State Fiscal Studies PUNJAB

Indira Rajaraman
Hiranya Mukhopadhyay
H.K. Amar Nath

National Institute of Public Finance & Policy
New Delhi

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Preface

This study was undertaken by the National Institute of Public Finance and Policy in consultation with the State authorities and on a local consultancy assignment from the World Bank. It is a part of the first batch of a series of Fiscal Studies of the States.

The study team consists of Indira Rajaraman, Hiranya Mukhopadhyay and H.K. Amar Nath. Opinions expressed here are those of the authors. The members of the Governing Body of the National Institute of Public Finance and Policy are in no way responsible for these.

New Delhi
July 1, 1998

Ashok K. Lahiri
Director

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New Delhi

Indira Rajaraman
Hiranya Mukhopadhyay
H.K. Amar Nath

Punjab: socio-economic profile

1.	Area		50, 362 sq km.
		% Net sown area of total	84% (India: 47%)
		% Irrigated area of net sown	95% (India: 35%)
2.	Population: 1991 Census		20,281,969
		% Urban of total	29.6% (India: 25.7%)
3.	Females per 1000 males: 1991 census		882 (India: 927)
4.	Infant mortality rate per thousand: 1995		54 (India: 74)
5.	Life expectancy: 1991-96	Males	66.6 (India: 60.6)
		Females	66.6 (India: 61.7)
6.	Literacy: 1991 census		58.5% (India: 52.2)
		Males	65.7% (India: 64.1)
		Females	50.4% (India: 39.3)
7.	Per capita net state domestic product at current prices: 1994-95 quick estimate		Rs. 14188
8.	Foodgrain production in million tonnes: 1995/96 (% of national)		20.0 (10.8%)
		Rice	6.8 (8.5%)
		Wheat	12.7 (20.3%)
9.	Per capita electricity consumption: 1994-95		773 kwh (India: 320)
10.	Road length: 1995 (per sq.km. area)		57,039 km. (1.13)
		Surfaced	45,118 km. (0.90)
		Unsurfaced	11,921 km. (0.24)

Source: GoP, ESO, 1997(a); and GoP, ESO, 1997(b).

Executive summary

A rich endowment of economic infrastructure and a legacy of relatively strong development policies pursued over many decades, account in large part, for Punjab's current position as the State with the highest per capita income among major Indian States (excluding the State of Delhi). However, an economic growth rate below the national average since 1986 threatens to dislodge Punjab from this position. Redirecting the State's economy on to a higher growth path will require a major redirection of sector and fiscal policies.

Major factors that cause concern about the future growth and development prospects in Punjab include:

- a slowdown in infrastructure investment;
- reliance on capital outlay to carry the overwhelming burden of fiscal adjustment;
- increasing inefficiencies of water use and an unviable power sector that is imposing high and rising costs on the State exchequer -- this problem has been aggravated by the recent political decision to provide water and power free to all farmers;
- abolition of important local taxes, which have undermined the capacity of the local government to function effectively and to perform a developmental role; and
- high drop-out rates at all levels of primary education (a result in part of teacher absenteeism) and migration of rural girls to urban schools at upper primary level (reflecting the unfavourable environment in rural schools for the older girl-child in particular).

GROWTH PERFORMANCE AND SECTOR POLICIES

Slower than average growth is a major cause of concern. Punjab remains predominantly an agricultural State with 44 percent of the Gross State Domestic Product (GSDP) generated in agriculture. Among all the Indian States, Punjab was the leading beneficiary from the Green Revolution that dramatically raised food grain yields in the 1970s. Growth in the State was affected negatively during the 1980s due to terrorism and the high fiscal, economic and social cost of combating it. By the early 1990s, the threat to economic stability posed by terrorism and separatist agitation had receded. The structural reforms initiated by the Government of India in 1991 reduced the bias against agriculture, a change which ought to have favoured Punjab. The stage was set for a renewed spurt in agriculture and other sectors of the economy. However, the expected growth revival has failed to materialise. Without a renewal of rapid growth, there is a danger of increasing unemployment among the youth with potential risk of social unrest returning to the State.

Among the leading constraints to growth revival in Punjab are the sector policies affecting power and water. Free water and free electricity for farmers -- a policy that was popularised as a farmer-friendly policy, is neither yielding the promised benefit to the majority of farmers nor laying the basis of higher and sustained growth. On the contrary, inefficient and wasteful use of water leads to an erosion in soil quality. The free power policy means in reality that there is no reliable supply for the farmer. The Punjab State Electricity Board (PSEB) continues to lose over Rs.10 billion (1000 crore) annually, a burden that will ultimately rebound on the Government of Punjab (GoP). This is a high cost to pay for a policy that promotes neither efficiency nor equity objectives.

The GoP needs to find a way to quickly reverse the policy of highly subsidised but unreliable supply of power and canal water for irrigation. The farmers as well as the State economy as a whole would stand to gain substantially from institutional and policy changes that would lead to a reliable and financially viable supply system in both power and water. Considering the importance of predictable water supply for the success of modern technology in agriculture, it should not be difficult for the GoP to seek and obtain the cooperation of the farming community in implementing such sector reforms, provided that the potential benefits and saved costs are clearly communicated through public awareness campaigns.

Part of the potential fiscal savings from power and water sector reforms deserve to be earmarked for gender-specific upgradation of school facilities. Essential public services such as primary education continue to suffer from poor rural facilities, underfunding and other systematic constraints. High drop-out rates persist at primary level, as does migration of girls to urban schools. Investments targeted at improving the rural environment for retaining girls in school have potentially high private and social returns. There is considerable scope for improving performance through institutional reforms such as devolving the function of monitoring primary schools to the village local body.

Declining levels of budget outlays for public investment is a trend that needs to be reversed. Since 1987-88, the revenue account (or current account) balance has turned negative in Punjab, an indication that the State had started borrowing even to finance recurring expenditures. Accumulation of debt to finance Central paramilitary forces in the battle against terrorism led to further fiscal deterioration in the State. Rising debt service payments (a portion of the debt thus contracted has since been waived by the Centre) and the pursuit of populist policies in the power and irrigation sectors have imposed a high cost in terms of foregone development opportunities. Among other impacts, they have squeezed budget allocations for investment projects in the State and for maintenance of existing assets. Capital outlay in the budget of the GoP has declined from 3 percent of GSDP in 1985-86 to

1.5 percent in 1996-97. Higher levels of public investment in critical infrastructure (irrigation and roads) and improved maintenance are essential to crowd in private investment.

