitution.
105 Grants to meet non-plan revenue deficit.
106 Grants from Central Road Fund

The last category, 106, is not an element in statutory grants as defined by Finance Commission provisions. Category 101 for tax sharing is not actually included in the reported RBI statutory grants total, although the stated definition includes it. There are other grants (upgradation; special purpose) which also belong among statutory provisions made by Finance Commissions, but carry conditionalities for access. These are not included in the statutory total by RBI, but should be with a subtotal for unconditional statutory provisions.

Within the confines of the definition of Statutory Grants adopted by the RBI, there are discrepancies between the RBI aggregates and the entries in the Finance Accounts for the constituents of the RBI

aggregate. State-wise details follow. The coverage is for the four years 1997- 2001, subject to availability of Finance Accounts and/or Budget Documents.

No discrepancies were found for:

1. Andhra Pradesh
2. Goa
3. Karnataka
4. Kerala
5. Mizoram
6. Rajasthan

Finance Accounts were not available for:

1. Uttaranchal
2. Jharkhand

A summary table is attached. There are basically three types of problems with the RBI total for Statutory Grants (hereafter SG):

1. The sum of relevant constituents (102 to 106) from Finance Accounts either exceeds, or falls below the RBI SG figure by amounts unexplainable with reference to other receipts.
2. The RBI SG clearly excludes one of its stated constituents (Article 275 flows, railway grants or central road fund).
3. The RBI total includes other unstated constituents such as grants towards the calamity relief fund or for modernization of police.

What compounds the problem is that these extraneous known/unknown inclusions/exclusions vary across years even for a given state.

Statutory Grants (RBI Aggregate)

Excludes Article 275	Excl. Railway Grants	Excl. Central Road Fund (*)	Includes Calamity Relief Fund	Includes Other Non-statutory Grant	Unexplainable Discrepancies (Statutory Grants)		Discrepancies in Total N... plan Grants	
					SFA Sum > RBI	SFA Sum < RBI	SFA Sum > RBI	SFA Su... RBI
Gujarat (1998-99)	Bihar (1998-99) (1999-00)	Bihar (1998-99)	Assam (all years except 2000-01)	Orissa (1998-99: Police)(1999-00: Relief/Rehab.)	Bihar (1999-00)	HP (1997-98)	Bihar **(1999-00)**	Assam (1998-9...
Haryana (1998-99)	Chhattis-arh 2000-01	M.P. (1998-99)(1999-00)	Meghalaya (1997-98) (1998-99)	Punjab (1997-99: all non plan)	Chhattisgarh (zero in 2000-01)	J&K (1998-99)	Gujarat (1998-99)	Bihar (1998-9...
M.P. (1998-99) (2000-01)			Tripura (2000-01)		Haryana (1998-99)	Maharashtra (1998-99)	J&K (1997-98)	HP (1997-9...
					J&K (1997-98) (2000-01)	Manipur (1997-98)	M.P. (1997-98) (2000-01)	J&K (1998-9...
					M.P. (zero in 2000-01)	Nagaland (1997-98) (2000-01)	Maharashtra (2000-01)	M.P. (1999-0...
					Maharashtra (zero in 2000-01)	Punjab (1997-98) (1998-99)	Nagaland (1998-99)	Manipur (1997-9...
					Nagaland (1998-99)	UP (1997-98)	Sikkim (all years)	Meghala... (1998-9...
					Sikkim (zero in all years)	West Bengal (2000-01)	Tamil Nadu (1999-00)	Nagalan... (1997-9...
					UP (1998-99)		UP (1998-99)	West Be... (2000-0...

Source: *RBI State Finances* and *State Finance Accounts*, 1997-2001.
Note: * Not a part of Finance Commission provisions, but included in RBI definition.

