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**SUBNATIONAL TAX DISHARMONY IN INDIA:
A COMPARATIVE PERSPECTIVE**

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1. Introduction

Inter-jurisdictional tax competition among sub-national units is a feature observed in all federations in varying intensities. A number of studies have analysed the welfare implications of tax competition among subnational units but consensus on the desirability of such spillovers is yet to emerge. One strand of literature views inter-jurisdictional competition as offering greater opportunities and hence, a beneficent force. This view has found particular favour among the Leviathan theorists who argue that interjurisdictional tax competition can work as an effective constraint on the government's monopoly power to maximise revenue (Brennan and Buchanan, 1980). The alternative view, however, considers such competition as a source of distortion. According to this view, the 'cut-throat competition' by the states to attract trade and industry into their respective jurisdictions at the cost of other states can result in distorting relative prices and thereby, allocation of resources.¹

Inter-jurisdictional tax competition results from the states' attempt to indulge in 'free-rider' behaviour². The competition may take the form of (i) reducing the nominal tax rates to maximise revenue by attracting cross-border purchases; (ii) levying selectively lower nominal tax rates and giving incentives to new industries to attract capital into the jurisdictions; and (iii) adopting strategies to export the tax burden to the residents of other states by choosing appropriate tax systems and tax rates on both factors and products. These forms of tax competition can result in considerable degree of disharmony in the structure of taxes among the states causing both resource distortion and inequity.

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1. Break (1967). For a more recent analysis on similar lines, see Rivlin (1992).
2. 'Free-rider' behaviour arises when the States enhance the consumption of public and private goods of their respective citizens by passing on the cost to the non-residents.

In this paper, we primarily are concerned with the tax conflicts among different states in the Indian union but in a comparative context. First, we attempt to analyse the nature and degree of disharmony in the Indian subnational tax system. Later, we examine its trend over time and compare it with the degree of sub-national tax disharmony in three other important federations: Australia, Canada and U.S.A.

The plan of the paper is as follows: In section II, we bring out the trade-off between inter-state tax harmonisation and fiscal autonomy. The discussion helps us to highlight the possibility of achieving an optimal degree of tax harmonisation in federal systems. Section III describes the tax system in the Indian states with a view to analysing the consequences of inter-state tax conflicts on efficiency and equity. In section IV, a summary measure by employing a standard methodology (Vaillancourt, 1992, 1992a) is used to quantify the degree of tax disharmony in India, analyse its trend over time and to make comparisons with those in three federations for which similar analysis is available, namely Australia, Canada and the U.S.A. A summary of our findings and concluding remarks is presented in section V.

II: Fiscal Autonomy of the States and Inter-State Tax Disharmony

a. Fiscal Federalism and Efficiency in Resource Allocation: Fiscal federalism is concerned with an optimal institutional arrangement for two important reasons. It provides public services according to the diversified preference patterns of the people residing in different (states) jurisdictions and at the same time, ensures efficiency in production by assigning the various functions to the level of government best suited to perform it. Efficiency in consumption is ensured through either 'exit' or 'voice'. The option of 'exit' is exercised through 'migratory competition', or people moving to jurisdictions providing the public service-tax mix corresponding closest to their preferences. When the number of jurisdictions are large, the choice set is wide and the efficiency loss arising from "bundling" of public services would be small³. The alternative method of achieving efficiency is when the people influence the decision of the policy makers through the political process (voice) and the outcome of such a process in a parliamentary democracy would reflect the median voters' preferences (Mueller, 1989).

The second reason for treating fiscal federalism as an efficient institutional arrangement, not much emphasised in the literature, is that it ensures throughout the federation a common market unfettered by any fiscal and regulatory impediments. Admittedly, the efficient use of resources is possible only when both factors and products are mobile across the federation. In a developing country, with a large unorganised non-market economy, conscious effort is necessary to strengthen both the distribution and marketing channels and the transportation and communication networks to reach out to areas hitherto unexplored if greater efficiency in resource allocation is to be achieved.

3. It may be noted that the choice has to be exercised on the basis of the most preferred 'bundle' of public services and tax prices and not for individual items of public services. This "bundling" involves welfare losses. See, Breton, (1987).

b. Inter-jurisdictional Tax Competition and Allocative Efficiency: The provision of public services catering to diversified preferences of the people in different jurisdictions necessarily implies that the standards of public services and tax rates ought to be different in them, and in a representative democracy, as mentioned earlier, the choice reflects the median voter's preferences. However, the fact that there is no direct linkage between the taxpayers and the beneficiaries of public services causes the tax and expenditure equilibrium outcomes to be different. The economic agents within each jurisdiction indulge in "free-riding" in their attempt to minimise tax payments and maximise benefits from public services. Given that capital mobility is greater than labour mobility, it would be perfectly rational for the states to indulge in tax competition to attract trade and industry into their jurisdictions and to export the burden of financing their public services to the non-residents to the maximum extent possible. This, however, can alter relative prices in unintended ways and can bring in various types of barriers - fiscal as well as physical, on the free movement of factors and products and thereby distort resource allocation. In addition, when the ability of a jurisdiction to 'free-ride' on others differs widely (when the jurisdictions are non-homogenous), this can give rise to the exploitation of the weak by the strong.

