WORKING PAPER 8/2006

Equalizing Health and Education: Approach of the Twelfth Finance Commission

D.K.Srivastava

MADRAS SCHOOL OF ECONOMICS
Gandhi Mandapam Road
Chennai 600 025
India

March 2006

Equalizing Health and Education: Approach of the Twelfth Finance Commission

D.K.Srivastava
Madras School of Economics
Gandhi Mandapam Road
Chennai – 600 025, India
Tel: +91-44-2235 2157, 22300304 / 7
Fax: 91-44-2235 2155, 22354847
Email: srivastava@mse.ac.in

WORKING PAPER 7/2006

March 2006

Price: Rs.35

MADRAS SCHOOL OF ECONOMICS
Gandhi Mandapam Road
Chennai 600 025
India

Phone: 2230 0304/ 2230 0307/2235 2157
Fax : 2235 4847 /2235 2155
Email : info@mse.ac.in
Website: www.mse.ac.in

Equalizing Health and Education: Approach of the Twelfth Finance Commission

D.K.Srivastava

Abstract

Service standards in the provision of health and education in the states in India are low on average and also characterized by large inter-state disparities. These disparities are due to differences in fiscal capacity, differences in revenue effort and differences in priority accorded to the concerned sectors. The transfers from the central to state governments in many federations are guided by the equalization principle. Two important examples are Canada and Australia. When unconditional transfers are made, equalization transfers aim to neutralize deficiency in fiscal capacity but not that in revenue effort. Sometimes adjustments affecting cost and need factors may also be accommodated. Both in Canada and Australia, apart from general purpose and unconditional transfers, there are also specific purpose transfers. Considering the fact that it is important not only to improve the average levels of provisions of health and education services, but also to reduce disparities across states, the Twelfth Finance Commission has recommended special grants for health and education to selected states. In determining these grants, the TFC had kept the equalization principle in perspective and has not underwritten deficiency in expenditure if it arises because states accord less than average priority to the concerned sector. Recommended grants however only partially meet the requirement of resources for these sectors. For meeting the needs fully, much larger amounts would be involved. TFC's initiative should be taken only as a beginning that requires supplementation by plan grants. After gaining experience in implementing these grants, larger grants and a more comprehensive approach can be developed.

1. Introduction

Service standards in the provision of health and education in the states in India are inadequate on average. There are also large inter-state disparities in state level per capita expenditures on health and education. These translate into large differences in the health and education outcomes in the states. It is important therefore not only to improve the average levels of provisions of these services, which can be justified on grounds of nationwide positive externalities, but also reduce disparities across states. An equalization principle in determining service-specific grants can play an important role in a situation where, while the average expenditure on health and education may grow covering all states, for some states where service provisions are below average, expenditure on these heads needs to grow faster than the average, if they are to catch up.

In fiscal transfers, under normal circumstances, equalizing transfers are given as general and unconditional transfers. It is for the sub-national government to determine the allocation among different heads according to its own priorities. In India, achievement of full fiscal capacity equalization has been constrained by several factors. In particular, large and growing inter-state differentials in fiscal capacity, stable vertical imbalance, and multiple channels of fiscal transfers have resulted in a system that is progressive to a degree but not fully equalizing. The Twelfth Finance Commission (TFC) has considered it desirable that, pending major institutional changes, an attempt should be made to reduce inter-state differences in selected services faster than that for the average level of all services. The selected services are health and education. As such the TFC, in its recent Report covering the period 2005-10, made recommendations for conditional and specific purpose grants that are meant to reduce disparities in health and education for a number of states with below-average per capita expenditures on these services.

In this paper, we look at the methodology of determining health and education grants followed by the TFC, the proposed conditionalities, and the role that these transfers can play, as supplemented by other initiatives such as plan grants linked to the education cess in augmenting the level of health and education expenditures in the states. Section 1 briefly discusses the conceptual basis of equalization and examines the implications when equalization is attempted in a service specific perspective. Section 2 looks at the prevalent practices in regard to equalization transfers, particularly in Australia and Canada with a view to drawing some relevant comparisons. Section 3 provides a review of disparities in per capita expenditure in health and education. Section 4 provides an analysis of the methodology followed by the TFC within the context of an equalization approach. Section 5 looks at the actual amounts involved and the beneficiary states. Section 6 summarises the relevant conditionalities that have been prescribed by the Finance Commission. Section 7 provides concluding observations.

1. Fiscal Equalization: Conceptual Basis

Fiscal equalization has become an established principle as well as practice in some of the important federal countries like Canada and Australia for determining transfers from the federal to the state governments. Fiscal equalization provides a mechanism for ensuring, with the help of inter governmental transfers, that all states can provide comparable levels of services if they also undertook comparable revenue effort. However, in both Canada and Australia, unconditional transfers are supplemented by health and/or social sector grants that are distributed by a set of principles that are inherently equalizing in nature. In Canada, there are Canada Health Grants, and Canada Social Sector Transfers. In Australia also, apart from the general revenue sharing of revenues raised under the GST under the equalization principle, there are additional health care grants.

Both equity and efficiency arguments are used to justify equalization. It is also argued that in the context of equalization these are not necessarily in conflict. As Boadway (2001) observes: "fiscal equity does not conflict with fiscal efficiency: both depend on NFBs [net fiscal benefits] being equalized across jurisdictions". Buchanan (1950) and Buchanan and Wagner (1971) had initially analysed the efficiency implications of equalization mainly using two concepts: 'fiscal surplus' and 'congestible' goods. Fiscal surpluses are the values citizens place on public and merit goods over and above the taxes they are required to pay to obtain the benefits arising from these goods. Congestible goods have the public good characteristic of its consumption being non-rivalrous only when a limited number of persons are sharing the benefit of the provision. As more people join as claimants for the benefit of the same service provision, the availability of services is reduced for the original participants.

Migration is efficient if it is guided by location decisions based on individuals attempting to maximise their incomes by choosing to work in those states where they can be most productive. Such location decisions can be distorted and become inefficient if the existence of fiscal surpluses also enters in the calculus of their location decisions. As rich states can provide higher fiscal surpluses than poor states, i.e. in their case taxes paid are lower for a given level of benefit than that in a poor state, there is an incentive for migration from the poor to the rich states. The mechanism of equalization transfers eliminates differences in fiscal surplus, and renders locational decision-making efficient by making it dependent only on productivity differences. It is worthwhile for the richer states to bear the cost of redistribution implied by the equalization transfers, particularly in the context of impure or congestible public goods like roads and other facilities that are fixed in size including public hospitals and educational institutions.

In summary, the efficiency implications follow from two considerations:

(a) locational inefficiencies that can result from inefficient migration induced by fiscal surpluses is neutralized by equalization transfers; and

(b) The redistribution implied by equalization transfers from the richer to poorer states gives a return also to the richer states by avoiding congestion resulting from excessive migration in the context of services provided by these states that are in the nature of 'congestible' goods. Education and health services are congestible and it is worthwhile equalizing their provision so that people do not migrate from one state to another just for differentials in the level of these services.

2. Fiscal Equalization in Practice

In practice, two prominent examples where the principle of making equalization transfers has been accepted and practiced are Canada and Australia, although the way it is implemented in the two countries is different in some important respects. The discussion below shows that unconditional equalization transfers are often supplemented by sector-specific transfers, particularly health and education.

a. Canada

In Canada, the 'equalization' payments have been mandated in the constitution since 1982, although these were being made earlier also. Section 36(2) of the *Constitution Act* commits the federal government to the "principle of making equalization payments to ensure that provincial governments have sufficient revenues to provide reasonably comparable levels of public services at reasonably comparable levels of taxation". The equalization transfer to a province in absolute amount is determined by applying the average revenue effort to the difference between standard base and the actual base for that province with respect to the various revenue sources. This produces an estimate of revenue, which is higher than the actual revenue for provinces that have 'below- average' capacity. This exercise is done for all revenue bases used by the provinces. This leads to fiscal capacity equalization. In the Canadian system, there is no reference to cost differentials. Further, the states are free to use the equalised capacity in providing any mix of public goods and merit goods that they may want. Annexure 1 explains in brief the Canadian methodology of determining equalization grants.

