

Volume and Composition of Government Subsidies in India, 1987-88

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This paper attempts to measure the volume and composition of subsidies provided by the Central government and major State governments and concludes that a substantial proportion of GNP, much larger than the explicit subsidy as revealed in the budgets or as computed even by the broader National Accounts definition, is being distributed in the form of subsidies through the Central and State budgets, much of it invisible, and that it is not at all clear that these subsidies are flowing to the intended beneficiaries.

Introduction

ECONOMISTS are interested in analysing government subsidies for a number of different reasons. A macro economist dealing with India's fiscal imbalance, i.e., the growing revenue deficit in evidence since the early eighties, would be interested in better targeting of subsidies and pruning of unintended subsidies as part of a stabilisation programme which attempts to reduce the revenue deficit. A price theorist would be interested in the allocative effects of subsidies while a welfare economist might be interested in their overall welfare effects. Political economists would want to interpret the allocation of subsidies in terms of their perception of the distributive coalitions which control the state. This paper does not belong to any of these particular perspectives. Instead, it undertakes an exercise which is a necessary first step for addressing any or all of these questions operationally. It attempts to measure the volume and composition of subsidies provided by the Central government and fourteen major State governments in India, as observed in the year 1987-88, the last financial year for which complete accounts are so far available. The first part of the paper deals with concepts and method. Part two presents estimates of the volume and composition of subsidies at the national level. Part three analyses inter-State variations and the main conclusions are summarised in part four.

I

Subsidies and Theory of Public Expenditure

Government subsidies may be defined as the difference between the cost of delivering various publicly provided goods or services (henceforth, services) and the recoveries arising from such deliveries.¹ However, a number of qualifications and adjustments must be introduced before this concept can be applied to measure subsidies from the available data on government expenditure and receipts. These are as follows.

(a) *Government and Public Sector:*

Government has been defined in this exercise to include only those departments which directly come under the Central government or the governments of fourteen major States. In particular, non-departmental public enterprises or co-operatives have been treated as lying outside the government proper. This is admittedly a narrow definition. However, it is necessary in order to frame the interface between the government budget and public enterprises. The difference between financial assistance extended to such enterprises and the returns which government receives from them is included in our measure of the volume of subsidies flowing through the government budget and this component of government subsidy is discussed further below.

(b) *Public Goods:* The wide range of general, social and economic services offered by the government at the Centre and in the States can, for analytical purposes, be classified into three broad groups. At one end of the spectrum there are pure public goods (services) in the Samuelson sense, characterised by non-rivalry and non-excludability in consumption.² At the other end there would be pure private goods characterised by rivalry, excludability and no externality. Then there would be the vast majority of services in the middle category, characterised by rivalry and excludability but also varying degrees of externalities. We may stretch Musgrave's notion to describe this class of services as 'merit goods'.³ Of these, the concept of subsidy is properly applicable only to the last two.

In the case of pure public goods we know from the theory of public expenditure that the well known Samuelson pricing rules cannot in fact be applied because of the free rider problem. Given the characteristic of non-excludability, consumers will not reveal their preferences for such goods and the demand information necessary for calculating Samuelson prices will not be available. Wickcell had anticipated this problem before Samuelson and he, followed by Lindhal and more recently Musgrave, argued that a voting mechanism of near unanimity, choosing between alternative expenditure proposals along

with associated tax prices, could lead to fairly efficient outcomes. However, in the absence of such voting mechanisms, the optimal level of public provision of these services remains indeterminate and their costs have to be met out of the general budget since they cannot be easily recovered.⁴ Under these conditions it would be inappropriate to apply the concept of a subsidy to the expenditure on pure public goods. Could we say, for instance, that defence expenditure is a subsidy?

There is clearly a case for excluding pure public goods from our computation of subsidies. But empirically where does one draw the line between pure public goods and merit goods or private goods? There are obvious public good candidates like defence and police. But then there are less clear cases where the benefits are not immediately tangible, such as agricultural extension, or the beneficiaries not exclusively identifiable, as in a literacy programme. The conservative rule of thumb followed in this exercise is to treat the general administrative services in the functional classification of government expenditure as pure public services, along with relief on account of natural calamities, the general secretariat expenses of social and economic services and the compensation and assignment to Local Bodies and Panchayati Raj institutions. The expenditure incurred on these items has been excluded from the computation of subsidies.

It is possible to take the view that a number of other items, particularly certain social services, are also pure public services. To the extent that these have not been eliminated, the estimated value of subsidies would be larger than the actual value. Readers are welcome to apply their own judgment on which additional social or economic service ought to be treated as a public good and use our disaggregated subsidy estimates to make the appropriate adjustments and arrive at their preferred measure of the total volume of subsidies. However, it must be noted that there could be an element of hidden producer subsidies even in pure public goods, whether they be supplied by government departments or

firms, if these are not supplied cost effectively.

(c) *Transfer Payments and Tax Expenditure:* The public expenditure incurred on transfer payments have been excluded from the computation of subsidies since these cannot be treated as costs incurred in the public provision of a service which could be priced in principle. For the same reason tax expenditures, i.e., revenue losses incurred in tax incentives, have also been excluded from the computation of subsidies though these are usually treated as subsidies in the literature.

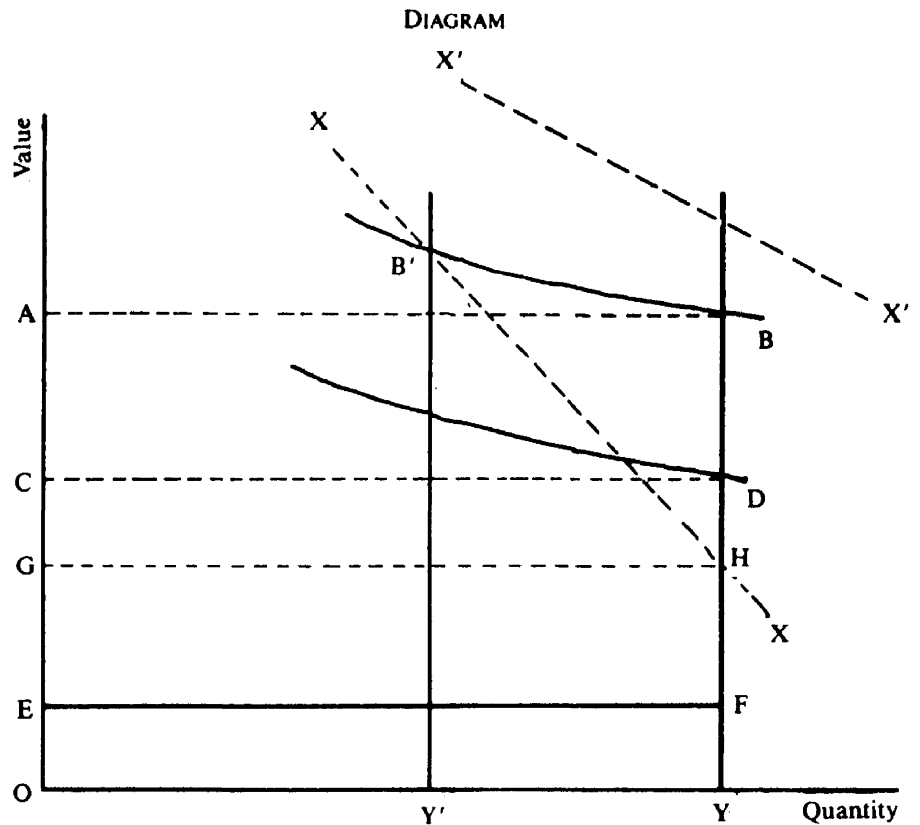
(d) *The Different Elements of Subsidy:* The concept of subsidy adopted in this exercise actually combines three different elements of subsidy as demonstrated in the diagram. Let OY be the quantity of some service which is publicly provided, YB the actual cost per unit, YD the efficient cost per unit and EF the curve of per unit recoveries. XX is the demand curve for the service.

The rectangle ABHG measures the total volume of subsidy actually required in order to ensure that the market absorbs OY quantity of this publicly provided service if the market clearing quantity OY' is considered socially inadequate. However, ABHG has two components, i.e., a necessary element CDHG which is a genuine allocative subsidy and an additional element ABDC paid to suppliers to cover their inefficiency. Finally, there is a subsidy element GHFE which need not have been paid to support consumption level OY, given the state of demand. We may therefore describe this as a purely distributive subsidy. Thus, our measure of subsidy which conceptually corresponds to the rectangle ABFE, in fact combines three distinct elements, i.e., a producers subsidy, the allocative subsidy and a distributive subsidy. However, it is not possible to disentangle these different elements of the subsidy without detailed estimates of cost and demand functions for all the different subsidies.

(e) *Method of Computation:* The exercise covers the provision of public services by the Central government and fourteen major State governments for the year 1987-88. In all, there are 123 major categories of public services or sectors of government activity identifiable from the budget classification, of which 37 sectors in general administrative services, etc., are treated as pure public services. For each of the remaining 86 social and economic services subsidy has been computed as

$$s_j = v_j + i(K_j + L_j) + dK_j - y_j - r_j - t_j \quad (1)$$

where $j = 38 \dots 123$ indexes the services. For the j^{th} sector;
 s_j is the subsidy;
 v_j is the variable cost or revenue expenditure on the service;
 K_j is the capital stock in the sector;
 L_j is the stock of investments outside government by the sector in the form of loans or equity;



- i is an imputed interest rate representing the opportunity cost of money for government;
- d is the depreciation rate;
- y_j is revenue receipts by the sector;
- r_j is income by way of interest or dividend on loans and equity; and
- t_j is a transfer payment from the sector to individual agents.