As already pointed out in the previous section, there is very little systematic analysis of inter-jurisdictional tax competition and their efficiency implications and the conclusions reached by the few studies that exist have arrived at conflicting results.⁴ Most striking is the result of Oates and Schwab (1988) who show that when communities are homogenous, where the costs and benefits are clearly perceived and where public decisions reflect the preferences of the residents of respective jurisdictions, inter-jurisdictional competition is efficiency enhancing. However, even in their model, if the jurisdictions are constrained to tax capital for want of more efficient tax instruments and/or if public decisions deviate from the will of the electorate,⁵ tax competition will not lead to efficient outcomes. Another important precondition for efficiency enhancing intergovernmental competition as mentioned above is homogeneity of jurisdictions. This can also be expressed as "competitive equality" and "cost-benefit appropriability" (Breton, 1987). When the condition is not satisfied, the conflict of interest among sub-central governments can cause inefficiencies.

In a developing country federation with acute inter-state inequalities in the levels of development, when there is a delinking of the tax and expenditure decisions wherein costs and benefits of public decisions are not clearly perceived and when the states attempt to pass the burden of financing public services to non-residents, the preconditions required to meet the efficiency enhancing properties of tax competition among the states can not be met and tax competition would cause distortions and inequity. First, in most developing countries consumption taxes as a source of revenue predominate (Burgess and Stern, 1992). Besides, the administrative apparatus in these countries is weak and often, the preference has been to levy "origin" based rather than "destination" based indirect taxes. Second, for both administrative

4. The important studies addressing this issue are, Mintz and Tulkens (1986), Oates and Schwab (1988) and Wilson (1986).

5. This can happen in the Niskanen model wherein, revenue maximising behaviour will cause excessive taxation of capital. See, Oates and Schwab (1988 p 350-351).

and political reasons, the states have found it useful to have a non-transparent and a cascading tax system wherein taxes are collected from inputs and capital goods besides final consumer goods. Third, when the attempt by the states is to attract trade through cross-border purchases, items with relatively low-price elasticity of demand tend to be taxed at high rates. This is particularly true when these items are predominantly exported out of the state. But, these are also the items which constitute the largest proportion of the consumption of the poorest and therefore, for equity reasons, have been exempted or taxed at low rates if they are consumed mainly by the residents. Thus, the "free-riding" strategy influences the states' tax structures as well.

The implications of the above are not very difficult to see. First, the strategy of choosing different tax rates on items consumed by the residents and on those exported to non-residents increases rate differentiation within each of the states. Besides, the attempt to export the tax burden to the out of state residents or to attract capital through various incentives and concessions in commodity taxes complicates the structure of taxes. Second, the tax competition can cause wide differences between the states' tax systems depending upon the structure of production and consumption and the type of strategy followed to maximise revenue and to attract capital. Third, "origin" based consumption taxes with taxes extended to inputs and capital goods can result in cascading, and in heterogeneous economies with varying 'powers', can cause inter-state tax exportation with unfavourable effects on both equity and efficiency. As more developed states are the net exporters of goods and the composition of their exports is heavily weighted in favour of final consumption goods as against raw materials, their 'ability' or 'power' to export the tax is better than that of the less developed states. Generally, it is argued that inter-state tax competition results in the convergence of the tax systems. But when the states are heterogeneous, capital and labour are not perfectly mobile and the structure of taxes is determined *inter alia*, by the attempts to export the tax burden, the tax competition may cause divergence in the states' tax systems and may actually result in welfare losses.

Thus, often, the gains from autonomy in choosing their preferred public service-tax rate can come into conflict with the welfare loss arising from inter-state tax competition. It is necessary to know the exact nature of resource distortion and inequity due to inter-state tax conflicts emerging from the states' 'free-riding' strategy to achieve the required degree of tax harmonisation. The optimal degree of tax harmonisation is achieved when the marginal welfare gains from states' fiscal autonomy is equated with the marginal welfare loss from resource distortion and inequity arising from inter-state tax competition and tax exportation.

III. Inter-State Tax Disharmony in Indian Federation

In this section, we attempt to identify the sources of inter-state tax conflicts in India. For this purpose, we point out the salient features of the states' tax systems, analyse the intrastate and inter-state differences in the structure of commodity taxes which contribute to a predominant proportion of states' tax revenues and infer the consequences of these factors on allocative efficiency and inter-regional equity.

a. Nature and Importance of States' Taxes in India: In India, the states collect about 30 per cent of the total revenues of the centre and the states taken together and incur about 55 per cent of total expenditures (Table 1). In terms of comparisons with some selected federations, the share of states' revenue collections in India in 1987 was higher than in Australia, Austria, Brazil and Malaysia but, was lower than the shares in Canada, Germany and Switzerland. Thus, the revenues raised by the state governments form not too insignificant a proportion and therefore, the method of raising these revenues and their consequences would have important allocative implications. Of course, fiscal dependence of the states in India was the highest among the countries considered (column 4) as they could generate only about 43 per cent of the revenues required to finance their expenditures from the own tax sources assigned to them and had to depend upon the central transfers for the remaining 57 per cent⁶. What is more, as may be seen from Table 2, the share of states' own revenues in their current expenditures (or fiscal independence) has shown a steady decline from 53.5 per cent in 1975-76 to 45.3 per cent in 1990-91. Further, as the variation in the shares of the states (standard deviation) remained more or less constant over the period, the coefficient of variation in the fiscal dependence increased from 21 per cent in 1975-76 to 28 per cent in 1990-91.