ALTERNATIVE SCENARIOS

In the absence of any reforms, the Punjab economy is likely to lag behind the rest of India as public investment is likely to decline further, from its estimated current level of about 1.5 percent GSDP to less than 0.5 percent over the medium term. This base case scenario shows that the prevailing fiscal trends are unsustainable. It shows that in the absence of reforms, the GoP would be unable to pursue the higher growth target of 6-7 percent that the State needs in order to avoid losing its position as one of the developed States of India.

Reform options that need to be considered in order to create the fiscal space for additional public investment and to strengthen maintenance include: (a) ***restructuring the power sector*** to eliminate the loss of over Rs. 10 billion annually; (b) ***ensuring adequate allocations for maintenance and enhancing cost recovery*** in the case of departmental enterprises (such as in irrigation and road transport sectors); (c) ***zero net growth in staff numbers***, achieved by controlling recruitment (confining it mainly to the key subsectors) and allowing attrition to compensate for the new recruits; (d) ***rebuilding the revenue raising structure*** so as to provide *panchayat raj* institutions with the resources needed to achieve a degree of fiscal autonomy; and (e) ***a freeze on budget support to those Public Sector Undertakings (PSUs) which should be capable of breaking even.*** It is estimated that these reforms will enable the GoP to raise capital outlay in its budget by about 1.8 percent of GSDP, while at the same time stabilizing the ratio of debt to GSDP at a little below 30 percent.

Synopsis of proposed fiscal reforms

S. No. I.	Quantified	Fiscal correction 1997/ 1998*	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002
A.	**Expenditure containment (Reform scenario #1)**					
			(% of GSDP)			
1.	A staff freeze (zero net addition)	.08	.16	.24	.31	.38
2.	A freeze on net loans and advances at Rs. 500 crore	.18	.30	.40	.50	.58
3.	A freeze on non-educational grants (45% of total grants)	.01	.10	.18	.26	.32
B.	**Revenue enhancement (Reform scenario #1)**					
1.	Tax revenue: additional revenue from the agreement on floor sales tax rates for 15 commodities between 8 northern States (not yet notified)	.06	.06	.06	.06	.06
2.	Non-tax revenue: additional	.51	.50	.48	.46	.43
			(Rs. crore)			
	Total	*250*	*275*	*300*	*325*	*350*
	General administration - On-line lotteries	*125*	...	...	...	...
	- Levy of tolls on roads and bridges	*10*	...	...	...	...
	Social sectors - Higher tuition fees at college level (unchanged for over 20 years) plus higher fees for college-level examinations	*15*	...	...	...	...
	- Higher charges on diagnostic tests plus nominal consultation fee (now zero)	*15*	...	...	...	...
	Economic sectors - Reversal of 1997 zero rating of irrigation water	*30*	...	...	...	...
	- Two-third increase in irrigation water rates *(aabyana)*	*20*	...	...	...	...
	- Procedural improvements in auctioning of minor minerals plus higher rentals on industrial sheds	*4*	...	...	...	...
	- Interest due from PSEB	*20*	...	...	...	...

S. No. I.	Quantified	Fiscal correction				
		1997/ 1998*	1998/ 1999	1999/ 2000	2000/ 2001	2001/ 2002
	- Raising the bus fare on Punjab Roadways (departmental enterprise) from paise 25/km. to paise 30-35/km. (parity with neighbouring States) plus elimination of fare concessions to designated groups	*5*	...	...	...	...
	Residual sectors - Tourism	*6*	...	...	...	...
			(% of GSDP)			
A+ B	**Impact on capital outlay (Reform scenario #1 relative to baseline)**	.84	1.12	1.37	1.59	1.78
C.	**Enhanced expenditure to fill spending gaps (Reform scenario #2)**					
1.	Primary education: 3% annual net staff addition Teaching materials	.02 .01	.02 .01	.02 .01	.02 .01	.02 .01
2.	Roads: materials for maintenance	.33	.29	.27	.24	.21
3.	Irrigation: materials for maintenance	.24	.21	.20	.18	.16
A+B-C	**Impact on capital outlay (Reform scenario #2 relative to baseline)**	.23	.58	.87	1.14	1.38

Notes: * Counterfactual.

Unquantified:

D. PSU Reform

1. Reversal of 1997 decision to zero-rate electricity consumption by agriculturists alone will restore Rs. 207 crore of lost revenue to PSEB.
2. Autonomy in tariff setting is a must.
   PSEB average tariff : 1.38/Kwh. National average tariff : 1.49/Kwh.
   (before 1997 free electricity)
   PSEB tariff on industrial consumers : 2.15/Kwh. National average on industrial consumers : 2.34/Kwh.
3. No other State contribution to financial restructuring of PSUs is suggested.
4. Financial restructuring packages must include a rise in O&M allocations (presently below national level in PSEB); and ban the practice of notional depreciation provisions.

E. Autonomy to local bodies

1. Legislative transfer to local bodies of monitoring authority over schools especially at primary level will help combat teacher absenteeism. Only local accountability can raise the effectiveness of social sector expenditures in terms of outcomes.

2. Reversal of the 1997 abolition of land revenue and property taxes, which has fiscally weakened the very level of government which needs to be strengthened.

3. Land revenue can be restructured into a revenue-productive land-based tax leviable by *panchayats*. Property taxes can similarly be restructured. Blueprints for both exist in the literature.

1. State economy: a macro perspective

INTRODUCTION

Punjab is the third most prosperous among the States of India, after Delhi and Goa, with a per capita net domestic product (factor cost) of Rs. 14,188 at 1994/95 prices. In terms of social indicators as well, the State is much ahead of national averages. The worrying aspects of the State are the drop in growth to below-national rates starting in mid-eighties, and the rash of populist fiscal measures introduced by an outgoing government in Q1 1997, which were not reversed, but on the contrary reinforced, by its successor government. The drop in growth after the mid-eighties coincides with the period of separatist violence in the State, on account of both the direct supply-side effect and the indirect impact of diversion of fiscal resources towards maintenance of law and order. The battle against terrorism was decisively won in the early nineties, but the battle against fiscal populism has not yet begun.