The total volume of subsidies on all services is given by

$$S = \sum_{j=38}^{123} s_j \quad (2)$$

Similarly the cost of any service j ($j=1 \dots 123$) is given by

$$c_j = v_j + i(K_j + L_j) + dK_j - t_j \quad (3)$$

while the total cost of all services, including transfer payments and pure public services is given by

$$C = \sum_{j=1}^{123} c_j + \sum_{j=1}^{123} t_j \quad (4)$$

Notice that in calculating the cost of a service we have added the variable cost or revenue expenditure (net of transfer payments) of the sector with the imputed interest cost of cumulative capital expenditure by the sector and the depreciation on capital accumulated within the sector. It is this interest cost and the depreciation rate which together constitute the element of fixed cost associated with the current level of a service and not the capital expenditure of the sector in the current period. That will form a component of the cumulative capital expenditure which supports future deliveries of services from the sector. Therefore c_j is not the same

as total expenditure of the j^{th} sector and C is not a measure of the total volume of public expenditure.

The imputed interest rate or the average cost of money to the government, calculated as the ratio of domestic interest payments by government to the stock of domestic public debt, works out to 6.04 per cent. The depreciation rate has been set at 2 per cent in real terms, assuming an average life of fifty years for capital stock in government activities as on March 31, 1987.⁵ Allowing for an inflation rate of 7.4 per cent this works out to 10.4 per cent depreciation in nominal terms.

The data used for the exercise has been drawn primarily from the Finance Accounts of the Union and State governments published by the Office of the Comptroller and Auditor General. This has been supplemented by additional information drawn from budget documents and the *Indian Economic Statistics: Public Finance* published by the ministry of finance.

The concept of subsidy employed in this study should be distinguished from the concepts used in the budget and National Accounts. The concept of 'subsidy' used in the budgets simply applies to the explicit payments made to producers to alter their price or output decisions. The best examples are the food and fertiliser subsidies. The National Accounting concept is broader as it includes, in addition to these explicit payments, the implicit subsidies arising from the losses of departmental enterprises. The concept of subsidy employed in this study is still broader because, in addition to the National Accounts concept of subsidies, it includes subsidies to households implicit in the provision of social and economic services

below cost as well as the unrecovered cost of loans given and investments made in non-departmental enterprises and co-operatives.

(f) *Potential Sources of Bias:* It has already been noted above that the volume of subsidy measured in this exercise may be an under estimate because it excludes tax expenditures. Another possible source of under estimation could be some services, e.g., higher technical education such as medicine or engineering, where the market clearing price may be higher than the actual cost of supply, viz., a state of demand illustrated by curve X' X' in the diagram. On the other hand, there are also some sources of upward bias in our estimate. The possibility of some pure public services not being excluded from the computation has been noted earlier. In addition we must remember that if the existing level of subsidies, and therefore the aggregate level of public expenditure were to be reduced, then *ceteris paribus* this would also reduce the level of aggregate output and the volume of revenue. Thus, in principle, subsidies should be calculated net of the revenues which they indirectly generate. Keeping in view these possible sources of bias it must be emphasised that the estimates presented in this paper should be regarded as nothing more than a first approximation.

II

Level and Composition of Subsidies: All India, 1987-88

(a) *The Volume of Subsidies:* Going by this user charge method of costing public services, the total cost of all services plus transfer payments for the year 1987-88 worked out to Rs 91,276 crore, of which Rs 48,599 crore was accounted for by the Centre and the balance of Rs 42,677 crore was attributable to the States. Compared to the accounts figures of total government expenditure in that year of the order of Rs 1,01,754 there is a difference of about Rs 10,000 crore. This difference arises primarily because in this exercise the imputed interest cost and depreciation on the cumulative capital expenditure shown in the accounts has been taken as the fixed cost element instead of the actual capital expenditure in 1987-88.

Transfer payments, including the allocation for employment programmes, amounted to Rs 3,836 crore in 1987-88 and the cost of pure public services (general services) accounted for another Rs 25,000 crore. The balance Rs 62,440 crore would have been the total user charge on social and economic services provided by the Central and State governments, if these services were not subsidised. In fact only 32 per cent of the cost of these services was recovered, thus leaving a subsidy element amounting to Rs 2,324 crore or almost 70 per cent of the cost of these services. As a proportion of GDP this works out to about 15 per cent (Table 1). A little over a third of this total bill of subsidies, adding up to about Rs 16,065 crore, flowed through the Central government and

the rest through State governments, even though the aggregate cost of social and economic services is more or less evenly shared between the Centre and the State governments. This is because the States account for the bulk of social services, which are more heavily subsidised as a matter of policy, while the Central government is predominant in the provision of economic services. These details are discussed further below. It is this difference in the composition of publicly provided services which also accounts for a lower overall recovery rate of 16 per cent in the States as compared to 48 per cent at the Central level.

It should be clarified here that in calculating the recovery rate of the States, receipts in the form of transfers from the Centre have not been counted and these have also been excluded from the expenditure side of Central government accounts. These receipts and expenditures cancel out when the accounts of the two levels of government are combined for a consolidated picture of government finance. Even if the accounts at different levels of government are analysed separately it would be odd to treat such transfers at the Central level as expenditure on services which it has not delivered and at the State level treat them as if they were recoveries from recipients of publicly provided services at the State level.

(b) *Social Services:* Social services accounted for 40 per cent of the total volume of subsidies or about Rs 16,760 crore in 1987-88. This works out to almost 6 per cent of the GDP in that year. As noted above, the major component of these subsidies on social services, amounting to Rs 14,460 crore, flowed through the budgets of the State governments. These social services have been provided virtually free to the recipients as a deliberate matter of policy, with less than 4 per cent of the cost of these services being recovered (Table 2). Such a policy could be seen as an effective redistributive measure if the subsidies were targeted to reach intended beneficiaries. Experience has shown that progressive tax structures by themselves are usually not very effective redistributive instruments, whereas the expenditure on social services covers all the non-food basic needs items which are known to be highly correlated with welfare indicators in the physical quality of life index.⁶

However, the data presented here does not indicate that the subsidisation of social services is being effectively targeted towards disadvantaged groups. Take for instance education—the single largest item of subsidies which alone accounted for Rs 9,576 crore or 23 per cent of all subsidies (Table 2). Much less than half of this was spent on primary education. The major component of Rs 5,460 crore was spent on secondary and higher or technical education, sports, art and culture (Table 3). In our view, this reflects rather weak targeting of the disadvantaged in a situation where 64 per cent of the population is illiterate. This issue is further discuss-

ed in the inter-State analysis of subsidies in Section 3. It is worth noting that user charge recoveries from secondary education and, especially, university or technical education such as medicine and engineering would make it possible to almost double the volume of subsidies in primary education even without any increase in the total volume of subsidies. Of course, this would require associated action, such as means test scholarships and special bank loan schemes, to ensure that higher levels of education remain accessible to the disadvantaged. These issues are not pursued further in this paper.

Poverty group targeting in the allocation of subsidies in other social services appears to be equally weak. In health services, for instance, out of total subsidies of the order of Rs 2,925 crore in 1987-88, less than Rs 600 crore flowed to the rural sector. Similarly in the case of water supply, sanitation and housing, out of a total subsidy of Rs 2,363 crore, only Rs 823 crore flowed to the rural sector. Such an allocation of subsidies does not even appear to be equitable, let alone progressive, given that about 76 per cent of the total population and the vast majority of those below the poverty line live in rural areas.

Clearly, there would be much room for substantially increasing the volume of carefully targeted subsidisation of social services to genuinely deserving sections of the population, even without any increase in the total volume of subsidies, if a serious attempt could be made to prune subsidies flowing to unintended beneficiaries. Whether or not such expenditure switching is compatible with the political economy of fiscal policy in India is, of course, another matter.

(c) *Economic Services:* Subsidies in economic services amounted to Rs 25,564 crore or about 60 per cent of the total volume of subsidies. A little over half of this flowed through the Central budget. Costs were not fully recovered in any economic service and the average recovery rate was less than 44 per cent. However, there was considerable variation around this average with recovery rates varying from as little as 20 per cent to over 75 per cent (Table 4).

The highest recovery rates of 75.7 per cent and 70 per cent were recorded in items like transport and communications. Disaggregated data show that these rates were in fact higher for some items, e.g., 95 per cent in the case of rail transportation. However, the sector averages were brought down by very low recovery rates of around 3 per cent in other items like roads and bridges. Given the critical role of infrastructure like transport and communications and their relatively impressive performance in cost recovery, it is unfortunate that the share of these sectors in aggregate public expenditure has tended to diminish⁷ in recent years.

We next come to power and energy which is generally believed to be a major area of hidden subsidies. Admittedly, the recovery rate of around 35 per cent in this sector is only about half of that observed in transport

and communications. However, it is much higher than the recovery rates recorded in services relating to agriculture or industry and the subsidy of Rs 3,221 crore to power and energy, in fact, accounted for less than 8 per cent of the total volume of subsidies in 1987-88. Much of this covered the losses of State Electricity Boards.

The average recovery rate in services related to industry was only about 25 per cent and the volume of subsidies close to Rs 5,000 crore. However, of this over Rs 2,000 crore flowed as subsidies to the fertiliser industry alone and it is debatable whether this element should be treated as a subsidy to the industry or to the activity of crop production. This issue is taken up further below. Apart from fertilisers the other industries which absorbed substantial subsidies in 1987-88 include village and small industries (Rs 640 crore), engineering and telecommunication equipment (Rs 490 crore), consumer industries (Rs 490 crore) and atomic energy (Rs 342 crore).

Finally, we come to agriculture and co-operation. The cost of these services, taken along with irrigation and flood control, was close to Rs 15,000 crore. Only about 20 per cent of this cost was recovered, leaving a subsidy element of around Rs 11,554 crore. This works out to a little under half the total volume of subsidies in economic services. The bulk of this subsidy in services related to agriculture obviously flowed through the State budgets since they account for an overwhelming proportion of the outlay on agri-

culture and irrigation.

The single largest item in the bill of subsidies to agriculture is the food subsidy which amounted to Rs 2,572 crore in 1987-88. Here, a question arises as to whether the difference between the cost of grains to government, calculated as a mark up on the procurement price, and the issue price of grain in the public distribution system should really be treated as a subsidy to crop production or to consumers. This will make no difference to the total volume of subsidies, but it will effect our assessment of the incidence of subsidies. This question is discussed further below.