Apart from general equalization grants, in Canada, there is a provision of sector specific grants in the form of the Canada Health and Social Transfers (CHST), which has recently been divided into two parts, viz., Canada Health Grants and Canada Social Transfers, but the same basic principles apply. The latter includes secondary education. The CHST transfers are meant to support health care, boost secondary education and support social assistance and social services including early childhood development. These transfers imply a degree of equalization since the determining principle for the CHST transfers effectively becomes the per capita amounts. The CHST has two forms, i.e. cash and tax transfer points. The tax transfer arrangements were introduced in 1977 when the federal government agreed with the provincial and territorial governments to reduce its personal and corporate income tax rates by the margin of 13.5 percentage points and correspondingly allow the provinces to raise their tax rates by an equal margin. This has been referred to as the transfer of tax points and amounts to the vacation of tax room by the federal government in shared tax bases. This has allowed the provinces to directly obtain the revenues from the relevant tax bases that would otherwise have accrued to the federal government.

The CHST cash transfers are computed as a residual by subtracting the equivalent value of the tax points from provincial per capita total entitlements. The richer provinces gain larger amounts from the tax point transfers because their tax bases are larger. The cash transfers are estimated broadly on per capita basis adjusted for the amounts calculated under the transfer of tax points. These transfers enable all provinces to meet a given level of per capita expenditure. Cash transfers are higher for lower fiscal capacity provinces. Hobson (2001) refers to this transfer, which raises the provinces to a common standard, as a sort of "super-equalization". The methodology is explained in Annexure 2. It may also be mentioned that the amount transferred under the CHST including the imputed value of tax points transfers is larger than the unconditional equalization grants in Canada.

b. Australia

The Australian system of equalization transfers goes into the question of cost differentials relevant for comparison with some notion of equal efficiency in the provision of goods and services by the provincial authorities. The guiding principle of the horizontal transfer system is fiscal equalization, which is defined by the Commonwealth Grants Commission (CGC) as follows: "State governments should receive funding from the pool of goods and services tax revenue and health care grants such that, if each made the same effort to raise revenue from its own sources and operated at the same level of efficiency, each would have the capacity to provide services at the same standard". The Australian equalization differs from the Canadian equalization due to the reference to efficiency and standard of services. The Canadian system makes reference only to equalization in fiscal capacity. In Australia, fiscal equalization looks at both the revenue and expenditure sides.

The CGC's calculations are based on all-state averages so that these may reflect average efficiency. There is a comprehensive coverage of the services provided by the states and the revenues raised by them. The first step in the equalization exercise is the preparation of the standard budget. The standards are equal to all-state averages in expenditures as well as revenues. Any departure from the average per capita expenditure needs to be justified on account of cost disabilities. The equalization budget brings together all expense and revenue categories of state budgets. The per capita expense for each service that the state would incur if it were to provide the Australian average standard of service is calculated. On the revenue side, the per capita revenue each state would raise if it applied the average revenue effort to its revenue base is calculated. Expenditure assessment adjusts the standard expenses to allow for the effects of disabilities.

Disabilities are broadly classified as use disabilities and cost disabilities, according to whether they affect the rate of use or the cost of each unit of service. Use disabilities reflect differences between states in the use of services as a result of factors such as population characteristics and the availability of private services. Cost disabilities are influences that affect the cost per unit of service provided to particular groups or places, e.g. large cities or remote areas. On the revenue side, tax bases are generally measured using the value of transaction in each state that would be taxed under the average tax policy. For example, the value of the payroll tax is the estimated annual value of payrolls above a threshold level paid by the private sector businesses and most public trading enterprises.

In Australia, apart from the general purpose unconditional grants, there are also special purpose payments (SPPs). These are generally treated by inclusion within the exercise for determining equalization grants. In a few cases, however, these are treated by exclusion, which implies that these SPPs are taken as additionalities. Annexure 3 briefly describes the methodology for determining transfers in Australia.

In summary, looking at the Canadian and Australian practices in adopting the equalization approach, the following features may be highlighted:

a) Equalization transfers make up for the deficiency in fiscal capacity but not that in revenue effort; if desired, cost differentials can be neutralized.
b) Equalization transfers are generally unconditional block transfers; the states are free to use them in whatever manner they desire;
c) The general purpose grants can be supplemented by specific purpose grants within the framework of equalization grants, as in the case of Canada Health and Social Transfers and a limited number of SPPs in the case of Australia.
d) Measurement of cost disabilities requires often a service by service approach as in the case of Australia, even though at the end of the process, all service specific entitlements are clubbed together and a block grant is given.

c. India

In India, for most of the early Finance Commissions, transfers followed a fragmented approach with different components of tax devolution being subjected to different considerations and the unconditional grants followed a gap-filling approach. Since different agencies dealing with transfers follow different approaches, without much coordination, a unified approach to transfers has not been developed. The net outcome of this segmentation has been that transfers have been far from equalizing. While extensive disparities have been present, the progressivity or the redistributive content of transfers has been limited, particularly when implicit transfers are also taken into account.

Although the importance of equalization as a guiding principle in determining transfers to states has been recognized by the Twelfth Finance Commission (TFC), the redistribution that a full fledged equalization may involve may be considerably larger than what is shown by historical trends. In a recent study, Bagchi and Chakraborty (2004) have shown that with equalization attempted with macro indicators and in a broad manner, the poorer states should obtain a transfer larger than what was obtained by them under the recommendations of some of the previous Finance Commissions by margins of about 48 to 50 per cent.

There are some important constraints on following a full-fledged equalization approach in India, as listed below.

a) The extent of disparities in fiscal capacities is very large, and the required re-distribution through transfers would be very large.
b) If a minimum amount of vertical transfer is to be made including the richer states, the required amount of total transfer would also be very large.
c) Existence of multiple channels of transfers makes it difficult to develop an integrated approach to transfers.
d) There are various data problems in following an equalization approach even at a macro level.

Taking these difficulties in view, the TFC decided to supplement its overall unconditional transfers that are equalizing but only to a limited degree, by a more direct attention on two sectors for purposes of equalization, namely, education and health. Although even in the case of theses services full equalization was not attempted, since only 15 and 30 per cent of the difference from the average, respectively for education and health, was covered. By making these grants conditional, the TFC has sought to address the problem of disparities in two crucial services that are in the nature of merit goods.

It is not as if such an attempt has been made by a Finance Commission for the first time. Specific grants meant for social sectors have been recommended by previous Finance Commissions. The first Finance Commission had given grants for primary education for the states of Bihar, Hyderabad, Madhya Bharat, Madhya Pradesh, Orissa, Patiala and East Punjab States Union, Punjab, and Rajasthan. The Third Finance Commission had recommended a set of grants for the improvement of Communication for a limited number of states. Eighth Commission onwards, certain grants called 'upgradation' grants have been recommended, which were in the nature of specific purpose grants. However, it is for the first time that the Twelfth Finance Commission has taken up education and health as two major merit services where an attempt needs to be made to reduce inequalities across states in the level of service provision.

3. Inter-State Disparities in India: Health and Education

In India, the disparities across states in respect of per capita government expenditures on health and education are large, and accordingly, the outcomes also show wide differences. In this section, we look at the profile of these disparities, as analyzed by the Twelfth Finance Commission.

The inter-state pattern of per capita government expenditures, particularly in social and economic services shows the prevailing disparities in respect of publically provided services. Table 1 shows per capita average state government expenditures over the period 1998-99 to 2000-01 in general, social, and economic services. The TFC excluded from the general services, interest payment, pensions, and lotteries and focused on the general category states except Goa but including Assam for the purpose of this analysis. Within the social sector expenditures, per capita expenditures on education, health, and water supply and sanitation are also shown. States are arranged in ascending order of per capita GSDP. The general pattern is that states with low per capita GSDPs also have low per capita expenditures. The ratio of minimum to maximum expenditure and that of minimum to mean expenditure indicates that in the case of general category states, for social services as a whole, the minimum per capita expenditure is 35 per cent of the maximum and 46 per cent of the mean. In the case of education, the minimum to mean ratio is 57 per cent and that with respect to maximum per capita expenditure is only 43 per cent. The corresponding figures are 45 per cent and 34 per cent for health and water supply and sanitation. These figures cover both non-plan and plan revenue expenditures.

Table 1: Per capita expenditure on General, Social & Economic Services

(Rs.)