OVERALL GROWTH PERFORMANCE

The economic decline in the State after 1985/86 (see quinquennial averages in table 1.1) was enough to have reduced the average growth rate over the period 1981-96 to 5 percent, below the national average of 5.5 percent.

SECTORAL PERFORMANCE

The post-1985 growth decline was sharpest in the agriculture sector, where the growth rate fell to half the previous quinquennial average (table 1.1). Industrial growth fell too, but not as sharply, and revived after 1990/91. This sectoral growth pattern is consistent with the greater geographical incidence of terrorism in the rural hinterland than in cities. Only the service sector exhibited a rise in growth after 1985. The further breakdown of services in table A.1 (appendix A) shows this to have been a result of accelerated growth post-1985 in public administration, and insurance and banking, which clearly reflects the official and public response to the unsettled conditions at the time.

All sectors would clearly reflect the supply-side impact of the decline in capital outlay as a percentage of GSDP since the mid-eighties (chapter 2). In the case of agriculture, there is also the impact of the negative protection given to the sector during the pre-reform protectionist phase (Gulati, 1998) resulting from controls on foodgrain prices, and the absence of export alternatives, from which Punjab has suffered in particular. This too could be explanatory of the growth decline, although the absence of any rise in the agricultural growth rate even after the post-reform freeing of agricultural exports suggests the continuance of supply-side obstacles. To the extent that these are the results of the fiscal squeeze on capital outlay, the raising of agricultural, and thereby overall growth rates will critically be a function of capital expenditure on storage facilities and feeder roads into the hinterland.

Table 1.1: Sectoral Growth Rates and Shares in GSDP

	Punjab	HIS[1]	India	Punjab	India	Punjab	India	Punjab	India
Growth rates		81/82 - 95/96		81/82 - 85/86		86/87 - 90/91		91/92 - 95/96	
GSDP/GDP	5.0	6.0	5.5	5.9	5.0	4.6	6.3	4.5	5.3
Agriculture	4.3	3.1	3.1	6.4	3.1	3.3	3.9	3.2	2.3
Industry	7.4	6.8	6.8	7.7	6.4	6.8	8.1	7.6	6.0
Services	4.2	7.5	6.6	3.8	6.1	5.2	7.0	3.6	6.8
Shares		80-81		85/86		90/91		95/96	
Agriculture[2]	49.1	32.7	38.1	50.2	34.6	47.1	30.9	44.4	26.9
Industry[3]	20.0	32.5	25.9	21.8	27.6	24.2	30.0	28.1	31.1
Services[4]	30.9	34.8	36.0	28.0	37.8	28.8	39.1	27.6	42.0

Source: CSO, relevant years

Notes:
1. HIS is a grouping of four high income states: Goa, Gujarat, Haryana and Maharashtra.
2. Includes agriculture, forestry and logging, and fishing.
3. Includes manufacturing, mining and quarrying, electricity, gas & water supply, and construction.
4. Includes transport, storage and communication, trade, hotels and restaurants, banking and insurance, real estate, public administration and other services.
5. Sectoral shares are computed from the GSDP series at constant prices.

The growth decline in agriculture could also have been reinforced by the long-term impact of the decline in soil quality resulting from the indiscriminate and wasteful use of underpriced irrigation water. To the extent this is a factor, the fiscal giveaways introduced in Q4 1996/97 which included the zero-pricing of irrigation water and electricity for agriculturists, will further lower growth prospects. The harmful effects of these are so well-known to farmers that it should not take much political courage to repeal them.

Chart 1.1 shows that yearly growth rates of GSDP are synchronised with agricultural peaks and troughs. The share of agriculture in GSDP, at 44 percent in 1995/96 (table 1.1) was much above the share of agriculture at national level even in 1980/81. The secondary sector by virtue of its higher growth rates rose from 20 percent in 1980/81 to 28 percent of GSDP in 1995/96, but remained below the national share of 31 percent. Punjab remains predominantly an agricultural State.

SOCIAL INDICATORS

Poverty: With a poverty headcount of 11.8 percent in 1993/94, Punjab is first-ranked among all States, well below the all-India level of 36.0 percent, and well below other high income States including neighbouring Haryana (table 1.2). Only the Union Territory of Chandigarh, which functions as the capital of both Punjab and Haryana, had a lower poverty percentage of 11.4 percent (not shown in the table). There has also been a small decline in poverty in Punjab since 1983/84, despite the slowing of the growth engine during this period, unlike Haryana which experienced a worsening relative to 1983.

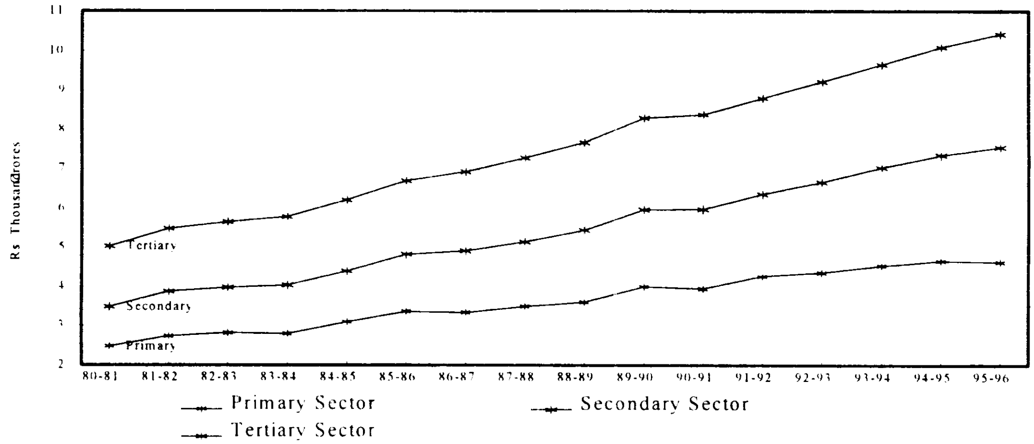
Literacy: Female literacy at 50 percent in 1991 was much ahead of the all-India level of 39 percent, and accounts for the higher overall literacy rate (see table B.1, appendix B). Even the rural female literacy rate in Punjab, at 44 percent is above the overall national female rate. Male literacy at 65 percent was also above the all-India level, but only by a single percentage point.