It must be noted that the major reason for declining fiscal independence of the states has to be found in their current expenditure growing at a rate faster than their revenues. The ratio of tax revenue to state domestic product (SDP) as may be seen from Table 2 actually increased from 6.3 per cent in 1975-76 to over 8.2 per cent in 1985-86 but stagnated at that level thereafter. The increase in the tax ratio, however, was accompanied by increase in inter-state variations in the tax ratios from 20 per cent in 1975-76 to 27 per cent in 1990-91 (column 3) indicating the increasing degree of inter-state disharmony in the levy of taxes.

A major characteristic of the state tax systems in India is the predominance of taxes on commodities and services. The share of three major indirect taxes - sales tax, taxes on transport and state excise duty constituted over 82 per cent of total state tax revenue (Table 3). Among the indirect taxes, sales taxes contributed over 56 per cent of total states' tax revenues. The pattern is broadly uniform across different states with the share of sales tax varying from 44 per cent in Punjab to over 70 per cent in Bihar. The other major state taxes are, state excise duties on alcoholic beverages (16.5 per cent), stamp duties and registration fees (6.4 per cent), and taxes on vehicles, goods and passengers (9.7 per cent).

Given that revenue from sales taxes predominate in the states' fiscal operations, understanding the nature of disharmony in the levy of sales taxation is important. Specifically, sales tax competition in India has taken two forms (i) competition in nominal tax rates, and (ii) according sales tax incentives for new investments.

6. These figures refer only to the 14 major states whose list is found in Table 4. When all the states are taken the share of tax revenues in expenditures shows a marginal decline (40 per cent). It must also be pointed out that, strictly speaking, the non-tax revenues also must be considered to analyse fiscal independence. However, the share of non-tax revenues in total states' revenues is not very significant.

Table 1
Fiscal Decentralisation in Selected Federations (1987-88)

Countries	Percentage of State government revenue collection in total revenues	Percentage of State government expenditure in total expenditures	Percentage of States' own revenues in States' expenditures
(1)	(2)	(3)	(4)
Australia	20.9	36.4	44.6
Austria	14.2	17.3	75.0
Brazil	16.7	33.0	67.4
Canada	45.1	54.0	75.4
Germany	44.7	29.6	79.0
India	30.2	54.4	43.4
Malaysia	13.4	18.5	68.0
Switzerland	31.6	38.2	73.7
U.S.A.	29.3	30.9	88.1

Source: Government Finance Statistics, 1990
International Monetary Fund

Table 2
Importance of States' Tax Revenue

(Per cent)

Year	Share of States' own Tax Revenue in State Domestic Product (SDP)		Share of States' Tax Revenue in States' Current Expenditure	
	Mean	Coefficient of Variation	Mean	Coefficient of Variation
(1)	(2)	(3)	(4)	(5)
1975-76	6.3	19.7	53.5	20.8
1980-81	6.9	23.5	47.9	25.9
1985-86	8.2	26.8	47.8	24.6
1986-87	8.5	25.7	47.4	27.8
1987-88	8.7	23.5	45.8	25.1
1988-89	8.3	25.2	46.5	25.9
1989-90	8.4	25.2	47.4	26.0
1990-91	8.5	26.9	45.3	27.7

Note: All estimates pertain to 14 major states. The less homogenous hill states and the small state of Goa are not considered. However, these 14 major states cover 93 per cent of total population in the country.

Sources: 1. Budget documents of the states.
2. Central Statistical Organisation, Ministry of Planning, Government of India.

Table 3**Importance of Individual State Taxes - 1990-91**

(Per cent)

	Percentage of State Taxes to SDP	Percentage of State Taxes to Total Tax Revenue
1. Sales Tax	4.11	56.1
2. Taxes on Vehicles, goods and passengers	0.71	9.7
3. State excise duty	1.21	16.5
4. Stamp duty and registration fees	0.47	6.4
5. Other taxes	0.83	11.3
6. Total tax revenue	7.33	100.00

Source: As in Table 2.

b. Nature and Consequences of Sales Tax Competition: A major consequence of sales tax competition is the minute differentiation in the nominal rates. While the rate differentiation may also be attributed to the pursuit of other objectives of tax policy, particularly equity, the tax competition has contributed to this outcome in no small a measure. Attempts to reduce the tax rates on commodities with high price elasticity of demand often has resulted in irrational structure of tax rates. Thus, there are quite a few instances where motor cars and consumer electronics are taxed at the same or lower rates than foodgrains and edible oils neutralising the very objective of equity for which rate differentiation was introduced in the first place⁷. Needless to add, such a competition has led to unintended relative price distortions.