States	1998-99 to 2000-01			1998-99 to 2000-01		
	GEN	**SOC**	**ECO**	**EDN**	**HTH**	**WSS**
Bihar	182.20	460.22	198.29	311.14	38.89	19.13
Orissa	224.20	931.18	406.54	463.08	68.31	56.18
Uttar Pradesh	208.88	549.54	318.14	340.41	52.74	19.96
Assam	334.39	929.88	369.27	615.21	64.58	59.23
Madhya Pradesh	228.19	697.03	411.75	344.49	70.08	63.38
Rajasthan	265.36	1020.65	405.00	545.30	101.98	111.46
West Bengal	262.41	958.23	392.62	512.29	107.77	42.51
Andhra Pradesh	264.50	905.72	623.67	411.70	83.61	57.72
Kerala	328.99	1254.80	716.48	713.26	131.37	52.35
Karnataka	279.17	1083.89	755.77	558.33	59.28	60.27
Tamil Nadu	321.50	1240.90	685.30	651.46	110.81	38.34
Gujarat	276.34	1331.35	1285.75	664.44	109.55	39.03
Haryana	320.94	1145.38	902.40	587.60	73.14	102.14
Maharashtra	639.84	1276.05	647.73	730.93	59.69	79.69
Punjab	533.63	1220.48	733.94	716.27	178.32	55.04
Coefficient of variation	39.24	26.62	46.93	26.30	41.49	45.11
Min/Max	0.28	0.35	0.15	0.43	0.22	0.17
Min/Mean	0.59	0.46	0.34	0.57	0.45	0.34

Source: Report of the Twelfth Finance Commission

Note: Per capita Revenue Expenditure on General Services is net of Interest Payments and Pension & Lottery.

However, it is not just the level of per capita expenditure, but also the impact of these expenditures on health and educational outcomes in the states that matters. This is best captured by the index of Human Development. The TFC gives an ordinal comparison in terms of the HDI based on information provided by the UNDP office in Delhi, which had prepared for the Finance Commission, the HDI index for 2001. HDI is available for 1981 and 1991 as prepared by the Planning Commission. According to the UNDP estimates, as summarised in Table 2, the lowest ranked state is Bihar, followed by Uttar

Pradesh, Orissa, and Madhya Pradesh. There is a clear positive relationship, as expected, between per capita GSDP and the HDI. At the same time, states, which have provided more in terms of per capita budgetary expenditures on health and education, have ranks that are higher than their relative position in the ranking of per capita GSDP. This is so also for the special category states. It is notable that the special category states do better in the HDI.

Table 2: Human Development Index: Comparison Across States

High
Goa, Kerala, Maharashtra, Mizoram
High Middle
Gujarat, Manipur, Nagaland, Punjab, Sikkim, Tamil Nadu
Middle
Andhra Pradesh, Arunachal Pradesh, Haryana Himachal Pradesh, Meghalaya, Karnataka Tripura, West Bengal, Uttaranchal
Lower Middle
Assam, Chattisgarh, J &K, Jharkhand, Rajasthan
Low
Bihar, Madhya Pradesh, Orissa, Uttar Pradesh

Source: Report of the Twelfth Finance Commission, 2004.

In this section, we also make a broad comparison of priority given by selected states to the sectors of education and health as measured by the share of the sector in total expenditure excluding interest payments and pensions, called non-pension primary expenditure. It is clear that there are large differences in the relative share of expenditure on health and education relative to total expenditure adjusted for pensions and interest payments. The policy message is also clear. While a transfer mechanism that aims at minimizing health and education sector outcomes can correct for fiscal deficiency that translates into capacity to spend, it should not make up for lack of preference or priority expressed by the state relative to the average. At the same time, states spending much below average relative to their expenditures should be induced to allocate more of available resources to these sectors, particularly if the service levels are less than average in these sectors.

Table 3 provides a comparison of expenditure on education, covering major heads 2202 to 2205 relative to non-pension primary expenditure for the general category states. The variation in these ratios is quite remarkable. While the maximum ratio is for Kerala at more than 30 per cent for most years, the minimum is that for Madhya Pradesh, which has been around 14 per cent in most years. The average ratio shows a small but persistent increase over the years rising from 19.4 per cent in 1993-94 to 21.4 per cent by 2002-03, which seems to be a welcome trend.

Table 3 : Share of Expenditure on Education as Percentage of Primary Expenditure excluding Pension Payments

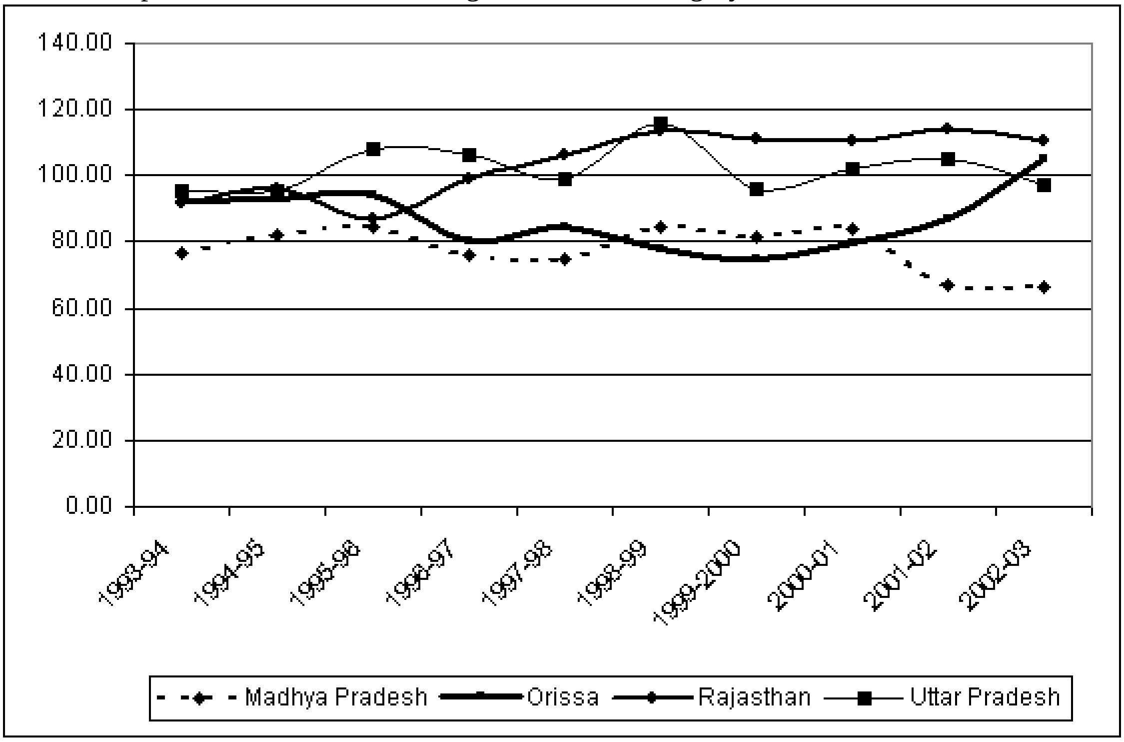
(Percent)

	1993-94	1994-95	1995-96	1996-97	1997-98
Andhra Pradesh	15.84	15.84	14.39	14.61	14.85
Bihar	26.69	27.25	29.91	30.58	27.77
Goa	17.01	16.66	16.51	17.00	20.77
Gujarat	19.99	19.85	20.85	19.52	18.23
Haryana	15.00	12.17	13.46	14.20	15.64
Karnataka	15.90	16.38	15.69	15.39	18.25
Kerala	30.06	29.79	27.02	26.20	22.88
Madhya Pradesh	14.83	15.41	16.23	14.40	14.49
Maharashtra	18.17	15.88	17.64	17.28	19.36
Orissa	17.87	17.41	18.13	15.16	16.42
Punjab	17.23	16.17	17.87	17.93	17.96
Rajasthan	17.73	18.02	16.68	18.72	20.60
Tamil Nadu	20.08	19.04	20.05	18.85	19.68
Uttar Pradesh	18.45	17.84	20.77	20.01	19.16
West Bengal	25.67	23.72	23.64	23.36	24.54
Average	**19.37**	**18.76**	**19.26**	**18.88**	**19.37**
Maximum	**30.06**	**29.79**	**29.91**	**30.58**	**27.77**
Minimum	**14.83**	**12.17**	**13.46**	**14.20**	**14.49**
	1998-99	1999-2000	2000-01	2001-02	2002-03
Andhra Pradesh	14.10	16.85	16.52	15.08	15.63
Bihar	25.48	30.34	31.79	31.67	28.46
Goa	19.97	19.63	16.19	15.39	16.81
Gujarat	19.56	18.90	15.79	16.13	19.59
Haryana	17.22	17.95	17.60	16.34	18.99
Karnataka	18.08	18.07	18.71	16.31	17.79
Kerala	24.31	28.33	29.39	29.62	27.27
Madhya Pradesh	17.34	18.07	17.93	13.89	14.23
Maharashtra	19.97	22.80	26.91	28.23	24.20
Orissa	15.93	16.61	17.10	18.08	22.46
Punjab	22.15	23.31	19.75	18.18	23.73
Rajasthan	23.31	24.53	23.57	23.72	23.66
Tamil Nadu	23.63	25.04	23.77	23.54	19.43
Uttar Pradesh	23.73	21.27	21.81	21.87	20.75
West Bengal	23.24	29.87	23.99	24.20	28.11
Average	**20.53**	**22.10**	**21.39**	**20.82**	**21.41**
Maximum	**25.48**	**30.34**	**31.79**	**31.67**	**28.46**
Minimum	**14.10**	**16.61**	**15.79**	**13.89**	**14.23**