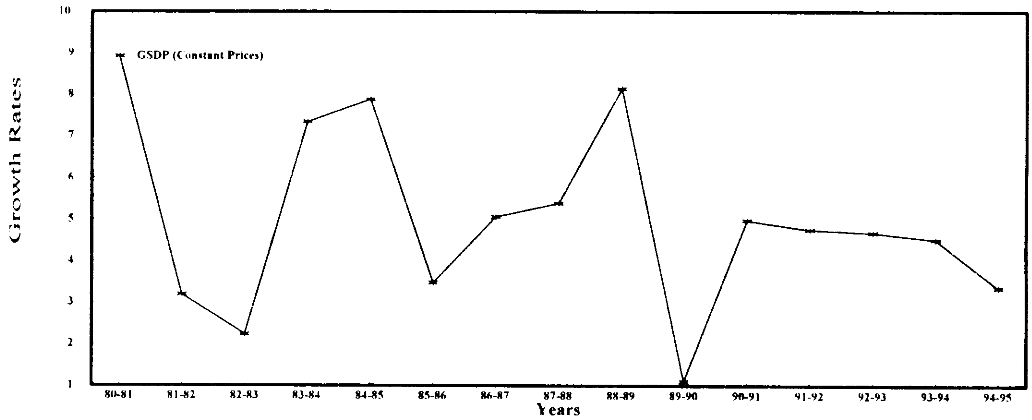
Primary school enrolment: The rural primary school enrolment rate at 97 percent is much higher than the urban rate of 60 percent (table B.2), contrary to expectations, since physical access to schools must surely be better in urban areas. The lower urban school enrolment rate suggests that the urban poverty gap may well be worse than the rural, although in terms of headcount, the urban poverty percentage for 1993/94 at 11.35 percent is lower than the rural figure of 11.95 percent (GoI, 1993).

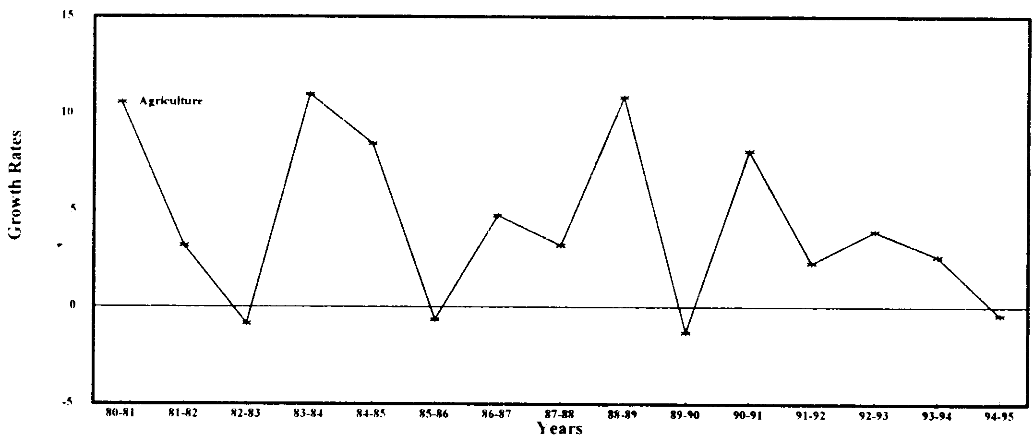
School dropout rates: There is the usual sharp drop from 97 percent rural primary enrolment to 60 percent at upper primary (table B.2). However, the urban enrolment rate actually rises from 60 percent at primary to 70 percent at upper primary level. The rise is

Chart 1.1

Gross State Domestic Product at Constant 1980-81 Prices







particularly sharp for girls. Clearly, girl children are moved from rural to urban schools at upper primary level.

Gender balance in school enrolment: Primary enrolment shows a gap of roughly 6.5 percentage points in rural areas, but near-parity in urban areas. At upper primary level, because of the rural out-migration of school girls, the gender gap widens in rural areas, with a corresponding inverse gender gap in urban enrolment of 79 percent for girls relative to 62 percent for boys.

Sex ratio: This is the single indicator that jars against other evidence of gender parity. The Punjab ratio of 882 per 1000 males (1991 census) is lower than the all-India figure of 927, but higher than the figure of 865 in neighbouring Haryana.

Health status: All health indicators show a superior health status compared to the national level. Infant mortality in both 1981 and 1991 was well below the all-India figures and those for the reference states in table 1.2. Despite a marginal increase from 53 in 1991 to 54 per thousand in 1995 (see front table) at a time when the national figure fell from 80 to 74, the infant mortality rate remains better than the national target for the year 2000 of 60 per thousand (table B.4). The immunization indicators (table B.5) show achievement of more than 100 percent of the relevant targets. The expectation of life (table B.6) exceeds by 2.6 years the year 2000 target of 64 years.

Health services: The average radius served per institution is low at 2.70 kilometres (tables B.7 to B.8). The 4:1 rural/urban break-up of medical institutions suggests a satisfactory spatial spread. Together with the good health status indicators, the State appears to be well-served in terms of both accessibility and quality of health services.

Infrastructure: The composite infrastructure index (table 1.3) shows a decline in the relative value for Punjab from 205.8 in 1985/86 (India=100) to 191.4 in 1993/94. There is a similar decline for the other high-income States. These figures are not necessarily troubling *prima facie*. What is important is the absolute provision of infrastructure rather than the relative standing, which could drop due to a better spatial spread of infrastructure in the country.