Apart from food, the other important items of subsidy to agriculture include various types of rural development and special area programmes (Rs 1,397 crore), crop husbandry (Rs 1,105 crore), animal husbandry (Rs 472 crore) and agricultural research, etc. (Rs 384 crore). The subsidy in major and medium irrigation, minor irrigation and flood control worked out to Rs 2,679 crore, Rs 1,362 crore and Rs 327 crore respectively.

(d) *Subsidy to Public Enterprises:* We turn now to the interface between government and the public enterprises. It was explained in Section I that the subsidies estimated in this paper are only the subsidies flowing from government proper. Subsidies extended by public sector enterprises to the rest of the economy are not estimated. However, we do estimate the extent of net budgetary support or subsidy to the public enterprises

themselves from the government. These are shown separately for departmental enterprises, non-departmental enterprises and co-operatives in Table 5.

Subsidies to public enterprises added up to Rs 15,080 crore or a little over a third of the total volume of government subsidies in 1987-88. Of this, Rs 9,213 crore went to Central public enterprises whereas the State level enterprises received Rs 5,866 crore worth of subsidies. The average recovery rate was only 55 per cent for the public enterprises sector as a whole, while the average rate for State level enterprises was still lower at 41 per cent.

In other words, far from contributing a net surplus to the revenues of the government, the public enterprises have remained a major source of resource drain from the government. In the present fiscal crisis this calls for a major policy reform *vis-a-vis* the public sector. Ways must be found of hardening their budget constraint and ensuring some improvements in their financial performance so that they at least cease to drain financial resources from the government, even if they are not able to immediately contribute a net surplus to the revenues of the government.

It is interesting to note in this context that there is considerable variation between the recovery rates from different types of public enterprises. The recovery rate from co-operatives is the lowest at 20 per cent. However, since the total cost incurred on this category of enterprises is quite small, subsidies to co-operatives account for less than

TABLE 1: COST OF GOVERNMENT SERVICES: 1987-88

(Rs crore)

	Revenue Expenditure	Imputed Interest Cost on Loans	Imputed Interest Cost and Depreciation on Capital Outlay ⁶	Total Cost of Service Column (2+3+4)	Revenue Receipts	Interest and Dividends Receipts	Total Recoveries	Recovery Rate Column (8/5)x100	Subsidy	Subsidy as Percentage of Total Subsidy	Subsidy as Percentage of Total Cost of Services and Transfers	Subsidy as Percentage of GDP
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
I Transfer Payments												
Centre	649	0	0	649	—	—	—	—	—	—	—	—
States	3186	0	0	3186	—	—	—	—	—	—	—	—
India	3836	0	0	3836	—	—	—	—	—	—	—	—
II General Services												
Centre	14757	0	2173	16931	2009	4	2013	11.89	—	—	—	—
States	7853	3	213	8069	720	52	772	9.57	—	—	—	—
India	22610	3	2387	25000	2729	57	2785	11.14	—	—	—	—
III Social and Economic Services												
Centre	21471	1584	7963	31019	12198	2756	14954	48.21	16065	37.96	17.60	5.46
States	23602	1702	6117	31422	3288	1875	5162	16.43	26259	62.04	28.77	8.92
India	45074	3286	14080	62440	15485	4631	20116	32.22	42324	100.00	46.37	14.38
IV All Services (Including transfers and general services)												
Centre	36878	1584	10136	48599	14206	2760	16967	34.91	16065	37.96	17.60	5.46
States	34642	1705	6331	42677	4007	1927	5934	13.91	26259	62.04	28.77	8.92
India	71520	3289	16467	91276	18214	4687	22901	25.09	42324	100.00	46.37	14.38

2 per cent of total subsidies. The more important contrast is between non-departmental enterprises and departmental enterprises which account for 16 per cent and 18 per cent of total subsidies respectively. The recovery rate from the former is only about 30 per cent as compared to an average recovery rate of 67 per cent realised from the latter. Thus, the rate of resource drain is much higher in the case of non-departmental enterprises as compared to the departmental enterprises. This is despite the fact that the former includes all the oil companies which have been enjoying windfall gains because of the oil shocks. If these were excluded, the recovery rate from non-departmental enterprises would be even lower.

(e) *The Rural Share of Subsidies:* Measurement of fiscal incidence or the incidence of taxes and subsidies remains one of the most intractable problems in public finance and certainly no firm measure of the incidence of subsidies can be culled out of the present data. Nevertheless, some very broad contours of the pattern of subsidy incidence have been indicated such as the share of social and economic services, the share of public enterprises and so on. We now present an estimate of the share of the rural population in total subsidies.

Each item of subsidy has been classified as rural or non-rural based on the evidence available in the budget documents about the identity of the beneficiaries. However, there are three major items where such an unambiguous classification was difficult. The largest item is education which accounted for 23 per cent of all subsidies as indicated earlier. It has been assumed here that the flow of education subsidy to the rural sector is in proportion to its share of popula-

tion though, in fact, it is likely to be lower.

The other two items are food and fertiliser which respectively account for about 6 per cent and 4 per cent of all services. In the basic classification the food subsidy is shown under agriculture which is included in the rural sector. However, it is arguable that much of this subsidy flows to the urban sector since a major portion of the actual off-take of subsidised foodgrains from the public distribution system actually goes to consumers in urban areas. In the case of the fertiliser subsidy, on the other hand, though in the basic classification it appears as a subsidy to the fertiliser industry, it can be argued that the beneficiaries of this subsidy are really the farmers belonging to the rural sector.

Estimate II in Table 6 gives an upper bound estimate of the rural share in subsidies by including both the food and fertiliser subsidies along with the rural share of the education subsidy. Estimate III gives a lower bound estimate which includes the rural share of the education subsidy but not the food and fertiliser subsidies. Estimate IV is our preferred estimate which includes the rural share of the education subsidy and the fertiliser subsidy, but not the food subsidy. With these assumptions it turns out that the rural share lies between 41 per cent and 53 per cent of the total volume of subsidies. Our preferred estimate places it at about 46.5 per cent. It may appear that some rural: urban inequity is implied here since the rural share is less than in proportion to its share of population and per capita incomes are also lower in the rural sector. However, any such inference about fiscal incidence would be premature without taking into account the flow of transfer payments and the in-

cidence of direct and indirect taxation, which is likely to be lower for the rural sector.

III

Inter-State Analysis of Budgetary Subsidies

The analysis of subsidies at the all-India level presented above cannot address a number of subsidy related issues which come into focus only when the data are analysed at the level of the States. For example, the problem of resource inadequacy is particularly severe at the State level⁸ and this underlines the urgency of targeting subsidies for the intended groups and making adequate cost recoveries from those with higher purchasing power so that the prevailing levels of social and economic services which are abysmally low can be expanded to satisfactory levels and equitably distributed.

(a) *Inter-State Analysis of Subsidy:* As indicated in section 2, the total cost of providing public services and transfers in the States in 1987-88 amounted to Rs 42,677 crore. The cost of general and administrative services was Rs 8,070 crore and transfer payments amounted to Rs 3,186 crore. Of the total cost of social and economic services of Rs 31,422 crore, cost recoveries amounted to Rs 5,162 crore, leaving the subsidy amount of Rs 26,259 crore or 7.9 per cent of GDP. The subsidy amount formed over 62 per cent of the total cost of public services and transfers.

The most notable feature of inter-State distribution of subsidies presented in Table 3.1 is its inequitable spread. It is clearly seen that more than a proportionate share of subsidies accrued to the high and middle

TABLE 2: SUBSIDY ON SOCIAL SERVICES

	Revenue Expenditure	Total Cost of Service	Total Recoveries	Recovery Rate Col (4/3) × 100	Subsidy	Subsidy as Percentage of Total Subsidy	Subsidy as Percentage of Total Cost of Services and Transfers	Subsidy as Percentage of GDP
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1 Education								
Centre	1241	1281	8	0.59	1273	3.01	1.39	0.43
States	8336	8422	118	1.41	8303	19.62	9.10	2.82
India	9577	9702	126	1.30	9576	22.63	10.49	3.25
2 Health								
Centre	344	365	20	5.56	345	0.81	0.38	0.12
States	2485	2653	73	2.74	2580	6.10	2.83	0.88
India	2830	3018	93	3.08	2925	6.91	3.20	0.99
3 Water supply, sanitation and housing								
Centre	122	319	17	5.35	302	0.71	0.33	0.10
States	1619	2194	133	6.06	2061	4.87	2.26	0.70
India	1741	2513	150	5.97	2363	5.58	2.59	0.80
4 Other social services								
Centre	429	557	177	31.84	380	0.90	0.42	0.13
States	1498	1603	88	5.46	1515	3.58	1.66	0.51
India	1927	2160	265	12.26	1895	4.48	2.08	0.64
5 Total social services								
Centre	2137	2522	222	8.82	2300	5.43	2.52	0.78
States	13938	14872	412	2.77	14460	34.17	15.84	4.91
India	16075	17394	634	3.65	16760	39.60	18.36	5.69

income States. The four high income States with only 20 per cent share of population claimed almost 26 per cent of the subsidies, whereas the share of the five low income States with over 46 per cent of population was only about 38 per cent. In fact, all the high and middle income States with the sole exception of West Bengal claimed a share of subsidies higher than their population share. Similarly, in each of the low income States with the exception of Rajasthan, per capita subsidies were lower than the all-States average. While, for the high income States taken together per capita subsidies amounted to Rs 466, the corresponding figure for the low income States was just about Rs 299. This was lower than the all States average by 17 per cent. Per capita subsidies in the middle income States amounted to Rs 384 which was higher than all-States average by 6 per cent.