Source(Basic Data): Finance Accounts, State Governments

In the case of education, the states that are below average in terms of priority accorded to education are Andhra Pradesh, Goa, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, and to some extent, Uttar Pradesh. Among these, the hard cases are those where both resources and priority are low. These are: Madhya Pradesh, Orissa, and Rajasthan

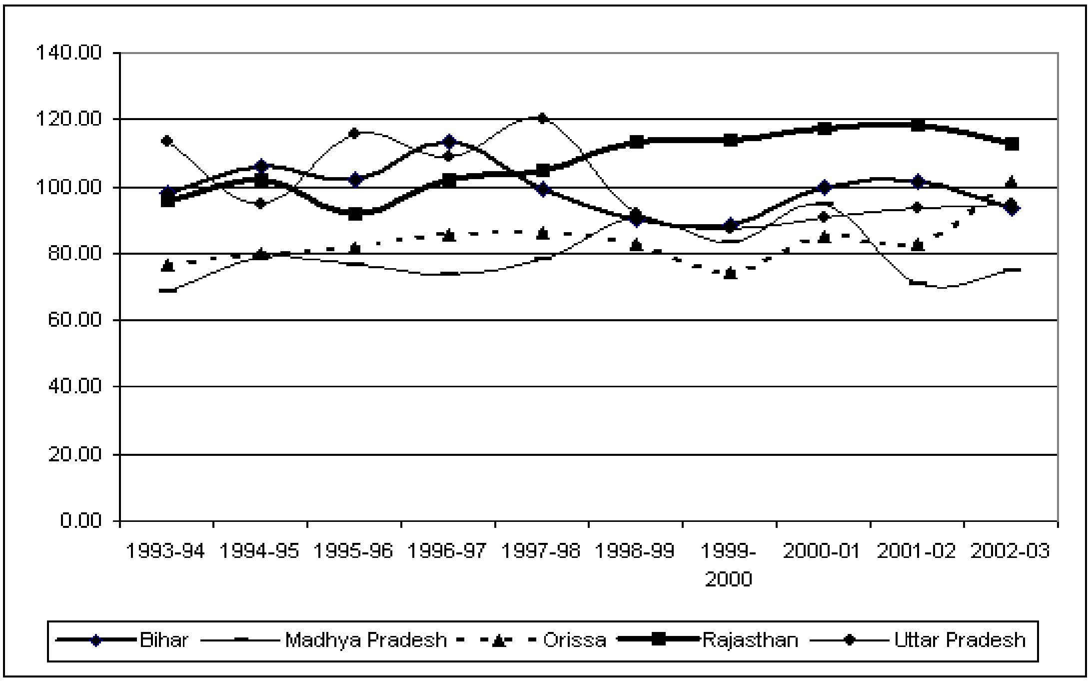
Chart 1: Share of Expenditure on Education as % Non-Pension Primary Expenditure Relative to Average for General category States: Selected States



An additional notable feature is that the share of expenditure on education as percentage of the corresponding average share seems to have come down for three of the five low income states, viz., Madhya Pradesh, Orissa and Uttar Pradesh. In Rajasthan, it has been close to average. The period from the late nineties to the first three years of the new decade represents a period when state finances were under considerable pressure. The low income states adjusted the priority accorded to education downwards although the pattern of adjustment may be different. In the case of Bihar, the relative share has been higher than 100 per cent throughout this period (Chart 1). The corresponding relative shares for all the general category states are given in Appendix Table 3.

A similar analysis for health, covering major heads 2210 and 2211, indicates, as shown in Table 4, that the position of highest allocation among states given to health is shared between West Bengal and Kerala in different years. However, in their case, this share is in the range of 6 to 7.5 per cent, which is only one-third of the average share in education. The average share of expenditure on health is only in the range of 4.31 to 4.77 per cent, which is a little above 20 per cent of the average share of expenditure in education. States that show below-average allocation to health are Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, and Orissa. In more recent years, Tamil Nadu is also below average. Uttar Pradesh is marginally below average. The hard cases in this case are also those where both resources and priority is relatively less. States like Madhya Pradesh and Orissa fall in this category (Chart 2).

Chart 2: Share of Expenditure on Health as % Non-Pension Primary Expenditure Relative to Average for General category States: Selected States



The priority relative to average for the five low income states shows that it is less than average in Madhya Pradesh, Orissa, Bihar, and Rajasthan for most of the years. There is also the general indication that in fiscally difficult years, the poorer states have adjusted the priority downwards relative to the average, except for Orissa where the ratio was low to begin with.

Table 4 : Share of Expenditure on Health as Percentage of Primary Expenditure excluding Pension Payments

(Per cent)

	1993-94	1994-95	1995-96	1996-97	1997-98
Andhra Pradesh	4.30	3.87	3.72	3.98	3.81
Bihar	4.54	4.63	4.46	4.88	4.41
Goa	6.31	6.02	5.78	6.22	6.00
Gujarat	4.78	4.81	4.78	4.47	4.16
Haryana	3.04	2.48	2.73	2.75	3.00
Karnataka	4.01	4.02	3.40	3.13	3.59
Kerala	6.11	6.10	5.93	5.64	5.09
Madhya Pradesh	3.17	3.45	3.34	3.18	3.48
Maharashtra	3.73	3.24	3.40	3.09	3.50
Orissa	3.54	3.49	3.57	3.69	3.82
Punjab	4.75	4.59	4.48	4.78	4.89
Rajasthan	4.44	4.45	4.01	4.39	4.66
Tamil Nadu	4.60	4.29	4.72	4.11	4.54
Uttar Pradesh	5.24	4.14	5.04	4.70	5.36
West Bengal	6.87	6.08	6.20	5.67	6.48
Average	**4.63**	**4.38**	**4.37**	**4.31**	**4.45**
Maximum	**6.87**	**6.10**	**6.20**	**6.22**	**6.48**
Minimum	**3.04**	**2.48**	**2.73**	**2.75**	**3.00**
	1998-99	1999-2000	2000-01	2001-02	2002-03
Andhra Pradesh	3.66	4.05	3.92	3.79	3.96
Bihar	4.37	4.21	4.55	4.55	4.33
Goa	6.37	5.91	5.20	5.08	4.93
Gujarat	4.57	4.63	3.39	3.21	4.08
Haryana	3.37	3.46	3.23	2.81	3.31
Karnataka	4.01	4.31	3.88	3.63	3.82
Kerala	5.54	6.22	6.44	7.44	6.00
Madhya Pradesh	4.40	3.98	4.32	3.17	3.48
Maharashtra	3.45	3.54	3.65	4.05	3.58
Orissa	4.02	3.55	3.87	3.72	4.72
Punjab	6.50	6.69	5.69	5.45	6.41
Rajasthan	5.50	5.44	5.36	5.31	5.24
Tamil Nadu	5.15	5.19	4.87	4.98	4.23
Uttar Pradesh	4.45	4.17	4.14	4.21	4.39
West Bengal	7.37	6.15	5.85	5.88	7.14
Average	**4.85**	**4.77**	**4.56**	**4.48**	**4.64**
Maximum	**7.37**	**6.69**	**6.44**	**7.44**	**7.14**
Minimum	**3.37**	**3.46**	**3.23**	**2.81**	**3.31**

Source(Basic Data): Finance Accounts, State Governments

4. Estimating Health and Education Grants: Methodology

In devising a grant that is specific-purpose and aimed at given sectors, it is important to make up for the deficiency in resources that are normatively assessed but not to underwrite the deficiency in priority accorded to the sector by the concerned state government. It is also useful to set benchmarks for comparable groups of states with a view to at least broadly neutralizing group-level cost differentials. The TFC methodology can be described in two steps:

a. Derivation of the average preference for allocation to health and education (say **a**)

b. Derivation of the gap of the state-specific expenditure on the concerned service (education/health) from the corresponding group average (general category/ special category states) evaluated by applying the average preference to the state's aggregate expenditure.