Table 1.2: Comparative Social Development Indicators

	Punjab	Other comparable States				India
		Haryana	Maharashtra	Gujarat	Goa	
1981						
Poverty (1983/84)	16.2%	21.4%	43.4%	32.8%	19.0%	44.5%
Literacy	40.9%	36.2%	47.2%	43.7%	56.7%	36.2%
Female literacy	33.7%	22.3%	34.8%	32.3%	47.6%	24.8%
Infant mortality per thousand	81	101	79	116	-	110
Life expectancy at birth (years)	66	63	62	59	-	50
Sex ratio (females per 1000) males)	879	870	937	942	981	934*
1991						
Poverty (1993/94)	11.8%	25.1%	36.9%	24.2%	15.0%	36.0%
Literacy	58.5%	55.9%	64.9%	61.3%	75.5%	52.2%
Female literacy	50.4%	40.5%	52.3%	48.6%	67.1%	39.3%
Infant mortality per thousand	53	69	60	69	-	80
Life expectancy at birth (years)	67	65	64	62	-	59
Sex ratio (females per 1000)	882	865	934	934	967	927

Source: GoI. Census of India 1981 and 1991; and GoI, 1993 (a).
Notes: Goa includes Daman, Diu.
* Excludes Assam.

Table 1.3: CMIE Relative Composite Infrastructure Index

All India=100

State	1985-86	1993-94
Punjab	205.8	191.4
High Income States		
Haryana	143.1	141.3
Maharashtra	116.8	107.0
Gujarat	124.8	122.4

Source: CMIE, 1997.
Notes: Figures for Goa were not available.

2. State finances

AN OVERVIEW OF TRENDS: 1985-97

Three factors make past trends going back to the mid-eighties a poor guide to future prospects. The first (see *Introduction*, chapter 1) was the impact of the fight against terrorism in the eighties in terms of both total expenditure and its composition. Although that is a factor that should improve fiscal prospects relative to past trends, especially since Central loan waivers help the State cope with the debt accumulated during that time, there are two contrary factors at work. One is the spate of fiscal giveaways legislated in Q1 1997 (free water and electricity for farmers; abolition of land revenue and property taxes on residential structures) which have damaged fiscal prospects in the State to a degree not captured by their immediate impact on the State budget, because the burden has been transferred out of the State exchequer onto local bodies, or PSUs, through deferment or denial of compensation. The other is the impact of the Pay Commission on wages and salaries starting 1997/98.

Fiscal deficit: The quantum of the gross fiscal deficit (GFD; see appendix C for definitions) is an outcome of bilateral negotiations between the State and Central governments on permissible net borrowing, so that the GFD by itself is not an adequate measure of fiscal health at State level. Total expenditure accommodates to the limits set by total revenue and the negotiated GFD. Within total expenditure, different components bear the burden of fiscal accommodation in accordance with the scope each offers for discretionary compression. Since capital outlay is entirely discretionary, the revenue balance is a better indicator of fiscal health at State level. The revenue balance turned negative in Punjab in 1987/88 and has consistently remained so ever since (chart 2.1).

Fiscal trends: The summary figures below and chart 2.1 show that the sharp fiscal worsening in 1987/88 has been partially corrected since. However, the fiscal recovery is least apparent in the revenue deficit, which at 2.7 percent in 1996/97 is not much below its peak value of 3.5 percent in 1995/96.

Loan waivers: Episodic loan waivers reduce the fiscal deficit and give a false appearance of expenditure control and fiscal correction. Chart 2.1 shows the deficits for 1995/96 and 1996/97 adjusted for loan waivers. The unadjusted figures in table 2.1 show an apparent fiscal correction of 1.5 percent in 1995/96, entirely a result of a write-off that year of Rs. 909 crore of accumulated interest and amortisation on past loans including a special term loan of Rs. 5800 crore to fight terrorism in the State, which is entered in the

Chart 2.1: Gross Fiscal, Primary and Revenue Deficit (Adjusted)

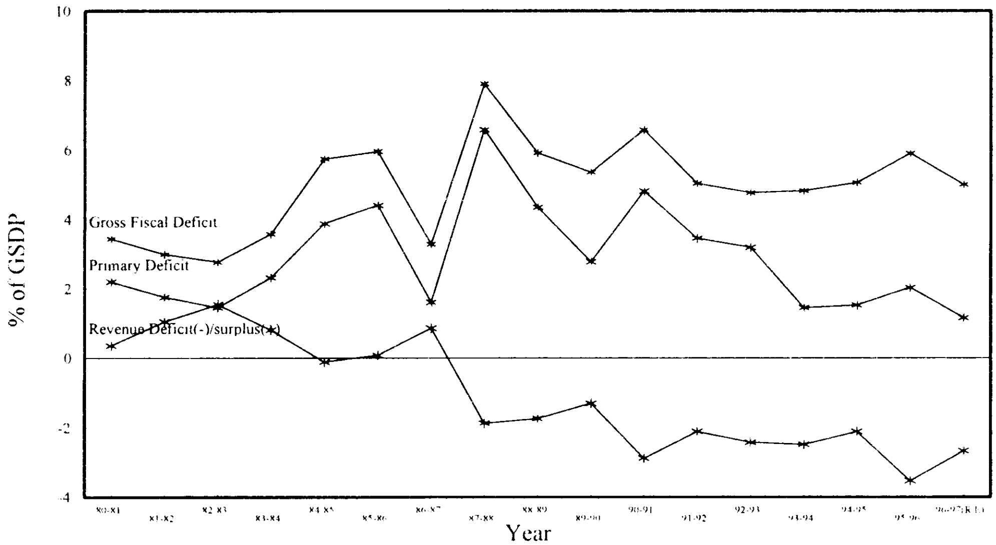


Chart 2.2: Own Tax Revenue

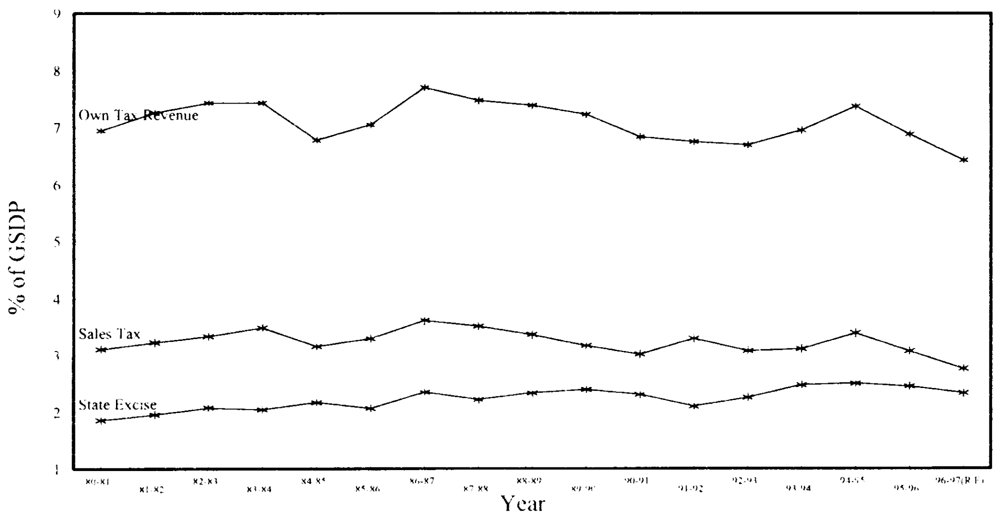


Chart 2.3: Own Non Tax Revenue (Unadjusted)