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Commissions	Finance											
	Sixth		Seventh		Eighth		Ninth – 1st		Ninth – 2nd		Tenth	Eleventh
Criteria	Y	E	Y	E	Y	E	Y	E	Y	E	Y/E	(Single Pool)
Tax originating	**10.0**		**10.0**		**10.0**		**10.0**		**10.0**			
Population	90.0	75.0	90.0	25.0	22.5	25.0	22.5	25.0	22.5	29.9	20.0	10.0
Area											5.0	7.5
Sub-total	**90.0**	**75.0**	**90.0**	**25.0**	**22.5**	**25.0**	**22.5**	**25.0**	**22.5**	**29.9**	**25.0**	**17.5**
Poverty ratio				25.0			11.2	12.5				
Index of Backwardness									11.2	15.0		
Distance: per capita income		25.0			45.0	50.0	45.0	50.0	45.0	40.1	60.0	62.5
Inverse: per capita income				25.0	22.5	25.0	11.3	12.5	11.3	15.0		
Index of infrastructure											5.0	7.5
Revenue equalisation				25.0								
Special problems												
Sub-total		**25.0**		**75.0**	**67.5**	**75.0**	**67.5**	**75.0**	**67.5**	**70.1**	**65.0**	**70.0**
Tax effort											10.0	5.0
Fiscal discipline												7.5
Sub-total											**10.0**	**12.5**
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Reports of Finance Commissions, Sixth to Eleventh (Y and E are for income tax and excise respectively).
  •   Since 1991; previous formulae in use are to be found in Vithal and Sastry, 2002:152.

Notes to Appendix III

1. This table does not list the shareable percentages. The income tax did not include proceeds of the income tax on corporate entities, termed the "Corporation Tax", between 1959 and 1999. Thereafter, the divisible pool includes eight central taxes, including the Corporation Tax. The Eighth, Ninth and Tenth Commissions set aside some portion of the shareable excise pool for gap-filling of post-devolution deficits, but this amounted in effect to a supplement to the generalised grants-in-aid scheme, and was not integral to the distribution formula for the tax. It did however blur the distinction between shared taxes and deficit grants. Another set of distributive criteria, used with respect to additional excise on textiles, sugar and tobacco, levied in lieu of sales tax leviable by the states, is not listed here.

2. The population of states is taken according to the 1971 census in order not to de-incentivise population control, from the Sixth Commission onward. Population however underlies all the redistributive formulae, applied as a weight to the measure of redistributive entitlement.

3. The Revenue Equalisation Formula of the Seventh Commission used a cross-sectional regression of revenue per capita on per capita income to obtain an estimate of what was termed per capita revenue potential. The distance of this from the maximum estimated value (for Punjab) multiplied by population was used to estimate the share of each state.

4. In addition to the Seventh Commission (*see* note 3), two Finance Commissions attempted an estimate of the tax effort or taxable capacity of states, the Tenth and Eleventh. The Tenth Commission measured tax effort by the ratio of (per capita) own tax revenue of a state to (per capita) income, weighted by the inverse of per capita income. The Eleventh Commission used the same formula, but reduced the weight for the inverse of per capita income from 1 to 0.5.

5. The 25 percent weight in the Gadgil formula for distance of per capita income is split between 20 per cent for states below average per capita SDP and 5 per cent for all states.

Appendix IV: Weights Underlying CSS Transfers

SGRY	SGSY
From 25 September 2001	From 1 April 1999
First stream* (50 percent)	
Between states: In proportion to the rural poor in the State, as a percent of the total rural poor.	Limited usually to one project per district, two permissible, with project cost in the range Rs 1-15 crore.

Between districts:

Weight	Share
50%	Share of rural SC/ST population in the State.
50%	Inverse of per capita production of agricultural workers in the district.

Second stream* (50 percent)

Between and within States: In proportion to number of panchayats in the district as on 1.4.2001.

Source: Government of India, 2003, *Swarnajayanti Gram Swarozgar Yojana*: Guidelines and *Sampoorna Grameen Rozgar Yojana*: Guidelines, Ministry of Rural Development.

Notes: *The first stream is distributed between District and Block Panchayats in the ratio 40:60. The second stream is wholly implemented at the Village Panchayat level.