Thus for, any service, suppose that the group average per capita expenditure is z and state-specific expenditure for a state, z_i. Here,

$$z = \sum z_i N_i / \sum N_i$$

Subscript i varies over the states belonging to the relevant group. The per capita capacity of a state is given by r_i and the average capacity is given by

$$r = \sum r_i N_i / \sum N_i$$

The average budgetary allocation for the given service is given by

$$a = \sum z_i N_i / \sum r_i N_i$$

Thus, $z = a.r$ *and* $z_i = a_i.r_i$.

Actual gap in expenditure between a state and the group-average can be seen as the sum of two components: one due to deficiency in fiscal capacity and the other due to giving the concerned sector less than average preference. It is only the first part, that is deficiency in expenditure due to lack of capacity, that is taken into account while the deficiency that results from giving less than average preference in budgetary allocation is ignored. Thus, the actual gap may be written as:

$$z-z_i = (z- ar_i)+ (ar_i - z_i)$$

or, $$z-z_i = a(r- r_i)+ (a- a_i)r_i \quad [\text{where } a_i = z_i / r_i]$$

Thus, the relevant gap is reflected in the first term, which is due to the deficiency in the fiscal capacity, given the average allocation to the concerned sector. The second term is the difference due to allocating less than average share given the capacity of the state, and this difference does not require to be made up under the equalization principle. Thus, the total grant should be determined by $N_i\, a(r- r_i)$.

In estimating the resources, r is proxied by resources devoted to expenditure excluding interest payments and pensions. Some other adjustments were also made by the TFC to make inter-state revenue and expenditure data more comparable. Two services that are considered for the purpose are:

(a) Expenditure on education (major head 2202); and
(b) Expenditure on health (major heads 2210 and 2211).

In explaining the methodology, the TFC observes as follows: "For this purpose, the expenditure data (both plan and non-plan) of each of the states for 2002-03 were examined. In the case of education, the ratio of revenue expenditure under the major head 2002 (plan and non-plan) was worked out for each state with reference to its "adjusted" total revenue expenditure (plan and non-plan). While working out this ratio, expenditure relating to pensions, interest payments and other adjustment items …were excluded from non-plan revenue expenditure for arriving at the "adjusted" total revenue expenditure. Thereafter, average ratios were worked out for special and non-special category states. Those states, whose ratio was less than their respective group average, were deemed as having low expenditure preference in regard to the education sector, in the sense that these states were not spending (as percentage of revenue expenditure) what other states in their group were able to do. This low expenditure preference was corrected by normatively assigning the respective group average ratio to those states that were below the average. After this adjustment, the corrected per capita revenue expenditure relating to education (both under plan and non-plan put together) for each state for 2002-03 was worked out. Thereafter, average per capita expenditure was worked out for the two groups of special and non-special category states. Those states, whose per capita expenditure was less than their group average, were reckoned as needing financial assistance, because their lower expenditure could be on account of low fiscal capacity."

The TFC estimated the amount of grant required for covering 15 percent of the distance by which a below-average state was lagging behind its group average of per capita expenditure (after having adjusted for low expenditure preference). The 15 percent distance is with reference to both plan and non-plan revenue expenditure. The distance from the average after preference correction was made to the extent of 30 per cent for health. This partial equalization was mainly due to a resource constraint. The TFC observes: "The extent of equalisation is, however, limited by the availability of resources".

The resultant amounts were determined first for the year 2002-03. The next step was to bring it forward to the base year, namely, 2004-05. A growth rate equal to the group's trend growth rate over 1993-2003 was applied on the 2002-03 figure to come to 2004-05. For the award period 2005-10, a growth rate of 9.5 per cent was applied on the base year figures. This was consistent with the overall assessment exercise. In the case of health, the growth rate applied for the forecast period was 11.5 per cent. A minimum amount for the qualifying state in any one year was also prescribed at Rs. 20 crore in the case of education and Rs.10 crore in the case of health. The recommended grants for education and health are given in Tables 5 and 6.

Table 5: Education: TFC Equalization Grants

(Rs.crore)

	2005-06	2006-07	2007-08	2008-09	2009-10	**Total**
Assam	183.2	200.6	219.66	240.53	263.38	1107.37
Bihar	443.99	486.17	532.36	582.93	638.31	2683.76
Jharkhand	107.82	118.06	129.28	141.56	155.01	651.73
Madhya Pradesh	76.03	83.25	91.16	99.82	109.3	459.56
Orissa	53.49	58.57	64.13	70.22	76.89	323.3
Rajasthan	20	20	20	20	20	100
Uttar Pradesh	736.87	806.87	883.52	967.45	1059.36	4454.07
West Bengal	64.83	70.99	77.73	85.11	93.2	391.86
	1686.23	1844.51	2017.84	2207.62	2415.45	10171.65

Source: Report of the Twelfth Finance Commission, 2004

In the case of education, the total amount involved is Rs. 10171.65 crore. Eight states out of twenty-eight states were adjudged to be entitled for these grants. There is another channel available to all the states in the form of Sarva Shiksha Abhiyan for implementing the growth plans in respect of education. In the case of health, the total amount of grant is Rs. 5887.08 crore and seven states were assessed to be entitled for these grants.

Table 6: Health: TFC Equalization Grants

(Rs. Crore)

	2005-06	2006-07	2007-08	2008-09	2009-10	**Total**
Assam	153.58	171.24	190.93	212.89	237.38	966.02
Bihar	289.3	322.57	359.66	401.02	447.14	1819.69
Jharkhand	57.39	63.99	71.35	79.55	88.7	360.98
Madhya Pradesh	28.88	32.2	35.9	40.03	44.63	181.64
Orissa	31.22	34.81	38.81	43.28	48.25	196.37
Uttar Pradesh	367.63	409.9	457.04	509.6	568.21	2312.38
Uttaranchal	10	10	10	10	10	50
	938	1044.71	1163.69	1296.37	1444.31	5887.08

Source: Report of the Twelfth Finance Commission, 2004

The additional expenditure enabled by these grants is likely to be efficiency augmenting for the following reasons:

a. Existing non-plan expenditures have become highly salary-intensive with suitable complementary expenditures in education (e.g., teaching aids, maintenance of school building) and health (e.g., medicines, diagnostic facilities) not being available for want of budgetary resources, rendering the large salary expenditures also operate at less than desired efficiency; and

b. Enabling states to shift some old plan schemes that are still being carried as part of the current plan on to the non-plan side, thereby creating space for undertaking genuinely new plan schemes under the two sectors.

6. Conditionalities

The TFC has noted that these grants are being provided for the education and health sectors as an additionality, over and above the normal expenditure by the states in these sectors. These grants are earmarked for utilisation only for the respective sectors (non-plan), i.e., major head 2202 in the case of education and major heads 2210 & 2211 in the case of health. Conditionalities governing the releases and utilisation of these grants have been specified in Annexures 10.1 to 10.3 of the TFC Report. It was also envisaged that no further conditionalities should be imposed by the central government for the release of these grants. Monitoring of the expenditure relating to these grants will rest with the state government concerned. In effect, there are two types of conditionalities envisaged as given below:

a. Monitoring Committee
b. Minimum nominal expenditure thresholds

a. Monitoring Committee

With a view to ensuring that the end objectives associated with these grants are achieved, the TFC desired that a robust monitoring mechanism should be put in place. The Commission recommended that every state should constitute a high level committee for monitoring proper utilisation of grants. The committee should be responsible for monitoring both *financial* and *physical* targets and for ensuring adherence to the specific conditionalities applicable. In the beginning of the year, the committee may approve the projects to be undertaken in each sector, quantify the targets, both in physical and financial terms, and lay down the time period for achieving specific milestones.