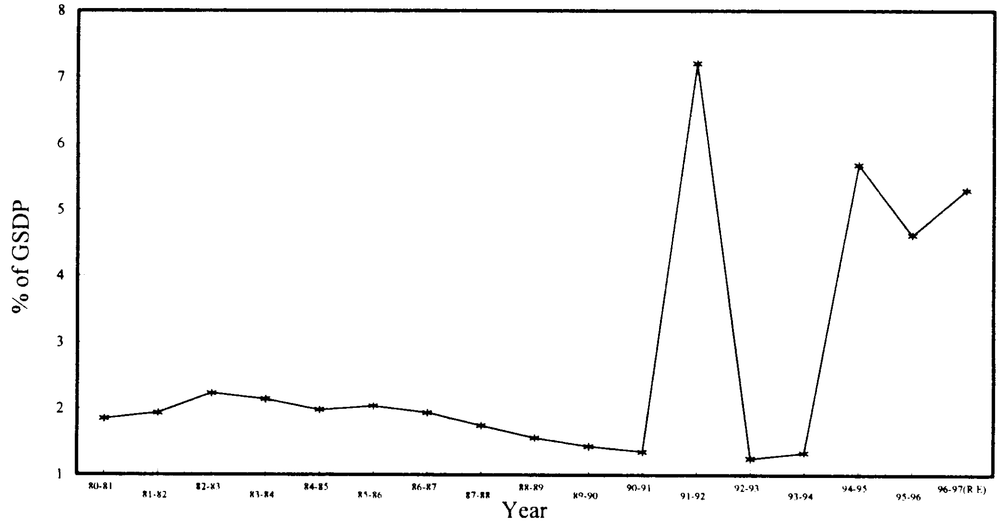
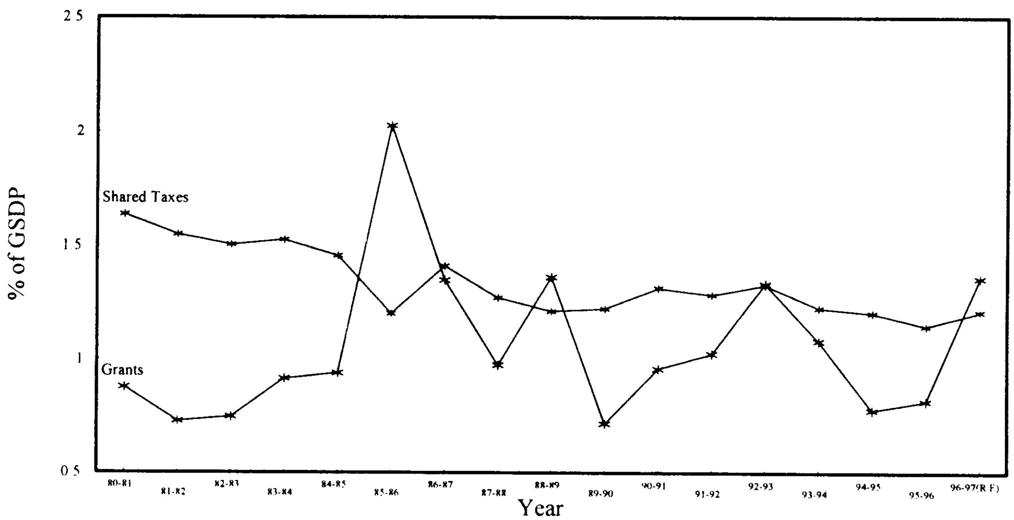


Chart 2.4: Transfers from the Centre



accounts for the year as a non-tax receipt. There will be a full write-off again in 1998/99 and 1999/2000 on loans from the Centre, which will again reduce the fiscal deficit relative to 1997/98, when the write-off was only partial (the yearly break-up is given below). The justification or otherwise of these write-offs is not called into question here. What is at issue is that budget figures cannot always be taken at face value to judge fiscal trends.

	1996/97 (R.E.)	Peak value	
Gross fiscal deficit	5.0%	7.9%	1987/88
Primary deficit	1.2%	6.6%	1987/88
Revenue deficit	2.7%	3.5%	1995/96

Scheduled Central Loan Waivers

(Rs. crore)

	Principal	Interest
1997/98	123.30	460.86
1989/99	220.58	550.57
1999/2000	241.45	517.90
Total	585.33	1529.33

Expenditure/revenue spikes: There are other episodic budgetary practices which do not affect the fiscal or other deficits but call for smoothing of revenue and expenditure trends. An example is the explicit subsidy commitment to Punjab State Electricity Board (PSEB), which is never paid because it is set off against interest dues from PSEB, which are also therefore never received. This would not matter were it not for an episodic routing through the budget of the accumulated subsidy and a corresponding notional interest receipt as happened in 1991/92, and again in 1996/97 (RE). These notional entries lead to sharp revenue spikes, with corresponding expenditure spikes, which have to be smoothed out to yield figures comparable with those of other years. Another set of

Table 2.1: Trends in Punjab Finances: 1985-86 to 1996-97

(Percentage of GSDP)