Apart from differences in nominal rates, there are other reasons why effective rates vary across the states. First, the tax systems across the states themselves are not uniform - while most of the states have tended to move towards the levy of tax at the point of manufacture or import into the state, some states continue to levy the tax at the last stage of sale or even in multiple stages on certain commodities (Table 4). There are also instances where additional sales tax or a surcharge on sales tax is levied on sales tax dealers above a specified turnover limit. Further, the standards of tax administration and enforcement vary widely across states resulting in wide differences in the effective tax rates. Even more important source of variation is the inter-state competition in providing sales tax concessions to attract new investments. This "beggar my neighbour policy" besides causing significant loss of revenue to the states'

7. In Punjab for example, the tax rate on motor cars is 3.5 per cent whereas foodgrains are taxed at 4 per cent and edible oils at 8 per cent. Of course, the equity objective in the design of tax rates itself has been taken account of on the basis of the judgements about income elasticity of demand for various commodities without considering the general equilibrium effects of such a tax design.

Table 4

Sales Tax Rates on Selected Commodities as on March, 1991 (14 Major States).

Commodities	Andhra Pradesh	Bihar	Gujarat	Haryana	Karnataka	Kerala	Madhya Pradesh	Maharashtra	Orissa	Punjab	Rajasthan	Tamil Nadu	Uttar Pradesh	West Bengal	Mean	CV
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1. Cereals	4	4	E	4	2	4	2	E	4	4	4	E	4	1	2.6	6
2. Pulses	4	4	E	4	2	4	3	E	4	4	4	4	4	1	3.0	5
3. Hydrogenated vegetable oil	6	9	10	8	5(c)	6(c)	12	8	4	8	8	5	8	8	7.5	2
4. Other edible oils	4	2	4	6	4/3(c)	6(c)	3	4	2	8	6	E	5	8	4.4	5
5. Kerosene	4	6	3	3	4	4	3	4	E	8	10	4	8	5	4.7	5
6. Cooking gas	10	9	14	14	15(c)	15(c)	16	4	5	8	10	8	8	15	10.8	3
7. Cosmetics	10	12	12	10	15	15	16	15	16	8	12	12	12	15	12.9	1
8. Medicines	5	7	8	8	10	10	3	4/12	4	4	6	6	6	4	6.1	3
9. Stainless steel utensils	6(a)	8	6	3	7(a)	10	8	12	12	10	15	5	12	8/11	8.8	3
10. Wooden furnitures	5	12	12	8	8(c)	10(c)	14	8	16	10	12	8	12	8	10.2	2
11. Steel furnitures	10	13	12	10	15(c)	10(c)	14	15	16	10	15	8	12	15	12.5	1
12. Refrigerator/air-conditioner	10	16	12	10	15	15	16	15	12/16	10	12	15	12	11/15	13.1	1
13. Domestic electrical appliances	10	12	15	10	12+3(b)	10	12	15	12	10	12	12/8	12	8/11/15	12.0	1
14. Motor cars	4	9	12	8/10	6	4	10	15	8	10	6	5	10	6	8.1	3
15. All kinds of machinery	6	9	6	8	13	8	12	10	16	10	10	10	5	8	9.4	3
16. Fertilizers	3	6	4	E	3	2	3	E	2	E	6	3/5	5	4	3.0	6
17. Cement	9	11	12	12	15(c)	10	12	10	12	7	16	12	10	8	11.1	2
18. Motor spirit	18	9	20	8	20	20	16	12	12	E	18	18	E	10	12.9	5
19. High speed diesel	12	14	18	E	20	20	18	10	6	E	16	16	E	12	12.3	5
20. General rate	6(a)	8(c)	8+4(b)	8	7(a)	5(a)	8	10	12	7	10	8	8(c)	8(a)	7.9	2

Note: (a) Multi-point levy, b) Double point levy
(c) Single stage last-point, (d) E - Exempted
All other commodities are subject to first-point single stage levy.

Source: Sales Tax System in India: A Profile, NIPFP, 1991.

exchequer has distorted the relative prices of capital across both commodities and regions⁸. All these factors have tended to cause minute differentiation in effective tax rates on commodities within and between different states.

Equally worrisome are consequences of the attempts by the states to pass the tax burden to non-residents. As already mentioned, in India the states levy sales taxes predominantly on the basis of origin, at the stage of manufacture or import. Further, for revenue reasons, given their constraint on tax handles and narrow tax bases, the states have tended to tax raw materials, intermediate inputs as well as capital goods (see Table 4). What is more, the Indian constitution recognises the right to levy tax on inter-state sale subject to the ceiling on the tax rate (4 per cent)⁹. In a 'mark-up' pricing situation, where there is full forward shifting of the tax, the cascaded taxes on inputs and capital goods add on to the inter-state sales tax and the effective tax rate on inter-state exports would be much higher than the four per cent nominally levied. The effective tax rate will depend upon the extent of input tax included in the traded commodity. It is generally seen that the exports of more developed states are larger than their imports and the proportion of final goods in their exports too is higher. Thus, the residents of poorer states end up paying taxes on larger volume of imports and at higher effective tax rates.