The high level monitoring committee should be headed by the Chief Secretary with the Finance Secretary and the secretaries/heads of departments concerned as members. The committee should meet at least once in every quarter to review the utilisation of the grants and to issue directions for mid-course correction, if considered necessary. Table 7 and Appendix Tables 1 and 2 describe the conditionalities prescribed by the TFC and correspond respectively to Annexures 10.1, 10.2, and 10.3 of the TFC report, respectively.

b. Minimum Nominal Expenditure Thresholds

The TFC has ruled out any possibility of substitution of grants for own funds that may be diverted to other heads by ensuring that it is taken as an additionality. This has been done by prescribing a path of growth of expenditure on education and health in two parts: expenditure on the basis of normal growth and the additionality due to grant. A beneficiary state has to progressively increase expenditure on both counts. While the additionality above the prescribed growth would come from the recommended grant, the prescribed growth in the expenditure on health and education would come from own sources. Diversion of funds would imply that the state would forgo subsequent instalments of the grant. The details of the thresholds are given in Table 7.

c. Supplementation through Plan Grants

Apart from these grants recommended by the Finance Commission, a below average state can have a further additionality coming from plan funds, particularly from schemes like the Sarva Shiksha Abhiyan, although the amounts would depend on the allocation formulae followed by the Planning Commission in respect of such earmarked funds.

Table 7: [Annexure 10.1 of TFC Report]

Conditionality for Release of Grants-in-Aid for Education (Major Head 2202) and Health (Major Heads 2210 & 2211)

1. The grant should be utilised only for meeting the non-plan revenue expenditure under the respective major heads (i.e., major head 2202 in the case of education and major heads 2210 & 2211 in the case of health).

2. The grant may be allocated in two equal instalments in each financial year. While there will be no pre-condition for release of the first instalment in any year, the second instalment will be released on the fulfilment of the conditions laid down in para 3 below.

3. Pre-conditions for release of the second instalment in a year will be as follows:

Year	Condition for Release of Second Instalment
2005-06	2005-06 BE under NPRE of the relevant head should not be less than the projected "total NPRE" for 2005-06, as shown in annexure 10.2/10.3.
2006-07	2006-07 BE under NPRE of the relevant head should not be less than the projected "total NPRE" for 2006-07, as shown in annexure 10.2/10.3. **And** 2005-06 RE for NPRE of the relevant head should not be less than the total of "normal expenditure" as shown in annexure 10.2/10.3 plus the actual release of the "grant" for 2005-06.
2007-08	2007-08 BE under NPRE of the relevant head should not be less than the projected "total NPRE" for 2007-08, as shown in annexure 10.2/10.3. **And** Actuals of 2005-06 for NPRE of the relevant head should not be less than the total of "normal expenditure" as shown in annexure 10.2/10.3 plus the actual release of the "grant" for 2005-06.
2008-09	2008-09 BE under NPRE of the relevant head should not be less than the projected "total NPRE" for 2008-09, as shown in annexure 10.2/10.3. **And** Actuals of 2006-07 for NPRE of the relevant head should not be less than the total of "normal expenditure" as shown in annexure 10.2/10.3 plus the actual release of the "grant" for 2006-07.
2009-10	2009-10 BE under NPRE of the relevant head should not be less than the projected "total NPRE" for 2009-10, as shown in annexure 10.2/10.3. **And** Actuals of 2007-08 for NPRE of the relevant head should not be less than the total of "normal expenditure" as shown in annexure 10.2/10.3 plus the actual release of the "grant" for 2007-08.

Note: Annexure 10.3 is in respect of education and annexure 10.3 is in respect of health.

7. Summary

This paper looks at the conceptual basis of equalization grants recommended by the Twelfth Finance Commission in respect of health and education. Conditional and specific purpose grants have occasionally been given by earlier Finance Commission also. Separate grants for covering some aspects of education and health are prevalent in other federal countries including Canada and Australia. In Canada, where a fiscal capacity equalization is attempted by means of unconditional grants, these are supplemented by separate grants on health and social transfers that are also derived within the overall framework of equalization, which some authors have referred to as 'super-equalization'. In Australia, equalization is attempted by looking at individual services although in the end unconditional block grants are given. In India, it has not been possible to achieve full equalization because the extent of transfers and the degree of redistribution required for this purpose are too large relative to available transferable resources unless a sharp departure from existing practices is undertaken. The TFC has decided to make a limited beginning by recommending grants determined on the basis of equalization principles for two specific sectors, namely, health and education. These grants, supplemented by suitably distributed plan grants, are likely to reduce the inter-state disparities in these two vital services that are in the nature of merit goods. To ensure that states do not divert the available health and education grants to other uses, a strict monitoring framework has been recommended. In future, the extent of equalization in these grants should be increased from 15 per cent in the case of education and 30 per cent in the case of health to 100 per cent and the monitoring framework should be reexamined in the light of experience gained during the TFC's award period.

References

Bagchi, A. and P. Chakraborty (2004), Towards a Rational System of Centre-State Revenue Transfers, Economic and Political Weekly, June 26.

Bird, Richard M. (1993), "Threading the Fiscal Labyrinth: Some Issues in Fiscal Decentralization", National Tax Journal, 46: 207-27.

Bird, Richard M and Francois Vaillancourt (eds.) (1999), Fiscal Decentralization in Developing Countries (Cambridge: Cambridge University Press).

Boadway, Robin (2001), "Revisiting Equalization Again: RTS vs. Macro Approaches", IIGR, Working Paper, Queens University.

Boadway, R. and F. Flatters (1982), "Efficiency and Equalization Payments in a Federal System of Government: A Synthesis and Extension of Recent Results", Canadian Journal of Economics, Vol. 15, pp 613-633.

Buchanan, J.M. (1950), "Federalism and Equity", *The American Economic Review*, Vol. 40.

Buchanan, J. M. and R.E.Wagner (1971), "An Efficiency Basis for Federal Fiscal Equalization" in J.Margolis (ed.), *Analysis of Public Output*, NBER, Princeton.

Commonwealth Grants Commission (2004), *Report on State Revenue Sharing Relativities, 2004 Review*, Canberra.

Courchene, Thomas J. (1984) Equalization Payments: Past, Present and Future, Ontario Economic Council, Toronto.

Garnaut, R. (2002), "Equity and Australian Development: Lessons from the First Century", *Australian Economic Review,* 35(3), 227-243

Garnaut, R. and FitzGerald, V. (2002), *Final Report of the Committee for the Review of Commonwealth-State Funding*, Melbourne, Victoria.

Graham, J.F. (1964), "Fiscal Adjustment in a Federal Country" in R.Robertson (ed.) Inter-Government Fiscal Relationships, Canadian Tax Foundation, Toronto.

Gramlich, E.M. (1985), "Federal Fiscal arrangements" in R. Caves and L.B.Krause, The Australian Economy: A View from the North, The Brookings Institution.

Hobson, Paul A.R. (2001), "What Do We Already Know About The Appropriate Design For a Fiscal Equalization Program in Canada and How Well are We Doing? IIGR, Working Paper, Queens University.

Keen, Michael (1998), "Vertical Tax Externalities in the Theory of Fiscal Federalism", IMF Staff Papers.

Madden, J.R. (2002), "Australian Fiscal Federalism, Global Integration and Economic Reform", Paper presented at Workshop on *Federalism in a Global Environment*, Stanford University, June 6-7, 2002.

Mathews, Russell (1993), "The Theory and Practice of Fiscal Equalization": A Report for the Queensland Government, mimeo.

Mathews, Russell (1985), "Fiscal Federalism in Australia", Conference Discussion Paper on Edward M. Gramlich's Paper, The Australian National University, Canberra.

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

Tiebout, C. M. (1961), An Economic Theory of Fiscal Decentralization in Public Finance: Needs, Sources and Utilization (Princeton, New Jersey: Princeton University Press).

Usher, Dan (2001), "The Case for Switching to a Macro Formula" IIGR, Working Paper, Queens University.

Oates, W.E. (1972), Fiscal Federalism, Harcourt Brace Jovanovich, New York.

Prud'homme, Remy (1995), "The Dangers of Decentralization", *World Bank Research Observer*", Vol. 10, No.2.

Rangarajan, C. and D.K.Srivastava (2004), "Fiscal Federalism in Canada: Drawing Comparisons and Lessons", *Economic and Political Weekly*, 39, No.19, May 8-14, and Working Paper No.18, NIPFP, New Delhi.