	1985-86	1990-91	1994-95	1995-96	1996-97 (R.E.)
1. Revenue expenditure	**12.23**	**13.35**	**17.14**	**14.63**	**16.76**
a) Social services	5.11	4.72	3.49	4.13	4.21
b) Economic services	3.02	3.94	2.73	2.50	5.59
c) Interest payments	1.54	1.76	3.53	3.87	3.84
d) Others	2.56	2.92	7.39	4.13	3.11
2. Capital expenditure	**6.03**	**3.70**	**2.96**	**2.37**	**2.34**
a) Capital outlay	3.00	1.16	2.02	1.76	1.51
b) Net loans & advances	3.03	2.54	0.94	0.61	0.84
3. Total expenditure	**18.27**	**17.04**	**20.10**	**17.00**	**19.10**
3.1 Net of #1 and #2			15.72	15.85	16.04
4. Revenue receipts	**12.31**	**10.46**	**15.03**	**13.46**	**14.29**
4.1 Net of #3				11.10	14.09
a) Own tax revenue	7.05	6.84	7.37	6.88	6.42
b) Shared taxes	1.20	1.31	1.20	1.15	1.21
c) Own non tax revenue	2.03	1.35	5.68	4.61	5.30
Net of #1, #2 and #3			1.31	1.10	2.04
d) Central grants	2.03	0.96	0.78	0.82	1.36
5. % GFD/GSDP {(3)-(4)}	**5.95**	**6.58**	**5.06**	**3.54**	**4.81**
5.1 % GFD/GSDP {(3)-(4.1)}	**5.95**	**6.58**	**5.06**	**5.90**	**5.01**
6. % RD/GSDP {(1)-(4)}	**-0.08**	**2.88**	**2.10**	**1.17**	**2.46**
6.1 % RD/GSDP {(1)-(4.1)}	**-0.08**	**2.88**	**2.10**	**3.53**	**2.67**
7. % PD/GSDP {(3)-(4)-(1c)}	**4.41**	**4.82**	**1.54**	**-0.32**	**0.96**
7.1 % PD/GSDP {(3)-(4.1)-(1c)}	**4.41**	**4.82**	**1.54**	**2.04**	**1.16**
Memorandum items (Rs.				445.06	
Crore)			1542.00		
#1. Expenditure on State					1338.02
lotteries (spikes)				909.00	
#2. Expenditure on accumulated					88.07
subsidies to PSEB					
#3. Non-tax receipt (Central loan					
waiver)					

Source: RBI, relevant years; and GoI, 1996/97(a) and 1997/98.

Notes: A negative entry for a deficit implies a surplus.

Memorandum items: #1: Expenditure on lotteries spiked upwards in two years because of an experiment with single-digit lotteries, with corresponding revenue spikes. #2: Expenditure on accumulated subsidies to PSEB was matched by an identical notional entry for non-tax receipts. #1 and #2 did not affect fiscal deficit measures. #3: The central loan waiver (which enters as a non-tax receipt) does affect all fiscal deficit measures (see *Loan waivers* in the text above).

revenue/ expenditure spikes was caused by experimental lottery schemes (see chart 2.3 and notes to table 2.1).

Lack of transparency: Among the effects of the constraint on the quantum of the fiscal deficit (see *Fiscal deficit* above) is a general lack of transparency in budget documents, which severely hampers the analysis and assessment of trends in deficits and/or revenues and expenditures from reported figures. Examples are:

- A sudden jump to Rs 5.5 crore in 1996/97 (R.E.) and 1997/98 (B.E.) from zero in 1995/96 in non-tax receipts termed establishment charges under the head "Public Works" (account No. 0059). The provision for a compulsory levy of 12 percent payable back to the exchequer on all direct Plan capital outlay is said to have existed all along, but it appears from the above pattern of collections to be a latent provision activated as and when revenues are needed. Round-trip budgetary practices of this type are revenue-distortionary and introduce a fitful wedge between stated expenditure on capital formation and what was actually spent.
- A non-tax miscellaneous receipt of the order of Rs. 20 crore under the head "Other Agricultural Programmes" (account No. 0435) from the auction of sheds built at the expense of market committees (see appendix J), and on that account owed to them, has for many years been recorded as a state government receipt, without a corresponding outflow to the market committees. This is yet another example of the fiscal burden being transferred out of the State exchequer, thus hampering the ability of market committees to develop more market yards in the rural hinterland for which the auction proceeds are intended.
- Budget 1997 figures show tax receipts inclusive of additional resource mobilisation (ARM) of Rs. 468 crore. However, the budget speech announces only a target of Rs. 225 crore, with Rs. 243 crore expected in the form of non-tax central transfers and/or loan waivers. By the end of the fiscal year, the two measures notified, a rise in the motor vehicles tax and an increase in the fee on forms for stamps and registration, did not reach the target of Rs. 225 crore.

Fiscal giveaways: The spate of fiscal giveaways enacted towards the end of 1996/97 are listed below. The damage caused by these measures, going far beyond their immediate impact on the state budget, is of six kinds:

- The practice of **exporting the impact of fiscal giveaways onto PSUs and local bodies** by curtailing their revenues, and not providing for any compensation, is unfair and above all unwise, since the burden will eventually rebound on the State government (see *PSUs and the State exchequer*, chapter 2).
- Since electricity supplied by the grid does not meet the entire pumping requirement of the average farmer, and since diesel-powered electricity costs more than the average cost of supply of power from the grid, let alone what is charged to agricultural consumers, farmers would much rather pay for electricity from the grid

if this will reduce their dependence on diesel. **Thus free power runs counter to farmer preferences.** Free power facilitates power theft for rural industrial consumption, and is wanted only by the minority who benefit thereby.
Free water leads to indiscriminate use of water and to a corresponding decline in soil quality.

	w.e.f.	Immediate impact on: 1997/98 (BE)
Free irrigation water to farmers	*Rabi* (Q4) 1996-97	State govt. *Revenue loss:* 32 crore (non-tax)
Free electricity to farmers Phase I: < 7.5 acres Phase II: All	*Rabi* (Q4) 1996-97	PSEB *Revenue loss:* 207 crore
Abolition of land revenue	*Rabi* (Q4) 1996-97	Rural local bodies *Revenue loss:* 3.6 crore
Abolition of property tax on all residential structures	1 April 1997	Urban + rural local bodies *Revenue loss:* 13* crore

Source: GoP, DoF, relevant years.

Notes: All budgetary estimates measure only the incremental loss over and above the pre-existing level of concession. Land revenue figures are given in the budget documents for 1997, despite abolition of the levy.