The extent of inequitable resource transfers from the poorer to the richer states due to the prevailing tax system comes out clearly when we compare the actual share of each state in sales tax collections with the share that would accrue when the tax is levied according to destination principle.

To arrive at an estimate of tax collections under the destination-type consumption tax, we have quantified the tax base consisting of the total value of consumption in the i^{th} state which includes household consumption (H_i) and state government's consumption of goods (G_i).¹⁰

$$H_i + G_i = C_i \quad i = 1, \dots, n \quad (1)$$

If the effective tax rate is identical across the states ($t_i = t$ for all i), then tax shares of the states will be equivalent to the consumption shares.

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8. For an analysis of cost and efficacy of sales tax incentives, see Tulasidhar and Rao (1986).
 9. The ceiling rate is applicable only when the transaction takes place between the registered dealers. If the sale is from a registered dealer, in the exporting State to a non-registered dealer in the importing State the ceiling rate applicable is 10 per cent.
 10. This still leaves out central government consumption of goods in various states. As the bulk of this accrues in the Union Territory of Delhi, the non-inclusion of this would not significantly affect the relative shares. In any case, the information on the state-wise purchase of goods by the central government is not available.

$$\frac{t_i C_i}{\sum_{i=1}^n t_i \Sigma C_i} = \frac{C_i}{\sum_{i=1}^n C_i} \quad \text{when } t_i \text{ is constant across States.} \quad (2)$$

However, when a non-destination type of tax levied, the actual tax shares will be different from the consumption shares. If T_i denotes actual tax collection in the i^{th} state, then,

$$\frac{T_i}{\Sigma T_i} = \frac{t_i(C_i + e_i)}{\Sigma T_i}$$

where e_i is the extent of difference of the actual tax base from final consumption or net consumption of non-residents.

$$\begin{aligned} \text{i.e.,} \quad \frac{T_i}{\Sigma T_i} - \frac{t_i e_i}{\Sigma T_i} &= \frac{t_i C_i}{\Sigma T_i} \\ \text{or} \quad \frac{T_i}{\Sigma T_i} - \frac{t_i e_i}{\Sigma T_i} &= \frac{C_i}{\Sigma C_i} \end{aligned} \quad (3)$$

$$\text{Thus,} \quad \frac{T_i}{\sum_{i=1}^n \Sigma T_i} \geq \frac{C_i}{\sum_{i=1}^n \Sigma C_i} \quad \text{depending upon whether} \quad \frac{t_i e_i}{\sum_{i=1}^n \Sigma T_i} \geq 0$$

Thus, the sales tax shares of individual states will not be equivalent to their consumption shares if all the states do not levy the tax at identical effective tax rates and/or the tax is not levied according to destination principle and hence, there can be net tax exports to out of state residents.

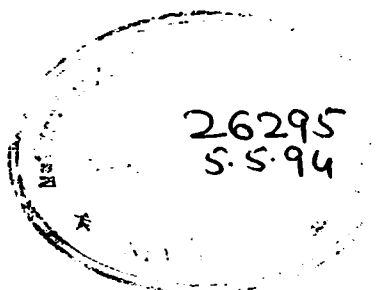
The estimates shown in table 5 clearly bring out the difference in the sales tax shares of the states from their consumption shares. It is seen that the sales tax collections of high income states under the destination based taxation would be lower by 13.8 per cent of total sales tax collections and the low income states would gain as much. On an average, the destination based tax would have reduced the tax revenue of the high income states by 30.2 per cent and the collection of low income states would have been higher by 32.8 per cent. Of the seven above average income states, all except West Bengal were net tax exporters and among less than average income states, except Andhra Pradesh and Kerala, all were net tax importers. The extent of exportation as a percentage of their actual tax collections was the highest in Gujarat and Maharashtra (about 44 per cent); in contrast, the residents of Bihar paid the highest percentage of their tax collection to other states (79 per cent).

Table 5
Consumption Shares, Tax Shares and Effective Tax Rates (1987-88)