Per capita subsidies in high and middle income States were larger because either the per capita expenditures in these States were higher or their recovery rates were lower. So far as recovery rates are concerned our analysis shows that recoveries as a ratio of the cost of social and economic services were, by and large, very low with an average of 16 per cent for the States taken together. In eight States, it was less than 15 per cent, the lowest being about 6 per cent in West Bengal. Only in four States, it was higher than 20 per cent. However, inter-State differences in subsidy levels cannot be largely

attributed to the difference in recovery rates since they do not seem to follow any systematic pattern (see, Table 7) consistent with differences in subsidy levels. In fact, recovery rate in the middle income States was only 12 per cent whereas, in the low income States it was 17 per cent. Nevertheless, in the States of Gujarat, Kerala, Punjab and Tamil Nadu, the higher subsidy levels have to be partly attributed to their lower recovery rates. In contrast Haryana, Karnataka and Maharashtra present cases where subsidy levels were higher despite relatively high recovery rates and among the low income States, Bihar and Madhya Pradesh present cases of low subsidy levels with high recovery rates.

The observed pattern of higher per capita subsidies in more developed States clearly shows that subsidy levels were higher in States with higher capacity to raise revenues. In other words, the federal transfer policy has failed to achieve its major objective, namely, offsetting the lower revenue raising capacities of fiscally disadvantaged States. In other words, Central transfers have failed to enable the fiscally disadvantaged States to provide a standard⁹ level of public services at a uniform tax-effort. Consequently, the residents in fiscally disadvantaged States have had to be satisfied with lower levels of services as well as lower subsidy levels than their counterparts in the better off States.

(b) *Subsidy in Social Services:* Subsidies in the provision of Social Services in all the major States taken together amounted to

Rs 14,460 crore, forming about 55 per cent of the total subsidy flowing through State governments. Among the social services, subsidy in education alone constituted over 32 per cent of the total subsidy, while the subsidy to protective and preventive health care (medical, public health, water supply and housing) constituted another 18 per cent.

The estimates presented in Table 8 show that in each of the 14 major States, social services claimed a predominant share of subsidies ranging from 47 per cent in Haryana to about 68 per cent in Kerala. The broad similarity in the relative shares of various sub-sectors of social services among the States is also notable. In every State, the highest share of subsidy was in education. A large share of subsidy was also claimed by protective and preventive health care (including medical, public health, water supply, sanitation and housing) in all the States. Considering that social services accounted for almost 50 per cent of subsidies in many of the States, it would be instructive to analyse this in greater detail.

The most striking feature that emerges from the analysis of subsidies in education and health is that, generally, per capita subsidies were higher in the States where the levels of educational and health services were also higher and vice versa. In the case of education, for example, per capita subsidies were higher in States where the literacy rates were higher. In Kerala, both the literacy rates

TABLE 3: SUBSIDY TO EDUCATION, HEALTH AND WATER SUPPLY, SANITATION AND HOUSING

	Revenue Expenditure	Total Cost of Service	Total Recoveries	Recovery Rate Col (4/3) × 100	Subsidy	Subsidy as Percentage of Total Subsidy	Subsidy as Percentage of Total Cost of Services and Transfers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I Education (all India)	9577	9702	126	1.30	9577	22.63	10.49
a Elementary education	4114	4127	11	0.26	4116	9.73	4.51
b Secondary education	3028	3063	57	1.87	3006	7.10	3.29
c University/higher and technical education	1827	1865	32	1.71	1833	4.33	2.01
d Other education	266	274	17	6.03	258	0.61	0.28
e Sports, art and culture	341	373	10	2.68	363	0.86	0.40
II Health							
a Centre	344	365	20	5.56	345	0.81	0.38
i) Rural	2	9	0	1.15	8	0.02	0.01
ii) Non-rural	342	356	20	5.67	336	0.79	0.37
b States	2485	2653	73	2.74	2580	6.10	2.83
i) Rural	548	566	0	0.01	566	1.34	0.62
ii) Non-rural	1937	2087	73	3.48	2014	4.76	2.21
c India	2830	3018	93	3.08	2925	6.91	3.20
i) Rural	550	575	0	0.03	575	1.36	0.63
ii) Non-rural	2279	2443	93	3.80	2350	5.55	2.58
III Water supply, sanitation and housing							
a Centre	122	319	17	5.35	302	0.71	0.33
i) Rural	13	16	0	0.19	16	0.04	0.02
ii) Non-rural	110	304	17	5.61	287	0.68	0.31
b States	1619	2194	133	6.06	2061	4.87	2.26
i) Rural	658	815	8	0.92	807	1.91	0.88
ii) Non-Rural	961	1379	125	9.10	1254	2.96	1.37
c India	1741	2513	150	5.97	2363	5.58	2.59
i) Rural	671	830	8	0.91	823	1.94	0.90
ii) Non-Rural	1071	1683	143	8.47	1541	3.64	1.69

and per capita subsidies were the highest. Similarly, in the States of Gujarat, Karnataka, Maharashtra, Punjab and Tamil Nadu where literacy rates were higher than the all-States average, the per capita subsidies were also substantially higher. Subsidy levels were the lowest in Bihar, Madhya Pradesh, Orissa and Uttar Pradesh all of which had very low literacy rates.

A similar positive association between levels of the service and per capita subsidy is also noticed in the case of preventive and protective health care (medical, public health, water supply, sanitation and housing). In the States of Haryana, Karnataka, Kerala, Maharashtra, Punjab and West Bengal the infant mortality rate were very low indicating substantially higher than the average availability of health care services. These were also the States with higher per capita subsidies in protective (medical and public health) health care services. In Kerala, which had the lowest infant mortality rate (27 per cent per 1,000 births), per capita subsidy in protective health care was higher than the average by 33 per cent. In Punjab where per capita subsidies were higher than the average by 54 per cent, the infant mortality rate was 29 per cent lower than the average. Similar pattern can be observed in the case

of subsidies in preventive health care services also.

Thus it is seen that per capita subsidies in social services were larger in more developed States. What is more, even within the States the benefit of subsidies is concentrated to a small proportion of the population. Even in less developed States, although per capita subsidies were lower, it is probable that the benefit of subsidies accrues mainly to a smaller proportion of population which is literate. Therefore, per capita subsidy received by the benefiting group may not be very much lower even in less developed States. The more literate who also have greater purchasing power seem to have better access to social services and, therefore, it would be reasonable to infer that the benefit of subsidy in social services accrues mainly to this small and relatively privileged proportion of population.

The data presented in Table 9 also show that the recovery rates in social services were extremely low in all the States, only 5 per cent or less. The recovery rates were very low both in education and health sectors. Clearly, the low recovery rates reflect a deliberate policy of providing these services free or at very low prices. However, the consequence is that small and relatively privileged section

of population who have better access to social services get them virtually free, and hence, appropriate large consumer surpluses, while the vast majority do not even have access to these services, let alone, availing the subsidies involved in their delivery. Ensuring greater accessibility to larger proportion of population involves both better targeting and massive expansion in the levels of these services. Given the severity of the resource constraint with the States, expansion in the levels of services can come about only by charging higher user charges on those consumers having higher purchasing power. In fact, in the case of higher education and technical education, there is no reason why greater recoveries cannot be made from economically better off consumers. At the same time, it is necessary that the benefits of these services should be made accessible at subsidised rates to those who are economically disadvantaged.

We may now look at some equity aspects of the subsidy to the education sector. As mentioned above, education accounts for almost a third of total subsidies at the State level. The composition of subsidies in various sub-sectors within the education sector presented in Table 9 points to a number of important inferences. First, in spite of the

TABLE 4: SUBSIDY ON ECONOMIC SERVICES

	Revenue Expenditure	Total Cost of Service	Total Recoveries	Recovery Rate Col (4/3) × 100	Subsidy	Subsidy as Percentage of Total Subsidy	Subsidy as Percentage of Total Cost of Services and Transfers	Subsidy as Percentage of GDP
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1 Agriculture and co-operation								
Centre	2626	3178	208	6.53	2970	7.02	3.25	1.01
States	5106	5636	1627	28.87	4009	9.47	4.39	1.36
India	7732	8815	1835	20.81	6980	16.49	7.65	2.37
2 Irrigation and flood control								
Centre	81	112	3	2.95	109	0.26	0.12	0.04
States	1907	5686	1221	21.47	4465	10.55	4.89	1.52
India	1988	5798	1224	21.11	4574	10.81	5.01	1.55
3 Power and energy								
Centre	690	2949	1162	39.42	1786	4.22	1.96	0.61
States	708	1998	564	28.20	1435	3.39	1.57	0.49
India	1399	4947	1726	34.89	3221	7.61	3.53	1.09
4 Industry								
Centre	3412	5638	879	15.59	4759	11.24	5.21	1.62
States	581	937	817	87.19	120	0.28	0.13	0.04
India	3993	6575	1696	25.80	4879	11.53	5.34	1.66
5 Transport								
Centre	8459	10903	9463	86.80	1440	3.40	1.58	0.49
States	1099	1937	254	13.12	1683	3.98	1.84	0.57
India	9558	12840	9717	75.68	3122	7.38	3.42	1.06
6 Communication								
Centre	2096	3511	2468	70.31	1042	2.46	1.14	0.35
States	0	1	0	0.00	1	0.00	0.00	0.00
India	2096	3511	2468	70.30	1043	2.46	1.14	0.35
7 Other economic services								
Centre	1971	2207	548	24.82	1659	3.92	1.82	0.56
States	262	354	268	75.74	86	0.20	0.09	0.03
India	2232	2560	816	31.86	1745	4.12	1.91	0.59
8 Total economic services								
Centre	19334	28496	14731	51.70	13765	32.52	15.08	4.68
States	9664	16549	4750	28.70	11799	27.88	12.93	4.01
India	28997	45045	19481	43.25	25564	60.40	28.01	8.68

fact that almost 65 per cent of the people in the States are illiterate, the allocation to primary education was just about 48 per cent. Thus, more than a half of the subsidies in education is allocated to higher levels. The pattern was broadly similar in all the States, the share of primary education ranging from 39 per cent in Haryana and West Bengal to 57 per cent in Bihar, Madhya Pradesh and Orissa.