Rangarajan, C. and D.K.Srivastava (2004), "Fiscal Transfers in Australia: Review and Relevance to India", Economic and Political weekly, Vol. 39, No.33, August 14.

Rao, M.G. ad Nirvikar Singh (2005), Political Economy of Federalism in India, OUP, New Delhi.

Scott, A.D. (1950), "A Note on Grants in Federal Countries", *Economica*, Vol.17.

Scott, A.D. (1952), "Federal Grants and Resource Allocation", *Journal of Political Economy*, Vol.60.

Appendix Table 1 [Annexure 10.2 of TFC Report]

Projection for Non-Plan Revenue Expenditure on Education (MH 2202)

(Rs. in crore)

State	2005-06	2006-07	2007-08	2008-09	2009-10	2005-10
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Assam						
Normal Expenditure	2125.60	2327.54	2548.65	2790.77	3055.90	12848.46
Grant	183.20	200.60	219.66	240.53	263.38	1107.37
Total NPRE	**2308.80**	**2528.14**	**2768.31**	**3031.30**	**3319.28**	**13955.83**
Bihar						
Normal Expenditure	3376.63	3697.41	4048.66	4433.29	4854.45	20410.44
Grant	443.99	486.17	532.36	582.93	638.31	2683.76
Total NPRE	**3820.62**	**4183.58**	**4581.02**	**5016.22**	**5492.76**	**23094.20**
Jharkhand						
Normal Expenditure	1177.70	1289.58	1412.09	1546.24	1693.13	7118.74
Grant	107.82	118.06	129.28	141.56	155.01	651.73
Total NPRE	**1285.52**	**1407.64**	**1541.37**	**1687.80**	**1848.14**	**7770.47**
Madhya Pradesh						
Normal Expenditure	2056.74	2252.13	2466.08	2700.36	2956.89	12432.20
Grant	76.03	83.25	91.16	99.82	109.30	459.56
Total NPRE	**2132.77**	**2335.38**	**2557.24**	**2800.18**	**3066.19**	**12891.76**
Orissa						
Normal Expenditure	1886.98	2066.24	2262.54	2477.48	2712.84	11406.08
Grant	53.49	58.57	64.13	70.22	76.89	323.30
Total NPRE	**1940.47**	**2124.81**	**2326.67**	**2547.70**	**2789.73**	**11729.38**
Rajasthan						
Normal Expenditure	3960.41	4336.65	4748.63	5199.75	5693.72	23939.16
Grant	20.00	20.00	20.00	20.00	20.00	100.00
Total NPRE	**3980.41**	**4356.65**	**4768.63**	**5219.75**	**5713.72**	**24039.16**
Uttar Pradesh						
Normal Expenditure	6510.06	7128.52	7805.73	8547.27	9359.27	39350.85
Grant	736.87	806.87	883.52	967.45	1059.36	4454.07
Total NPRE	**7246.93**	**7935.39**	**8689.25**	**9514.72**	**10418.63**	**43804.92**
West Bengal						
Normal Expenditure	5029.25	5507.03	6030.19	6603.06	7230.35	30399.88
Grant	64.83	70.99	77.73	85.11	93.20	391.86
Total NPRE	**5094.08**	**5578.02**	**6107.92**	**6688.17**	**7323.55**	**30791.74**
Total Normal Expenditure	**26123.37**	**28605.10**	**31322.57**	**34298.22**	**37556.55**	**157905.81**
Total Grant	**1686.23**	**1844.51**	**2017.84**	**2207.62**	**2415.45**	**10171.65**
Grand Total NPRE	**27809.60**	**30449.61**	**33340.41**	**36505.84**	**39972.00**	**168077.46**

Appendix Table 2 [Annexure 10.3 of TFC Report]

Projection for Non-Plan Revenue Expenditure on Health Sector (MH 2210 & 2211)

(Rs. in crore)

State	2005-06	2006-07	2007-08	2008-09	2009-10	2005-10
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Assam						
Normal Expenditure	196.94	219.58	244.84	272.99	304.39	1238.74
Grant	153.58	171.24	190.93	212.89	237.38	966.02
Total NPRE	**350.52**	**390.82**	**435.77**	**485.88**	**541.77**	**2204.76**
Bihar						
Normal Expenditure	500.82	558.41	622.63	694.23	774.07	3150.16
Grant	289.30	322.57	359.66	401.02	447.14	1819.69
Total NPRE	**790.12**	**880.98**	**982.29**	**1095.25**	**1221.21**	**4969.85**
Jharkhand						
Normal Expenditure	219.74	245.01	273.19	304.60	339.63	1382.17
Grant	57.39	63.99	71.35	79.55	88.70	360.98
Total NPRE	**277.13**	**309.00**	**344.54**	**384.15**	**428.33**	**1743.15**
Madhya Pradesh						
Normal Expenditure	607.66	677.55	755.46	842.34	939.21	3822.22
Grant	28.88	32.20	35.90	40.03	44.63	181.64
Total NPRE	**636.54**	**709.75**	**791.36**	**882.37**	**983.84**	**4003.86**
Orissa						
Normal Expenditure	434.88	484.90	540.66	602.83	672.16	2735.43
Grant	31.22	34.81	38.81	43.28	48.25	196.37
Total NPRE	**466.10**	**519.71**	**579.47**	**646.11**	**720.41**	**2931.80**
Uttar Pradesh						
Normal Expenditure	1610.74	1795.97	2002.51	2232.80	2489.57	10131.59
Grant	367.63	409.90	457.04	509.60	568.21	2312.38
Total NPRE	**1978.37**	**2205.87**	**2459.55**	**2742.40**	**3057.78**	**12443.97**
Uttaranchal						
Normal Expenditure	161.73	180.32	201.06	224.18	249.96	1017.25
Grant	10.00	10.00	10.00	10.00	10.00	50.00
Total NPRE	**171.73**	**190.32**	**211.06**	**234.18**	**259.96**	**1067.25**
Total Normal Expenditure	**3732.51**	**4161.74**	**4640.35**	**5173.97**	**5768.99**	**23477.56**
Total Grant	**938.00**	**1044.71**	**1163.69**	**1296.37**	**1444.31**	**5887.08**
Grand Total NPRE	**4670.51**	**5206.45**	**5804.04**	**6470.34**	**7213.30**	**29364.64**

Appendix Table 3:Share of Expenditure on Education as Percentage of Primary Expenditure excluding Pension Payments Relative to Average

(per cent)

	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03
Andhra Pradesh	81.80	84.41	74.72	77.39	76.64	68.67	76.24	77.25	72.45	73.00
Bihar	137.80	145.26	155.33	161.96	143.32	124.09	137.28	148.63	152.12	132.97
Goa	87.83	88.79	85.73	90.06	107.20	97.25	88.81	75.69	73.94	78.51
Gujarat	103.22	105.80	108.29	103.38	94.12	95.26	85.52	73.83	77.50	91.50
Haryana	77.43	64.84	69.90	75.23	80.73	83.85	81.19	82.31	78.50	88.74
Karnataka	82.08	87.32	81.48	81.49	94.20	88.03	81.74	87.47	78.35	83.09
Kerala	155.22	158.76	140.31	138.77	118.13	118.39	128.16	137.42	142.27	127.38
Madhya Pradesh	76.55	82.13	84.31	76.24	74.78	84.42	81.76	83.83	66.71	66.47
Maharashtra	93.81	84.62	91.58	91.54	99.95	97.25	103.13	125.81	135.61	113.04
Orissa	92.27	92.79	94.17	80.30	84.76	77.59	75.13	79.96	86.85	104.92
Punjab	88.97	86.21	92.78	94.97	92.69	107.89	105.44	92.33	87.35	110.84
Rajasthan	91.57	96.06	86.64	99.14	106.34	113.50	110.98	110.19	113.97	110.51
Tamil Nadu	103.67	101.49	104.13	99.85	101.59	115.07	113.26	111.15	113.08	90.79
Uttar Pradesh	95.24	95.09	107.87	105.97	98.92	115.57	96.23	101.97	105.08	96.91
West Bengal	132.54	126.45	122.78	123.72	126.65	113.17	135.14	112.17	116.25	131.34
Average	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Maximum	155.22	158.76	155.33	161.96	143.32	124.09	137.28	148.63	152.12	132.97
Minimum	76.55	64.84	69.90	75.23	74.78	68.67	75.13	73.83	66.71	66.47