States	House- hold consump- tion Rs. billion.....	State govern- ment pur- chase of goodsRs. billion.....	Total con- sump- tion	Percen- tage of total consump- tion	Sales tax collec- tions (Rs. billion)	Percen- tage of total sales tax collec- tions	Difference between sales tax consump- tion shares	Effective tax rates (per cent)	Tax ex- ported (Rs. billion)	Tax ex- ported/ sales tax collec- tions (per cent)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. High Income States										
Gujrat	85.55	2.37	88.92	6.45	10.20	11.66	5.21	11.47	4.57	44.74
Haryana	41.38	1.21	42.59	3.09	3.15	3.60	0.51	7.39	0.45	14.25
Karnataka	87.14	0.99	88.14	6.39	7.76	8.87	2.48	8.81	2.17	27.99
Maharashtra	179.09	3.49	182.57	13.23	20.47	23.40	10.17	11.21	8.89	43.45
Punjab	57.25	1.65	58.90	4.27	4.31	4.92	0.66	7.31	0.57	13.31
Tamil Nadu	118.83	3.49	122.32	8.87	12.42	14.20	5.34	10.16	4.67	37.57
West Bengal	133.40	3.65	137.05	9.93	8.32	9.51	-0.42	6.07	-0.37	-4.43
Sub-Total 1	488.57	12.27	500.84	36.30	45.52	52.04	15.74	9.09	13.77	30.24
2. Low Income States										
Andhra Pradesh	131.92	3.54	135.46	9.82	9.71	11.09	1.28	7.16	1.12	11.50
Bihar	138.10	3.35	141.46	10.25	5.00	5.72	-4.53	3.54	-3.97	-79.25
Kerala	74.04	1.60	75.64	5.48	6.00	6.85	1.37	7.93	1.20	20.01
Madhya Pradesh	119.75	2.77	122.52	8.88	5.15	5.88	-3.00	4.20	-2.62	-51.00
Orissa	50.55	0.98	51.53	3.73	2.06	2.36	-1.38	4.00	-1.21	-58.55
Rajasthan	92.53	2.54	95.07	6.89	4.50	5.15	-1.74	4.74	-1.52	-33.81
Uttar Pradesh	251.44	5.69	257.12	18.64	9.54	10.91	-7.73	3.71	-6.76	-70.89
Sub-Total 2	858.33	20.47	878.80	63.70	41.96	47.96	-15.74	4.77	-13.77	-32.81
All Major States	1346.90	32.74	1379.64	100.00	87.48	100.00	0.00	6.34	0.00	0.00

- Note:
1. Column 3 = Column 1 + column 2
 2. Column 4 = Percentage of individual States in column 3 to their total
 3. Column 6 = Percentage of individual States in column 5 to their total
 4. Column 7 = Column 6 - column 4
 5. Column 8 = (Column 5/column 3) x 100
 6. column 9 = (Total (all States) sales tax collections x column 7)/100
 7. Column 10 = (Column 9/column 5) x 100

- Source:
1. Budget documents of the State governments
 2. National Sample Survey on Consumer Expenditures, 42nd round.



As already mentioned, one possible reason for the states' actual tax shares varying from consumption shares is the difference in the effective tax rates. If the effective tax rates in poorer states are systematically lower than those in the richer states, it is possible that tax shares of the poorer states would be lower than their consumption shares. However, the actual tax shares as shown in column 7 of Table 5 are possible without involving any inter-state tax exportation only if the effective tax rates vary from 3.5 per cent in Bihar to 11.5 per cent in Gujarat as shown in column 9. In other words, even if the assumption of uniform effective tax rate is relaxed, there would be tax exportation from the richer to the poorer states so long as, on an average the percentage reduction in the effective tax rate is less than the percentage reduction in per capita incomes.¹¹ While it is important to note that these estimates must be taken with a note of caution, they clearly indicate the possibility of a high degree of inter-state tax exportation from the relatively more developed to less developed States.

c. Distortionary Effects of Other State Taxes: The effects of inter-state differences in other state taxes too have been distortionary. For example, the imposition of prohibition on the sale of liquor and levying very high taxes on it, besides encouraging cross-border purchases, has led to illicit brewing, and the consumption of illicit liquor has had very adverse impact on health, including causing a number of deaths. The states imposing prohibition have had to make up the revenues through other tax sources, leading to disharmony in other taxes. Levying very high rates of taxes on motor vehicles and goods and passengers, besides inducing evasion, has placed impediments to the free movement of goods causing the transporters to go on strike from time to time to pressurise the governments to lower these taxes. Even in the case of taxes on transfer of property, higher rates of stamp duty and registration fees have led to large scale evasion of the tax by undervaluing the property. Besides actively contributing to the underground (informal) economy, this has, in fact, contributed to distortions in the real estate markets. All these issues deserve more detailed analysis, but that is beyond the scope of this paper.

IV. Fiscal Disharmony: Trends and Comparison with other Federations

In this section, we make an attempt to measure the degree of disharmony in the states' tax systems in India, analyse its trend over time and compare it with the tax disharmony seen in three other federations for which similar estimates are available namely Australia, Canada and the U.S.A.

a. Methodology of Estimating Inter-State Tax Disharmony: At the outset, it must be mentioned that the measurement of sub-national tax disharmony is beset with inherent problems and any summary measure is likely to be too simplistic to adequately take account of the inter-state variations in the tax bases and tax rates. This is particularly true when the states' tax systems are as complicated as is seen in India. Also, it may not be possible to infer the allocative and distributive consequences of such variations through any summary measure. Yet, like all summary measures, the measure of tax harmony can broadly indicate the extent of disharmony, its trend over time and can help to make inter-country comparisons.

11. This is given by the elasticity of effective tax (t) rates with respect to per capita incomes (y) which is estimated by the regression equation, $\log t = -5.9124 + 0.973 \log y$.