The bill of subsidies on higher, technical and other education which accrues largely to the literate sections of population

amounted to almost Rs 1,500 crore.¹⁰ To this has to be added an additional amount of Rs 210 crore on account of agricultural education and Rs 190 crore due to medical education. Thus, the total subsidy bill involved in higher levels of education amounts to a staggering Rs 1,900 crore. It may be noted that complete cost recoveries at higher education levels can augment the primary outlay on education almost by 50 per cent. Of course, this is not to imply that economically weaker sections availing higher educational facilities should not receive sub-

sidy. What is implied is the need to properly target the subsidies on higher educational levels. These statistics sharply underline the inequitable allocation of subsidies not merely in terms of the regional spread but also in terms of the distribution between the better off and the worse off within the regions.

Reduction in the subsidy to the privileged groups can be achieved only by enhancing recoveries on higher education. It is interesting to note that recovery rates on higher education for the States averaged only 1.7 per cent, which was lower than even the

TABLE 5: SUBSIDY THROUGH PUBLIC ENTERPRISES

(Rs crore)							
(1)	Revenue Expenditure (2)	Total Cost of Service (3)	Total Recoveries (4)	Recovery Rate Col (4/3)×100 (5)	Subsidy (6)	Subsidy as Percentage of Total Subsidy (7)	Subsidy as Percentage of Total Cost of Services and Transfers (8)
I Departmental Enterprises							
Social Services	457	561	198	35.20	364	0.86	0.40
Economic Services	14061	22618	15363	67.92	7255	17.14	7.95
Total	14518	23180	15561	67.13	7619	18.00	8.35
II Non-Departmental Enterprises							
Social Services	82	149	20	13.40	129	0.31	0.14
Economic Services	6033	9768	3029	31.01	6739	15.92	7.38
Total	6115	9917	3049	30.75	6868	16.23	7.52
III Co-operatives							
Social Services	5	29	4	14.06	25	0.06	0.03
Economic Services	234	709	141	19.95	568	1.34	0.62
Total	239	738	146	19.72	593	1.40	0.65
IV All Public Enterprises							
Social Services	544	740	222	29.97	518	1.22	0.57
Economic Services	20327	33096	18534	56.00	14562	34.41	15.95
Total	20872	33836	18756	55.43	15080	35.63	16.52
of which							
Central Public Enterprises	16485	23814	14601	61.31	9213	21.77	10.09
States' Public Enterprises	4387	10021	4155	41.46	5866	13.86	6.43

TABLE 6: SUBSIDY TO RURAL SECTOR

(Rs crore)								
(1)	Revenue Expenditure (2)	Total Cost of Service (3)	Total Recoveries (4)	Recovery Rate Col (4/3)×100 (5)	Subsidy (6)	Subsidy as Percentage of Total Subsidy (7)	Subsidy as Percentage of Total Cost of Services and Transfers (8)	Subsidy as Percentage of GDP (9)
Estimate I : Rural								
Centre	2723	3347	326	9.75	3021	7.14	3.31	1.03
States	8100	12582	2512	19.96	10070	23.79	11.03	3.42
India	10822	15929	2838	17.82	13091	30.93	14.34	4.45
Estimate II : Rural								
Centre	5728	6641	526	7.92	6115	14.45	6.70	2.08
States	14414	18964	2601	13.72	16363	38.66	17.93	5.56
India	20142	25605	3128	12.21	22478	53.11	24.63	7.63
Estimate III: Rural								
Centre	1652	2186	332	15.19	1854	4.38	2.03	0.63
States	13776	18315	2601	14.20	15714	37.13	17.22	5.34
India	15428	20501	2933	14.31	17568	41.51	19.25	5.97
Estimate IV: Rural								
Centre	3715	4506	526	11.68	3980	9.40	4.36	1.35
States	13776	18319	2601	14.20	15718	37.14	17.22	5.34
India	17491	22825	3127	13.70	19698	46.54	21.58	6.69

Notes: Estimate I: Unadjusted Estimate: Includes food subsidy but not fertiliser subsidy or any share of education subsidy.
 Estimate II: Maximum Estimate: Includes food and fertiliser subsidy plus share of education subsidy.
 Estimate III: Minimum Estimate: Excludes food and fertiliser subsidy but includes share of education subsidy.
 Estimate IV: Preferred Estimate: Excludes food subsidy but includes fertiliser subsidy and share of education subsidy.

TABLE 7: BUDGETARY SUBSIDIES IN MAJOR STATES

States	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Revenue Expenditure	Depreciation and Interest Cost on Investments and Loans	Total Cost of Public Services	Transfer Payments	Cost of Social and Economic Services	Revenue Receipts from Social and Economic Services	Interest and Dividends Receipts	Total Recoveries from Social and Economic Services	Recovery Rates in Social and Economic Services	Total Subsidies	Per Capita Subsidy (Rs)	Subsidies as Per Cent of Total Services	Share of Individual State's Subsidies in All States'	Share of Individual State's Population in All States' Population
High Income States														
1 Gujarat	238791	56217	295009	13998	230910	8720	21472	30193	13.08	200717	519.72	68.04	7.64	5.3
2 Haryana	113201	27972	141172	8149	109831	16062	16197	32259	29.37	77572	507.34	54.95	2.95	2.1
3 Maharashtra	430939	101969	532908	52040	380666	63119	37872	100991	26.53	279674	392.09	52.48	10.65	9.8
4 Punjab	143435	37506	180940	4748	130779	9903	6573	16476	12.60	114303	604.46	63.17	4.35	2.6
Aggregate-High Income States	926366	223664	1150029	78925	852186	97804	82116	179920	21.11	672266	466.37	58.46	25.60	19.8
Middle Income States														
1 Andhra Pradesh	299211	63813	363023	28507	273676	25768	18975	44743	16.35	228933	379.72	63.06	8.72	8.3
2 Karnataka	237749	51731	289480	24432	210643	21185	18985	40170	19.07	170473	401.87	58.89	6.49	5.8
3 Kerala	155522	29262	184784	12496	129229	9269	3851	13120	10.15	116110	407.83	62.84	4.42	3.9
4 Tamil Nadu	300525	42967	343492	27684	256414	16245	7173	23418	9.13	232996	434.29	67.83	8.87	7.4
5 West Bengal	260105	37790	297895	17007	210884	8789	3294	12082	5.73	198802	321.84	66.74	7.57	8.5
Aggregate-Middle Income States	1253111	225564	1478675	110126	1080847	81256	52278	133533	12.35	947314	384.15	64.07	36.08	33.9
Low Income States														
1 Bihar	260525	79277	339803	19888	250913	57632	1677	59309	23.64	191604	239.50	56.39	7.30	11.0
2 Madhya Pradesh	270476	68824	339300	25439	257370	42848	8757	51605	20.05	205765	344.03	60.64	7.84	8.2
3 Orissa	120871	34951	155823	11166	117632	12560	799	13359	11.36	104273	352.87	66.92	3.97	4.1
4 Rajasthan	220989	48867	269856	34602	193751	14216	12795	27011	13.94	166740	410.79	61.79	6.35	5.6
5 Uttar Pradesh	411818	122432	534250	38499	389452	22443	29062	51505	13.22	337948	267.19	63.26	12.87	17.4
Aggregate-Low Income States	1284680	354351	1639031	129593	1209117	149698	53091	202788	16.77	1006329	299.12	61.40	38.32	46.3
All States	3464157	803578	4267735	318644	3142150	328757	187484	516241	16.43	2625909	361.11	61.53	100.00	100.0

Notes: 1 Classification of the States has been done on the basis of per capita net State Domestic Product estimates for (1982-83). The same classification was followed by the Ninth Finance Commission to estimate taxable capacities of the States.