Source(Basic Data): Finance Accounts, State Governments

Appendix Table 4: Share of Expenditure on Health as Percentage of Primary Expenditure excluding Pension Payments Realtive to Average for General Category States

	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03
Andhra Pradesh	92.86	88.50	85.18	92.39	85.47	75.47	84.90	86.00	84.41	85.38
Bihar	98.12	105.79	101.96	113.09	98.97	90.05	88.38	99.83	101.51	93.32
Goa	136.42	137.56	132.25	144.25	134.74	131.44	124.00	114.17	113.37	106.25
Gujarat	103.30	109.81	109.44	103.74	93.40	94.29	97.13	74.41	71.54	87.98
Haryana	65.74	56.73	62.42	63.72	67.37	69.52	72.62	70.87	62.62	71.31
Karnataka	86.53	91.87	77.76	72.49	80.55	82.80	90.36	85.15	80.96	82.24
Kerala	131.99	139.45	135.72	130.80	114.36	114.23	130.44	141.25	165.90	129.18
Madhya Pradesh	68.50	78.81	76.52	73.77	78.21	90.68	83.43	94.86	70.71	75.01
Maharashtra	80.64	73.93	77.74	71.73	78.59	71.24	74.28	80.09	90.31	77.11
Orissa	76.46	79.68	81.76	85.59	85.90	82.97	74.47	84.89	82.91	101.62
Punjab	102.67	104.81	102.50	110.88	109.82	134.03	140.43	124.86	121.44	138.01
Rajasthan	95.84	101.76	91.66	101.76	104.59	113.44	114.14	117.59	118.42	112.98
Tamil Nadu	99.31	97.93	107.89	95.25	102.05	106.23	108.95	106.85	111.04	91.22
Uttar Pradesh	113.10	94.49	115.35	108.94	120.42	91.68	87.48	90.91	93.78	94.64
West Bengal	148.51	138.87	141.83	131.59	145.57	151.93	128.99	128.25	131.08	153.75
Average	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Maximum	148.51	139.45	141.83	144.25	145.57	151.93	140.43	141.25	165.90	153.75
Minimum	65.74	56.73	62.42	63.72	67.37	69.52	72.62	70.87	62.62	71.31

Source(Basic Data): Finance Accounts, State Governments

Annexure 1: Canadian Methodology of Determining Equalization Grants

The equalization transfer to a province in absolute amount is determined by applying the average revenue effort to the difference between standard base and the actual base for that province with respect to the various revenue sources. This produces an estimate of revenue, which is higher than the actual revenue for provinces that have 'below- average' capacity. This exercise is done for all revenue bases used by the provinces. At present, there are 33 such revenue bases, which include tax revenues, royalties and user charges. This system of calculating the 'notional' revenue performance is called the 'Representative Tax System' (RST), where each tax or revenue source is considered individually and the 'average' or 'representative' tax effort is applied to the difference between the standard revenue base and the actual base. Let the provinces be indicated by subscript i and revenue sources by superscript j. In specifying the equalization grant formula the following symbols may be used:

N_i : population of province i

R_i : revenue of the ith province from a given source

b_i: per capita revenue base (total base: B= Ni*bi) of a given source

a_x: all-province average tax rate for a given revenue source

r_i : actual per capita revenue of the ith province from a given source

b_s : Per capita standard tax base

The subscripts x and s are kept different to emphasize that, as in Canada, in calculating the average tax rate and the standard tax base, the provinces included in the respective exercises may not constitute the same set.

The average tax rate, considering the ten provinces is defined as

$$a_x = \sum R_i / \sum B_i = \sum N_i r_i / \sum N_i b_i \qquad (i=1, 10) \qquad \ldots (1)$$

A benchmark revenue base is derived from the revenue bases of 5 selected provinces. At present this list excludes Alberta and the four Atlantic provinces. The per capita benchmark revenue base for a given revenue source may be defined as below.

$$b_s = \sum B_i / \sum N_i \qquad [i= 1, .5] \qquad \ldots (2)$$

Where b_s may be considered as the per capita benchmark revenue base.
The total equalization entitlement with respect to an individual revenue source is determined by

$$E_i = a_x [b_s - b_i] N_i \qquad \text{if } (b_s - b_i) > 0$$

$$E_i = 0 \qquad \text{if } (b_s - b_i) \leq 0 \qquad \ldots (3)$$

Total equalization payment for all sources for the i^{th} province will be the summation of such terms for all the revenue sources. Equalization operates as a 'gross' scheme, i.e. provinces with a positive entitlement receive their entitlement, but nothing is taken away from those that have a negative entitlement.

Annexure 2: Methodology for Determining Health and Social Sector Grants in Canada

As shown in Rangarajan and Srivastava (2004), the CHST formula for cash transfers can be written as

$$c_i=[c^*-zq_0] +z[q_0-q_i] \qquad ...(8)$$

The various terms used in this equation are explained below:

c_i is the per capita cash transfer to the ith province;

c^* is the normative per capita expenditure on health and social services;

z is the tax points transfer (13.5 percentage points) applicable to personal and corporate income tax bases;

q_i is the tax base of the ith province (covering personal and corporate income taxes); and

q_0 is the corresponding tax base of Ontario.

The term $[c^*-zq_0]$ is a constant, z is a fraction and $[q_0-q_i]$ gives the distance of the per capita revenue base of the ith province from the highest per capita base among provinces. It may be noted that in the case of health and social transfers:

a. There is partial equalization with respect to a benchmark state which has a mean income and tax base higher than the average; and
b. That this equalization is over and above unconditional general purpose transfers that are also equalisinng.

Annexure 3: Methodology of Determining Equalization Transfers in Australia

A mathematical presentation of the equalization methodology can be given, using symbols defined as below:

e_i = standardized per capita expenditure of state i; γ_i = expenditure disability of state i

r_i = standardized per capita revenue of state i; ρ_i = revenue disability of state i

o_i = per capita special purpose payment of state i;

d_s = per capita budget surplus; $d_i = d_s$ for all states

N_i = population of state i; $\sum Ni$ =population of all states

Subscript's' indicates corresponding numbers for the all-state averages.

The per capita all-state average grant is given by

$$g_s = e_s - r_s + d_s - o_s \qquad \text{...(1)}$$

The per capita grant to state i is given by

$$g_i = e_i - r_i + d_i - o_i \qquad \text{...(2)}$$

Here, e_i and r_i refer to standardized expenditure and revenue for state i, d_i is the standard budget surplus, which is common for all states and o_i is the given special purpose payment. All standardizations are made in relation to corresponding all-state averages which provides the standard, and the relevant expenditure and revenue terms can be written as

$$e_i = \gamma_i\, e_s,\ \ r_i = \rho_i\, r_s \qquad \text{...(3)}$$

For a given state the standardized expenditure and revenue will be the summation of standardized expenditures on different categories and standardized revenues from different sources. The SPPs are considered exogenously determined. The CGC determines first the total grants and derives the untied grants by deducting the SPPs (o_i) that are treated by inclusion. Grants inclusive of the SPPs may be written as g* and per capita untied grants as g, where

$$g^*_i = g_i + o_i \qquad \text{...(4)}$$

There are three ways in which the derivation of the share in GST-HCG transfers can be presented: the standardized model version, the needs version, and the normative gap version. For this purpose, we focus on $g^*_{i,}$ from which gi is derived by deducting the SPP grants. The needs version of the grant equation can be written

$$g^*_i = [(\gamma_i - 1)e_s + (1-\rho_i)r_s] \qquad \text{...(7)}$$

This indicates that the essence of the exercise is the departure of the disabilities γ_i and ρ_i from 1. Further, total grants can be seen as the sum of expenditure disabilities and revenue disabilities. This equation also makes clear the difference between the Australian and Canadian systems. In the Canadian system only the second term, that is, revenue disability is operative and no consideration is given to the expenditure side disability. This implies that implicitly γ_i is put equal to 1. The revenue disability (ρ_i) in Australia is measured by the ratio of states i's revenue base (bi) and the average per capita revenue base (bs). Thus, $\rho_i = b_i/b_s$. Substituting this in equation 7 and setting $\gamma_i = 1$, we have

$$g^*_i = r_s - \rho_i r_s = ab_s - a b_i \qquad \text{...(8)}$$

where $a = r_s/b_s$, i.e. the average tax rate.

This describes the method of determining untied transfers in Canada (see Rangarajan and Srivastava, 2004 for a discussion).