The standard method employed to measure tax disharmony is to estimate coefficient of variations (cv) in (i) nominal tax rates (ii) effective tax rates with respect to the tax base, and (iii) effective tax rates with respect to GDP (tax-GDP ratio in the states). Given the complexities in the structure of taxes, it is virtually impossible to estimate (i) and (ii) for all the state taxes in India. In particular, variation in the coverage, multiplicity of tax rates and difficulties in identifying the exact tax base itself renders the estimation of the coefficient of variation in nominal tax rates and effective tax rates with respect to the tax base difficult. However, to demonstrate the complexities in the sales taxes, we have estimated coefficients of variation in the nominal tax rates in respect of 20 groups of commodities, ignoring some details such as differences in the point of tax levy, the levy of additional surcharges or turnover taxes. However, we have mainly relied on the coefficients of variation (cv) in the percentage of tax revenues to Net State Domestic Product (SDP) in respect of other major state taxes to draw inferences on the trends in inter-state disharmony in individual as well as aggregate state taxes in India¹².

For the purpose of estimating inter-state tax disharmony, the important state taxes analysed are (i) the sales tax, (ii) the state excise duty, (iii) tax on motor vehicles passengers and goods, and (iv) stamp duty and registration fees. These four taxes contributed about 89 per cent of states' tax revenue in 1990-91. We have estimated the coefficients of variation in tax-SDP ratios for the four individual taxes as well as the total tax revenue. We have carried out the analysis for the 14 major States as well as all the States excluding those for which data are not available.¹³ The results of the 14 major States which broadly forms a homogeneous group and show a clear trend and are discussed here in some detail. The all-State analysis does not provide any additional insights except showing a higher degree of disharmony in respect of each of the major taxes. We have, therefore, not presented these results here.

The results of our analysis presented in Tables 6 bring out the following features:

(i) A very high degree of inter-state tax disharmony can be inferred from the large coefficients of variation in effective tax rates in respect of each of the individual taxes as well as the total tax revenues of the states even when only the 14 major states are considered. The coefficient of variation in effective tax rates among the states vary from 34 per cent in the case of sales tax to 56 per cent in the case of state excise duty in 1990-91. The coefficient of variation in the effective tax rates for aggregate state taxes in 1990-91 was 27 per cent.

12. This, however, creates some difficulty for making inter-country comparisons as the CV computed for them are of tax-GDP ratios. However, the difference in the denominator (the net factor income from outside the state) is not likely to make much of a difference to render the comparison meaningless, though, this fact must be kept in the background.

13. Of the 25 states, three (Arunachal Pradesh, Goa and Mizoram) were formed only in 1987 and for Meghalaya and Sikkim, data on SDP are not available for the time period prior to 1985-86. Thus the analysis is confined to 20 States.

(ii) A comparison of coefficients of variation in states' effective total tax rates in India with those in Australia, Canada and the USA estimated by Vaillancourt (1992) shows that in 1986-87, the extent of tax disharmony in India at 26 per cent was the highest. The comparable numbers for Australia at 8 per cent was the lowest. In Canada and U.S.A., they were 18 per cent and 14 per cent respectively.

(iii) Our analysis brings out the steadily increasing trend in the degree of inter-state tax disharmony for total taxes in India over the years, 1975-76 to 1990-91. The coefficients of variation have shown continuous increases over the years (Table 6). As may be seen from the table in India, the coefficient of variation in aggregate state tax-SDP ratios increased from 19 per cent in 1976-77 to 27 per cent in 1985/86. The major source of this increase in coefficient of variation was the effective ratio of sales taxes. This divergent trend in tax disharmony contrasts sharply with the trends seen in other selected federations. On the contrary, in the three other federations for which the estimates are available (Vaillancourt, 1992), the coefficients of variation actually converged by varying degrees, the highest being in Australia showing a decline (from 16 per cent in 1976-77 to 8 per cent in 1986-87).

Table - 6

Coefficients of Variation in Tax-SDP Percentages - Major States (14)

(Per cent

Year	Sales Tax	Stamps and Registration	State Excise duties	Taxes on Vehicles, Goods and Passengers	States' Total Tax Revenue
(1)	(2)	(3)	(4)	(5)	(6)
1975-76	25.3	39.2	66.9	34.6	19.7
1976-77	21.8	36.8	68.3	31.7	18.7
1977-78	24.3	38.1	68.5	33.9	21.4
1978-79	25.0	40.5	74.2	37.7	22.3
1979-80	20.5	37.6	78.9	33.9	19.6
1980-81	28.4	41.6	76.0	38.0	23.5
1981-82	26.0	43.4	62.5	39.5	22.3
1982-83	29.3	40.0	62.1	33.1	25.1
1983-84	28.3	39.6	65.4	36.8	26.2
1984-85	28.4	38.4	64.9	34.7	26.2
1985-86	30.5	37.2	67.7	35.0	26.8
1986-87	29.1	38.0	66.7	36.2	25.7
1987-88	30.0	36.6	64.0	38.8	23.5
1988-89	31.7	40.3	65.1	33.4	25.2
1989-90	29.6	39.4	60.7	34.6	25.2
1990-91	34.4	38.4	56.4	36.8	26.9

Table 7

Variations in Sub-National Effective Total Tax Rates in Selected Federations

	1976/77	1986/87
Australia	16	8
Canada	20	18
India	19	26
U.S.A.	16	14

(iv) Interestingly, the coefficients of variation in the effective tax rates of aggregate state taxes are appreciably lower than those of individual state taxes. It thus appears, that a significant proportion of tax disharmony among individual state taxes is not due to the variation in their preferences for public services, but, merely indicates differences in the preferences in the pattern of the states in raising revenues. This finding is also in conformity with the findings for other federations (Vaillancourt, 1992).