2 To estimate per capita subsidies, mid-year population estimates of Registrar General of India employed.

TABLE 8: STATEWISE DETAILS OF BUDGETARY SUBSIDIES IN SOCIAL SERVICES

Sectors	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Andhra Pradesh	Bihar	Gujarat	Haryana	Karnataka	Kerala	Madhya Pradesh	Maha-rashtra	Orissa	Punjab	Rajasthan	Tamil Nadu	Uttar Pradesh	West Bengal	All States	
1 Education																
(i) Total subsidy (Rs 1 lakh)	67572	77409	57651	22067	56096	50713	53022	104951	29028	33357	47219	65268	94127	71854	830332	
(ii) Per capita subsidy (Rs)	112.08	96.76	149.28	144.32	132.24	178.13	88.65	147.13	98.23	176.40	116.33	121.66	74.42	116.32	114.19	
(iii) Share of total state subsidy (per cent)	29.52	40.40	28.72	28.45	32.91	43.68	25.77	37.53	27.84	29.18	28.32	28.01	27.85	36.14	31.62	
(iv) Recovery rate (per cent)	1.92	0.26	1.08	2.92	1.69	3.38	0.66	0.97	1.37	0.72	0.57	1.95	2.18	0.82	1.41	
(v) Literacy rate (per cent)	29.90	26.20	43.70	36.10	38.50	70.40	27.90	47.20	34.20	40.90	24.40	46.80	27.20	40.90	36.20	
2 Medical and Public Health																
(i) Total subsidy (Rs lakh)	22278	17404	14154	6330	17946	13482	18959	31864	9513	10603	15105	19939	36934	25530	258039	
(ii) Per capita subsidy (Rs)	36.95	21.75	36.65	41.40	42.30	47.36	31.70	44.67	32.19	56.07	37.21	37.16	29.20	38.09	35.48	
(iii) Share of total state subsidy (per cent)	9.73	9.08	7.05	8.16	10.53	11.61	9.21	11.39	9.12	9.28	9.06	8.56	10.93	11.84	9.83	
(iv) Recovery rate (per cent)	1.37	1.99	3.73	1.16	2.38	2.81	3.74	1.72	0.41	2.30	0.76	8.87	3.21	1.27	2.74	
(v) Infant mortality rates (per 1000 births)	82	101	107	85	74	27	118	63	123	68	107	90	132	71		
3 Water supply and sanitation and housing																
(i) Total subsidy (Rs lakh)	16555	11059	19224	5694	10156	8573	22198	31955	8101	5722	16190	17794	16453	16415	206089	
(ii) Per capita subsidy (Rs)	27.46	13.82	49.78	37.24	23.94	30.11	37.11	44.80	27.41	30.26	39.89	33.17	13.01	26.57	28.34	
(iii) Share of total state subsidy (per cent)	7.23	5.77	9.58	7.34	5.96	7.38	10.79	11.43	7.77	5.01	9.71	7.64	4.87	8.26	7.85	
(iv) Recovery Rate (per cent)	3.18	1.73	5.86	7.31	2.71	1.23	5.00	7.37	5.48	6.04	21.04	5.41	1.17	2.67	6.06	
4 Other social services																
(i) Total subsidy (Rs lakh)	25209	7343	11107	2688	12116	6400	18135	11680	8644	2910	3239	10611	22075	9384	151542	
(ii) Per capita subsidy (Rs)	41.81	9.18	28.76	17.58	28.56	22.48	30.32	16.38	29.25	15.39	7.98	19.78	17.45	15.19	20.84	
(iii) Share of total state subsidy (per cent)	11.01	3.83	5.53	3.46	7.11	5.51	8.81	4.18	8.29	2.55	1.94	4.55	6.53	4.72	5.77	
(iv) Recovery rate (per cent)	3.54	9.73	10.55	6.57	4.35	2.35	3.60	10.57	1.94	11.67	5.75	8.59	3.97	1.14	5.46	
5 Total social services																
(i) Total subsidy (Rs lakh)	131614	113215	102135	36779	96313	79168	112315	180450	55285	52592	81753	113612	169589	121182	446003	
(ii) Per capita subsidy (Rs)	218.30	141.52	264.46	240.54	227.05	278.07	187.79	252.98	187.09	278.12	201.41	211.76	134.08	196.18	198.85	
(iii) Share of total state subsidy (per cent)	57.49	59.09	50.89	47.41	56.50	68.18	54.58	64.52	53.02	46.01	49.03	48.76	50.18	60.96	55.07	
(iv) Recovery rate (per cent)	2.30	1.35	3.48	3.60	2.27	2.97	2.55	2.96	1.92	2.31	5.65	4.42	2.55	1.19	2.77	

Notes: Estimates of literacy rates according to 1981 census.

Estimates of infant mortality rates has been taken from Sample Registration System, Registrar General of India.

TABLE 9: STATEWISE DETAILS OF SUBSIDIES IN EDUCATION

Sub-Sector Under Education	Andhra Pradesh (2)	Bihar (3)	Gujarat (4)	Haryana (5)	Karnataka (6)	Kerala (7)	Madhya Pradesh (8)	Maharashtra (9)	Orissa (10)	Punjab (11)	Rajasthan (12)	Tamil Nadu (13)	Uttar Pradesh (14)	West Bengal (15)	All States (16)
I Literacy Rate (Per Cent)															
II Total Subsidy (Rs lakh)															
(i) Primary education	31531	44415	29595	8703	29003	25983	30524	48235	16658	11005	24391	29859	45533	28315	403750
(ii) Secondary education	18609	15290	19129	8655	16241	14173	12103	39911	6560	15569	15674	23842	33826	28026	267608
(iii) Higher education	13115	11538	4562	2940	7084	6346	6094	10337	3804	4698	4468	6227	7740	8803	97755
(iv) Technical education	1817	1003	1752	561	1374	2268	2065	3275	645	435	749	2592	3772	1420	23729
(v) Other education	2500	5164	2613	1209	2393	1942	2236	3193	1360	1651	1936	2748	3255	5289	37490
(vi) Total education	67572	77409	57651	22067	56096	50713	53022	104951	29028	33357	47219	65268	94127	71854	830332
III Share of Subsidy in Education (Per Cent)															
(i) Primary education	46.66	57.38	51.33	39.44	51.70	51.24	57.57	45.96	57.39	32.99	51.66	45.75	48.37	39.41	48.63
(ii) Secondary education	27.54	19.75	33.18	39.22	28.95	27.95	22.83	38.03	22.60	46.67	33.19	36.53	35.94	39.00	32.23
(iii) Higher education	19.41	14.90	7.91	13.32	12.63	12.51	11.49	9.85	13.10	14.08	9.46	9.54	8.22	12.25	11.77
(iv) Technical education	2.69	1.30	3.04	2.54	2.45	4.47	3.90	3.12	2.22	1.30	1.59	3.97	4.01	1.98	2.86
(v) Other education	3.70	6.67	4.53	5.48	4.27	3.83	4.22	3.04	4.69	4.95	4.10	4.21	3.46	7.36	4.52
(vi) Total education	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
IV Cost Recovery Rate (Per Cent)															
(i) Primary education	0.47	0.01	0.32	3.48	0.00	0.25	0.00	0.15	1.25	0.05	0.36	0.02	0.11	0.02	0.26
(ii) Secondary education	4.38	0.23	0.34	2.80	4.73	6.33	0.20	0.24	0.00	1.06	0.58	2.83	3.93	0.09	2.00
(iii) Higher education	1.37	0.30	5.24	2.13	0.00	7.35	1.64	0.61	1.88	0.99	0.83	2.92	0.13	1.30	1.68
(iv) Technical education	2.71	0.53	3.09	1.79	5.30	7.85	9.50	10.52	1.85	3.13	1.63	7.51	2.13	7.56	5.73
(v) Other education	3.37	2.37	5.81	2.08	3.31	2.65	0.46	11.37	7.35	0.40	2.08	6.89	15.03	5.89	5.59
(vi) Total education	1.92	0.26	1.08	2.92	1.69	3.38	0.66	0.97	1.37	0.72	0.57	1.95	2.18	0.82	1.41

TABLE 10: STATEWISE DETAILS OF BUDGETARY SUBSIDIES IN ECONOMIC SERVICES

(1)	Andhra Pradesh (2)	Bihar (3)	Gujarat (4)	Haryana (5)	Karnataka (6)	Kerala (7)	Madhya Pradesh (8)	Maharashtra (9)	Orissa (10)	Punjab (11)	Rajasthan (12)	Tamil Nadu (13)	Uttar Pradesh (14)	West Bengal (15)	All States (16)
1 Agriculture and Allied Services															
a Total subsidy (Rs lakh)	52918	36179	36146	11883	24905	10954	10596	39182	12653	11513	22958	42890	56778	31458	401013
b Per capita subsidy (Rs)	87.77	45.22	93.59	77.72	58.71	38.48	17.72	54.93	42.82	60.88	56.56	79.94	44.89	50.93	55.15
c Share of state subsidy (per cent)	23.12	18.88	18.01	15.32	14.61	9.43	5.15	14.01	12.13	10.07	13.77	18.41	16.80	15.82	15.27
d Recovery rate (per cent)	11.61	17.50	12.17	10.87	28.15	32.56	78.11	56.75	35.38	11.54	6.92	18.26	17.98	14.11	26.91
2 Irrigation															
a Total subsidy (Rs lakh)	35454	54511	40742	17789	32944	13503	47323	38130	25352	17503	35015	10006	60035	18215	446521
b Per capita subsidy (Rs)	58.81	68.14	105.49	116.34	77.66	47.43	79.12	53.46	85.79	92.56	86.26	18.65	47.47	29.49	61.40
c Share of state subsidy (per cent)	15.49	28.45	20.30	22.93	19.32	11.63	23.00	13.63	24.31	15.31	21.00	4.29	17.76	9.16	17.00
d Recovery rate (per cent)	22.60	2.34	30.89	27.39	27.01	7.36	3.69	41.11	2.66	18.87	21.82	31.00	26.77	13.28	21.47
3 Power and Energy															
a Total subsidy (Rs lakh)	2848	13106	8405	5476	-1598	-716	9908	7119	506	23202	8336	36724	23767	6391	143474
b Per capita subsidy (Rs)	4.72	16.38	21.76	35.82	-3.77	-2.51	16.57	9.98	1.71	122.70	20.54	68.45	18.79	10.35	19.73
c Share of state subsidy (per cent)	1.24	6.84	4.19	7.06	-0.94	-0.62	4.82	2.55	0.49	20.30	5.00	15.76	7.03	3.21	5.46
d Recovery rate (per cent)	79.12	0.29	0.03	60.14	119.22	145.44	42.42	65.99	78.93	6.19	0.93	0.00	0.05	6.21	28.20
4 Industry and Minerals															
a Total subsidy (Rs lakh)	4721	-39427	6919	625	7290	3820	5551	5104	2709	2670	-1050	6208	926	5935	12002
b Per capita subsidy (Rs)	7.83	-49.28	17.92	4.09	17.18	13.42	9.28	7.16	9.17	14.12	-2.59	11.57	0.73	9.61	1.65
c Share of state subsidy (per cent)	2.06	-20.58	3.45	0.81	4.28	3.29	2.70	1.83	2.60	2.34	-0.63	2.66	0.27	2.99	0.46
d Recovery rate (per cent)	41.79	571.11	8.71	52.74	31.48	11.14	6.00	31.66	43.21	14.83	120.30	29.29	91.54	17.70	87.19
5 Transport and Communication															
a Total subsidy (Rs lakh)	899700	12752	5524	5106	10655	8850	19523	9371	7492	6919	21420	11422	26048	14288	168341
b Per capita subsidy (Rs)	14.88	15.94	14.30	33.40	25.12	31.09	32.64	13.14	25.35	36.59	52.77	21.29	20.59	23.13	23.15
c Share of state subsidy (per cent)	3.92	6.66	2.75	6.58	6.25	7.62	9.49	3.35	7.18	6.05	12.85	4.90	7.71	7.19	6.41
d Recovery rate (per cent)	11.72	1.77	2.44	70.99	0.73	4.49	3.75	6.19	3.13	49.61	0.30	8.50	2.96	3.45	13.12
6 Other Economic Services															
a Total subsidy (Rs lakh)	-7591	1268	846	-87	-35	530	549	318	276	-96	-1692	12134	804	1332	8555
b Per capita subsidy (Rs)	-12.59	1.58	2.19	-0.57	-0.08	1.86	0.92	0.45	0.93	-0.51	-4.17	22.62	0.64	2.16	1.18
c Share of state subsidy (per cent)	-3.32	0.66	0.42	-0.11	-0.02	0.46	0.27	0.11	0.26	-0.08	-1.02	5.21	0.24	0.67	0.33
d Recovery rate (per cent)	652.20	36.20	74.62	107.32	101.36	68.38	53.29	67.30	62.34	112.73	165.61	3.56	69.68	25.64	75.81
7 Total Economic Services															
a Total subsidy (Rs lakh)	97319	78388	98582	40793	74159	36942	93451	99224	48987	61711	84987	119384	168359	77620	1179907
b Per capita subsidy (Rs lakh)	161.42	97.99	255.26	266.79	174.82	129.76	156.25	139.11	165.78	326.34	209.38	222.52	133.11	125.66	162.26
c Share of state subsidy (per cent)	42.51	40.91	49.12	52.59	43.50	31.82	45.42	35.48	46.98	53.99	50.97	51.24	49.82	39.04	44.93
d Recovery rate (per cent)	29.97	42.43	21.19	43.09	33.84	22.45	34.25	49.04	20.04	19.80	20.65	13.20	21.85	12.04	28.01

TABLE II: BUDGETARY SUBSIDIES TO PUBLIC ENTERPRISES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Andhra Pradesh	Bihar	Gujarat	Haryana	Karnataka	Kerala	Madhya Pradesh	Maha-rashtra	Orissa	Punjab	Rajasthan	Tamil Nadu	Uttar Pradesh	West Bengal	All States
I Departmental															
a Total subsidy (Rs lakh)	55191	4526	43810	14028	34038	10798	36076	32018	19388	17124	30185	8941	45094	16150	367368
b Proportion to state subsidy (per cent)	24.11	2.36	21.83	18.08	19.97	9.30	17.53	11.45	18.59	14.98	18.10	3.84	13.34	8.12	13.99
c Recovery rate (per cent)	25.86	92.21	31.19	35.95	36.88	34.80	48.43	69.60	31.81	19.00	35.76	51.30	42.12	34.24	46.08
II Non-Departmental															
a Total subsidy (Rs lakh)	88	8099	21216	6606	749	3392	8031	7491	2196	25860	5591	58549	29722	14945	192534
b Proportion to state subsidy (per cent)	0.04	4.23	10.57	8.52	0.44	2.92	3.90	2.68	2.11	22.62	3.35	25.13	8.79	7.52	7.33
c Recovery rate (per cent)	99.25	11.54	6.09	75.97	93.14	44.60	57.22	66.21	46.94	26.33	3.02	2.54	11.85	2.99	32.00
III Co-operative															
a Total subsidy (Rs lakh)	5843	1700	1928	606	2345	2018	1776	3646	1156	916	936	3693	-2515	2698	26747
b Proportion to state subsidy (per cent)	2.55	0.89	0.96	0.78	1.38	1.74	0.86	1.30	1.11	0.80	0.56	1.59	-0.74	1.36	1.02
c Recovery rate (per cent)	1.05	3.42	31.16	10.51	2.16	4.67	23.91	45.30	12.96	15.17	8.18	17.88	208.59	3.64	29.05
IV All Public Enterprises															
a Total subsidy (Rs lakh)	61122	14325	66954	21240	37132	16207	45883	43155	22740	43900	36713	71183	72302	33793	586649
b Proportion to state subsidy (per cent)	26.70	7.48	33.36	27.38	21.78	13.96	22.30	15.43	21.81	38.41	22.02	30.55	21.39	17.00	22.34
c Recovery rate (per cent)	33.61	79.25	24.82	57.58	44.79	34.65	49.62	67.83	32.92	23.42	31.73	14.17	36.55	20.98	41.46

TABLE 12: SUBSIDIES TO RURAL SECTOR

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Andhra Pradesh	Bihar	Gujarat	Haryana	Karnataka	Kerala	Madhya Pradesh	Maha-rashtra	Orissa	Punjab	Rajasthan	Tamil Nadu	Uttar Pradesh	West Bengal	All States
I Total rural subsidy (unadjusted) (Rs lakh)	106496	98320	90402	44377	60840	29680	120907	47192	43859	29792	75397	67505	136776	55497	1007041
II Total rural subsidy (adjusted) (Rs lakh)	158438	166061	130329	61611	100724	70922	163219	115412	69462	53910	112699	111236	213963	108312	1636297
a Alternative 1	135740	165311	122866	60676	94705	71437	161590	110126	67755	52630	111032	96323	214294	106840	1571325
b Alternative 2	135853	165319	123071	60676	94705	71451	161590	110128	67755	52630	111032	96324	214297	106842	1571673
III Rural subsidy per rural person** (Rs)	352.88	241.23	501.51	533.42	346.63	312.09	352.67	257.15	273.14	407.15	360.73	315.77	212.44	241.62	300.29
a Alternative 1	302.33	240.14	472.79	525.33	325.92	314.36	349.15	245.37	266.43	397.49	355.39	273.44	212.77	238.34	288.37
b Alternative 2	302.58	240.15	473.58	525.33	325.92	314.42	349.15	245.38	266.43	397.49	355.39	273.44	212.77	238.34	288.43
IV Share of rural population** in total population (per cent)	76.7	87.5	68.9	78.1	71.1	81.3	79.8	65.0	88.2	72.3	79.0	67.0	82.0	73.5	75.7
V Share of rural subsidy in total states subsidy															
a Alternative 1	69.21	86.67	64.93	79.42	59.08	61.08	79.32	41.27	66.62	47.16	67.59	47.74	63.31	54.48	62.31
b Alternative 2	59.29	86.28	61.21	78.22	55.55	61.53	78.53	39.38	64.98	46.04	66.59	41.34	63.41	53.74	59.84
c Alternative 3	59.34	86.28	61.32	78.22	55.55	61.54	78.53	39.98	64.98	46.04	66.59	41.34	63.41	53.74	59.85

Notes: Alternative 1: Includes both food and fertiliser subsidy and rural share of education subsidy, estimated in proportion to the share of rural population.

Alternative 2: Excludes both food and fertiliser subsidy from Alternative 1.

Alternative 3: Excludes food subsidy from Alternative 1.

* Estimated by applying the rural share of population in 1986 projected by the Office of the Registrar General on the mid-year-population of 1987-88.

** According to 1981 census.



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recovery rates on secondary education.¹¹ Except in Gujarat and Kerala where the rates were a little over 5 per cent and 7 per cent respectively, all the States had recovery rates lower than 3 per cent. In as many as five States, it was even less than 1 per cent. In technical education too, the recovery rate was only 5.7 per cent on the average and 5 per cent in eight States including the economically more advanced States of Gujarat (3 per cent), Haryana (1.8 per cent) and Punjab (3 per cent), the rates were lower than 5 per cent.

Apart from the stated equity consideration highlighted above, the low recovery rates in social services also have an unfortunate dynamic implication. It has been noted elsewhere that the expenditure on social services has been growing faster than both general and economic services. If the recovery rates continue to remain at such low levels, it follows that both inter-regional and inter-personal inequity in the allocation of subsidies will increase over time. Better targeting of subsidies in social services, perhaps through differential pricing should, therefore, constitute an important item on the agenda on fiscal reform.

(c) *Subsidy in Economic Services:* The quantum of subsidies in economic services amounted to Rs 11,800 crore, forming about 45 per cent of the total bill in the 14 major States taken together. The largest component of this amounting to Rs 4,465 crore was absorbed in irrigation and another Rs 4,010 crore was in agriculture and allied activities. Other important sectors involving significant subsidies include irrigation, power and transport and communication sectors. These together accounted for almost Rs 7,600 crore of subsidies.

The inter-State variation of subsidies in economic services presented in Table 10 again points towards a large concentration of subsidies in the more developed States. In Punjab, per capita subsidy on economic services amounted to Rs 326 which was more than 3.3 times the amount in Bihar, the least developed State and about two times the average. In Gujarat and Haryana, the subsidies were higher than the average by 57 per cent and 65 per cent respectively. On the other hand, as mentioned above, per capita subsidy in Bihar amounted to only Rs 98 and in Uttar Pradesh and Madhya Pradesh at Rs 126 and 156, it was lower than the average by 18 per cent and 4 per cent respectively.

The inter-State distribution of subsidies in some important economic services also points towards the inequitable pattern observed above. In irrigation, significantly larger than the average per capita subsidies accrued to the residents of better off States like Gujarat, Haryana and Punjab. However, higher levels of subsidy were also seen in some of the poorer States like Madhya Pradesh, Orissa and Rajasthan. At the same time, within the States there is no evidence to show that the benefits of irrigation sub-

sidy are distributed equitably. Equally worrying consequence of improperly designed subsidy schemes is the possibility of over use of water resources and undesirable changes in the cropping pattern induced by subsidised irrigation. Of course, this is not to argue that subsidising irrigation *per se* is undesirable. What is implied, however, is the need to ensure that the objectives of such subsidisation should be clear and it should not result in unintended resource misallocation. With regard to other subsidies in agriculture and allied activities, the shares of agriculturally advanced States of Gujarat, Haryana, Maharashtra, Punjab and Tamil Nadu were much higher than their population shares. In the power sector also a very high percentage of subsidies went to agriculturally advanced States like Haryana, Punjab and Tamil Nadu, largely on account of the abysmally low rates of power tariff levied on electricity consumed for irrigation purposes.