(v) The major source of increasing degree of tax disharmony over the years in India is seen in the sales tax and to some extent, taxes on motor vehicles and goods and passengers (Table 7). The coefficient of variation in the effective tax rates in respect of the sales tax increased from 25 per cent in 1975-76 to 34 per cent in 1990-91 and in the case of taxes on transport, the increase was from 35 per cent to 37 per cent. The coefficient of effective tax rates of stamp duty remained more or less at the same level while that of state excise duty declined from 67 per cent to 56 per cent during the period.

(vi) We had, in the previous section, highlighted problems arising from inter-state tax competition and tax exportation in the levy of sales tax by the states. However, a comparison of variations in effective tax rates in the 14 major states with Canada and U.S.A. would give an impression that the degree of sales tax disharmony in India is actually lower. The coefficient of variation in sales tax rates for the 14 major states at 29 per cent is much lower than about 50 per cent observed both in Canada and the U.S.A. Such a conclusion, however, would be unwarranted for two important reasons. First, the sales taxes levied by the States and Provinces in the U.S.A. and Canada are at the retail stage whereas in India it is predominantly a tax at the first point of sale (producer or importer). Second, the inter-State sales taxation in India brings in strong elements of origin based tax as against the destination type tax levied in the two other federations. Further our analysis of the nominal tax rates in the 14 major States in respect of 20 groups of commodities which constitute over 80 per cent of consumption¹⁴ shows a very high degree of inter-state variation (Table 4). The unweighted coefficients of variation in the nominal

14. The commodities for which nominal tax rates are given constitute about 60 per cent of consumption. In addition, items like fruits and vegetables, meat, fish and eggs are exempted in all the states. Together they constitute 70 per cent of total household consumption.

tax rates of these 20 groups of commodities show a high degree of both inter-commodity variations in the tax rates within each of the states as well as inter-state variation in the tax rates for each of the commodity groups. The inter-commodity variation in the tax rates varied from about 40 per cent in Bihar and Rajasthan to over 60 per cent in Maharashtra and Tamil Nadu. As regards inter-state variation, over 50 per cent CV in the nominal tax rates is seen in seven out of the 20 commodity groups.

V. Concluding Remarks

It is difficult to measure the degree of disharmony in sub-national tax systems. No summary measure can adequately take account of the complexities in the tax systems among the states, nor can it entirely capture the equity and efficiency consequences of inter-state tax competition. Yet, a summary measure like the coefficient of variation is useful to indicate the broad trends in sub-national tax disharmony and make inter-country comparisons of the degree of disharmony.

The major conclusions of our analysis are (i) the degree of inter-state tax disharmony in India is substantially higher than in Australia, Canada and the U.S.A.; (ii) the inter-state tax disharmony in India has shown an increasing trend and this is contrary to the experience of other federations where the inter-state differences have converged over time, and (iii) like as in other federations, inter-state tax disharmony in respect of individual state taxes is greater than the aggregate disharmony, indicating thereby that the divergence in state taxes is driven not so much by the varying preferences for public services, but is due mainly to the differing choices in the pattern of raising revenues.

It is not our claim that the inter-state tax disharmony arising from interjurisdictional tax competition is necessarily efficiency reducing. In many countries the tax competition has led to convergence in the tax rates and has reduced tax disharmony. But in India, tax competition indulged by the states in their attempt to export the tax burden to the non-residents and to attract capital and trade into their jurisdictions has tended to create a divergence in the effective tax rates and thus, has enhanced the degree of tax disharmony. Given the acute inter-state differences in the levels of development and the abilities of the states to export the tax burden to non-residents, it would be difficult not to escape the conclusion that inter-state tax competition in India has, in fact, led to resource distortions. If that is correct, minimising inter-state tax disharmony should receive immediate attention of the policy makers. To minimise resource distortions and inequity, simplification of states' indirect tax structures and levying taxes according to destination principle should, therefore, receive immediate priority. This would have to be achieved without unduly infringing on the states' autonomy.

The above analysis underlines the need to undertake three specific measures to minimise resource distortions and inequity arising from inter-State tax disharmony in the levy of sales taxes in the Indian federation. First, the destination-based taxes should replace the prevailing origin-based taxes by removing the taxes on inter-State trade. Second, there is an imperative need to simplify the structure the taxes by reducing rate differentiation and removing sales tax incentives for industrialiation, and third, the levy of the sales tax itself must be rationalised by broadening the base to cover value added in stages subsequent to manufacturing

and inputs and by giving set off on the tax paid on inputs and capital goods. A consumption type value added tax by zero-rating the inter-State transaction appears to be an ideal solution to harmonise inter-State tax disharmony in India, but it is doubtful whether the States would agree to give up their right to levy taxes on inter-State transactions.

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