Irrigation and power, along with road transport, constitute three important economic services accounting for about 29 per cent of total State subsidies mainly because of low recovery rates. In irrigation in all the States except Maharashtra (41 per cent) the recoveries were less than a third of the cost and lower than 10 per cent in Bihar, Kerala, Madhya Pradesh and Orissa. The average recovery in the States taken together as just about 21 per cent. In the power sector, in all the States except Karnataka and Kerala, the volume of subsidies on account of recoveries was substantial. The all-States average recovery rate was about 28 per cent. However, in Bihar, Gujarat, Rajasthan, Tamil Nadu and Uttar Pradesh there was virtually no recovery and in Punjab and West Bengal the recovery rate was as low as 6 per cent. In fact, in Punjab per capita subsidy in the power sector at Rs 123 was about 6 times the average. In the transport sector the average recovery rate was only 13 per cent and in as many as 9 States including the more advanced States of Gujarat and Kerala, recovery rates were less than 5 per cent of the cost.

(d) *Budgetary Subsidy to Public Enterprises:* The flow of subsidies to public sector enterprises as a whole have been analysed in section II. We now take up the flow of subsidies to these enterprises at the State level. Table 11 presents the subsidies given to departmental and non-departmental enterprises as well as to co-operatives in 14 major States. In the aggregate, the total subsidy accruing to public enterprises and co-operatives amounted to Rs 5,866 crore, forming 22 per cent of the total subsidy given at the State level. However, this share showed wide variation across States, ranging from 7.5 per cent in Bihar to over 38 per cent in Punjab.

In the aggregate, the largest share of State subsidy, constituting almost 14 per cent, accrued to departmental enterprises, while the subsidy to non-departmental enterprises constituted about 7 per cent. Departmental enterprises claimed a larger share of subsidy in all the States except Punjab and Tamil

Nadu whereas the share to non-departmental enterprises was larger. This is mainly due to the large subsidies accruing to the electricity boards in the States. The share of co-operatives in total State subsidy averaged to about 1 per cent in the States taken together and it was generally low in all the States.

In no State was the recovery rate high enough to meet the entire cost of providing the services, in the case of either departmental or non-departmental enterprises or co-operatives. The average recovery rates in departmental enterprises (46 per cent) was higher than in non-departmental enterprises (32 per cent) and co-operatives (29 per cent). This pattern however was not uniform across the States. In fact, the recovery rates showed very wide inter-State variations with respect to departmental and non-departmental enterprises as well as co-operatives. In the case of departmental enterprises, the rate varied from 19 per cent in Punjab to about 92 per cent in Bihar. Similarly, the variation in non-departmental enterprises ranged from less than 3 per cent in Rajasthan, Tamil Nadu and West Bengal to more than 90 per cent in Andhra Pradesh and Karnataka.

(e) *Subsidy to the Rural Sector:* As explained in section II, we have constructed three different estimates of the share of subsidy accruing to the rural sector, according to three alternative definitions. The estimates are presented in Table 12. In the aggregate, the subsidy accruing to the rural sector amounted to Rs 15,713 crore according to the narrowest definition and Rs 16,363 crore according to the broadest definition. This formed about 60 to 62 per cent of the total bill of subsidies in the States. Substantial inter-State differences were also seen in subsidies per rural person ranging from about Rs 213 in Uttar Pradesh in all alternatives to over Rs 525 or Rs 533 in Haryana, depending upon which definition was considered.

The point to note, however, is that even if we take the broadest definition, the share of subsidies accruing to rural areas was

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much lower than the share of rural population in every State except Haryana where the two shares are more or less equivalent. In the aggregate, whereas the share of rural population was over 76 per cent, the share of subsidies accruing to the rural sector was just about 62 per cent. The maximum difference was in Punjab where the subsidy share was lower than the population share by over 25 percentage points. Very large difference in the shares was seen also in Orissa, Tamil Nadu, Kerala, Uttar Pradesh, Maharashtra and West Bengal. It may be noted that these only indicate a broad pattern of subsidies accruing to the rural sector. In order to arrive at firm conclusions, however, a detailed analysis of the incidence of subsidy would have to be undertaken, which is not attempted in this study.

IV

Concluding Remarks

In this paper an attempt has been made to estimate the total volume and composition of government subsidies in India in the year 1987-88, after costing government services on a user charge basis. The exercise shows that the actual volume of subsidies was huge, amounting to Rs 42,324 crore or almost 15 per cent of the GDP.

Pure transfer payments are transparent and their beneficiaries are explicitly targeted. Unfortunately, such direct transfer payments are still relatively small in India. By comparison the total volume of subsidies in 1987-88 was more than ten times as large and it turns out that the bulk of this subsidy was not visible. The explicit subsidy, as revealed in budgets for 1987-88, amounted to only Rs 5,982 crore. Even by the broader National Accounts definition, the volume of visible subsidy worked out to only Rs 11,795 crore or about 28 per cent of the actual volume of subsidies.

There can, of course, be differences in judgment about whether or not a part of this includes expenditure on pure public services, on what should be the correct interest rate or the appropriate depreciation rate and so forth. But none of this can detract from the essential fact that a substantial proportion of the GDP is being distributed in the form of subsidies through the budget, much of it invisible, and that it is not at all clear that these subsidies are flowing to intended beneficiaries.

We have attempted to make this phenomenon transparent by quantifying the flow of these subsidies, even if only as a first approximation. The resulting estimates show not only that the total volume of subsidies is very large but also that it is inequitably distributed. This is the picture which comes through if we look either at the distribution of social services between socially disadvantaged groups and others or the inter-regional allocation of subsidies per capita between high and low income States or the inter-sectoral allocation of subsidies between the rural sector, where per capita incomes are

much lower, and the rest of the economy. In all these cases the disadvantaged seem to be getting less than their proportionate share of subsidies.

Admittedly, this in itself cannot be taken as conclusive evidence that the overall fiscal system is regressive. For that the incidence of taxation and expenditure and the other indirect effects of fiscal policy must also be taken into account. But clearly, where subsidies are concerned, it is necessary to reform them in a more egalitarian direction. Our estimates show that with greater transparency and better targeting it should be possible to significantly increase the flow of services as well as subsidies to disadvantaged groups without any increase, perhaps even with a reduction, in the total bill of subsidies. This can be done provided the leakage to unintended beneficiaries is plugged. This particular implication is of immediate relevance in the context of the fiscal imbalance and negotiations with the International Monetary Fund which are likely to lead to a major fiscal squeeze from the next financial year. Careful advance planning is necessary if we are to protect those who are already vulnerable from bearing the further costs of adjustment.

We must also reconsider in this context the issue of budgetary support to public enterprises. Our estimates show that over 35 per cent of government subsidies have been flowing to these enterprises. Given externalities and missing markets, there is no question that public enterprises must play a major role in any programme of industrialisation. However it is worth asking whether, even after 40 years of protected domination of the commanding heights of the economy, these enterprises should still remain dependent on budgetary support. Even if they are not immediately able to pay back to government an adequate return on its investments, surely they should at least pay their own way, especially when the opportunity cost of budgetary support to these enterprises may have to be measured in terms of forgone wages for unemployed agricultural labourers in government employment programmes.

Notes

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1 We ignore, for the moment, the issue of difference between actual cost and efficiency cost of publicly provided goods or services.

2 See P Samuelson, 'The Pure Theory of Public Expenditure', *Review of Economics and Statistics*, Vol 36, 1954, and 'Diagrammatic Exposition of a Theory of Public Expenditure', *Review of Economics and Statistics*, Vol 37, 1955.

3 See R A Musgrave, 'On Merit Goods', *Public Finance in a Democratic Society*, Wheatsheaf Books, 1986, Vol 1, Chapter 3.

4 See R A Musgrave and A Peacock (ed), *Classics in the Theory of Public Finance*, London, Macmillan, 1958; R A Musgrave, Samuelson on Public Goods in E C Brown and R Salow (ed), *Paul Samuelson and Modern Economic Theory*, McGraw Hill, New York, 1983 and K Arrow, *Social Choice and Individual Values*, Wiley and Co, New York, 1951.

5 A rough estimate of the average life of different types of fixed assets attempted by the CSO shows that these range from as little as 10 to 30 years in the case of machinery and transport equipment to 80 or 100 years in the case of construction such as buildings, dams and other construction works. See *Estimates of Capital Stock of Indian Economy*, Central Statistical Organisation, Ministry of Planning, Government of India, New Delhi, 1988. Checks indicated that the subsidy estimates are not very sensitive to the assumed life of capital assets.

6 See Sudipto Mundle 'The Human Element in India's Economic Development'. Paper presented at the North South Round Table at Istanbul, September, 1985 and reprinted in K Haq and U Kirdar (ed), *Human Development: The Neglected Dimension*, Islamabad, 1986. On the limits of tax policy as a redistributive instrument in developing countries, See Richard Goode, *Government Finance in Developing Countries*, Brockings Institution, 1984.

7 See Sudipto Mundle 'Pattern of Public Expenditure in India: A Financial Perspective of the Developmental State'. Paper presented at a conference on 'The State and International Linkages', The Hague, October, 1988.

8 During the Seventh Plan, for example, the States' actual plan expenditure (Rs 74,519 crore) was lower than the planned outlay by about 8 per cent. This shortfall was largely due to below target budgetary contributions. It may also be noted that during the eighties the severe resource constraint has caused a substantial deceleration in the growth of capital expenditures at the State level. On this see, Rao, M G, and Tulasidhar, V B, *Public Expenditure in India—Emerging Trends*, NIPFP (Mimeo), 1991.

9 In some federations, 'average' level is taken as the 'standard' level. For the shortcomings in the design of general purpose transfers in India, see, Rao, M G and Aggarwal, V, 'Central Transfers to Offset Fiscal Disadvantages of States: Measurement of Cost Disabilities and Expenditures Needs', *Indian Economic Review* (forthcoming).

10 This excludes a small element (about Rs 100 crore) of subsidy on account of adult education which really qualifies as primary since this item largely consists of a basic literacy programme for illiterate adults.

11 This is partly due to the higher recovery from the activity of selling text books at secondary education level in some States.