* There was a pre-existing exemption for properties below 250 square yards. The SFC Report estimates total property tax collections in 1993/94 at Rs. 20 crore but provides no breakdown by type of structure. The estimate of Rs. 13 crore of revenue loss is from the Finance department of the state government

- Abolition of land revenue and house tax **narrows the tax base** of local government, leaving *panchayats* dependent on grants,[1] and urban local bodies exclusively dependent on octroi, which is an inefficient levy recommended for elimination, and already eliminated in many states. The damaging effects of octroi have been spelled out elsewhere, (GoI, 1977; Rao, 1984).
- The measures **destroy the revenue collection structure** in place for levies which may not presently yield much revenue but could be restructured to yield more over time (for a proposed restructuring of agricultural land-based taxation, see Rajaraman; Bhende, 1997).
- Exemption of agriculture, which accounts for 44 percent of GSDP, from payment of all tax and non-tax levies makes no sense whatsoever. **The investment in infrastructure which is urgently needed to restore agricultural growth rates to pre-1985 levels cannot be financed without revenue contributions from the sector.**

Pay commission impact: The scales of the Fifth Pay Commission are payable starting January 1998, but with effect from 1 January 1996. Payment of arrears will be split evenly between 1997/98 and 1998/99, thus:

Wage/Salary estimates of Ministry of Finance

(Rs. crore)

		1997/98 (B.E.)	1998/99 (B.E.)
Pre-Pay Commission		2000}	
Pay Commission :	Current year	430}	2430 + 243 (10%)
	Arrears	200	200
		2630	2873

These cover only the direct impact on State expenditures. There will be a further indirect impact by way of the corresponding wage/salary bill increase of already loss-making non-departmental Public Sector Undertakings (PSUs) (see following para and appendices H and I for the inter-connections between the State exchequer and PSUs). The ability of PSUs

1 Although land revenue in Punjab was not previously shared with *panchayats*, the recommendations of the State Finance Commission in respect of sharing land revenue were adopted by the State government with effect from January 1,1997 (see appendix K).

to reduce their present losses, let alone cover a salary increase, is constrained by government-prescribed ceilings on the rates/tariffs they may charge for their services. Because of this, the losses of non-departmental enterprises will eventually obtain some budgetary cover in the form of loans/advances **notwithstanding all governmental proclamations to the contrary.**

PSUs and the state exchequer: A consolidated figure of PSU losses is not obtainable because the accounts of many PSUs remain unaudited for years. The *Annual Financial Statement 1997/98* does not provide figures for all 32 listed non-departmental State PSUs for any one year, let alone the most recent. Data pertaining to 1995/96 are given for only 16, and profit/loss figures for only 12. Excluding the mammoth losses of PSEB (see appendix H) the remaining eleven made an aggregate loss of Rs.52.86 crore. Even this is an uneven sum across cumulative losses in the case of some enterprises, yearly losses in others. The impact of PSU losses on the State exchequer differs between departmental undertakings, whose wage/salary bill and net balance (+/-) on other operating expenses are routinely incorporated in the State budget; and non-departmental undertakings, whose operating balances are not merged with the State budget and whose losses, after converting depreciation into a notional provision, impinge on the State exchequer in the form of loan bail-outs. These bail-outs are not obligatory, but where commercial loans are not forthcoming, the State government is under continuing pressure from loss-making PSUs. Dividends to the State government are not a compulsory requirement, and even interest often remains unpaid. (See also *Power*, chapter 3).

The losses of PSUs lead to corollary absurdities. The motor vehicles tax payable by public sector road transport undertakings (PSRTUs) almost equals their gross operating surplus before deduction of depreciation and interest. Not surprisingly, this leads to mounting tax arrears (appendix I).

In addition to the above, there was also a one-off giveaway, in the form of an *ad-hoc* four-year bonus of thirty days' salary for each year[2] to government staff for employees not covered under the Productivity Linked Bonus Scheme, credited to their GPF (contractual saving) accounts. It was to be met from within the sanctioned budget provisions of the concerned departments/organisations. It is difficult to imagine how a 33 percent increase in the wage/salary bill could have been accommodated without a squeeze on current/capital goods/materials, and thus a lowering in the quality of government services.

Punjab does not on the other hand appear to have had significant giveaways of government-owned land at sub-market rates. Nor is there thought to be much potential

2 Twenty-nine days for 1992/93 and 1993/94; thirty days for 1994/95 and 1995/96 (ref: notification dated December 16, 1996).

revenue from sale of land. The 1997 budget has a first-time provision for collection of Rs. 40 crore from squatters and illegal occupants on public lands, at the rate of Rs. 7000/acre (Rs.6000 for scheduled/backward castes).

REVENUES

Trends in own tax revenue: Stable since 1980/81, at around 7 percent of GSDP (table 2.1 and chart 2.2). The estimated buoyancy coefficients are close to one (appendix G). This implies that, **in the absence of tax reform**, the annual growth of own tax revenue cannot exceed the assumed nominal (real plus inflation) growth of GSDP. PSU losses also lead to tax arrears, so that PSU reform can contribute towards improved tax collections.

Table 2.2: Composition of Revenue Receipts

(Percent)

	1985-86	1990-91	1994-95	1995-96	1996-97 (R.E.)
Total revenue receipts (% of GSDP)	**12.31**	**10.46**	**10.66**	**9.94**	**11.03**
Net of #1, #2 and #3.	100.00	100.00	100.00	100.00	100.00
A. Total tax revenue	**67.01**	**77.93**	**80.43**	**80.74**	**69.22**
1. Own tax revenue	**57.27**	**65.37**	**69.14**	**69.20**	**58.25**
a. Taxes on property	4.69	5.72	6.64	6.02	5.48
b. Sales tax	26.76	28.84	31.81	30.89	25.04
c. State excise	16.74	22.06	23.50	24.63	21.19
d. Taxes on vehicles	5.00	5.44	4.74	4.98	4.29
e. Other taxes	4.08	3.31	2.46	2.68	2.26
2. Shared taxes	**9.74**	**12.56**	**11.29**	**11.53**	**10.97**
B. Total non-tax revenue					
Net of #1, #2 and #3.	32.99	22.07	19.57	19.26	30.78
1. Own non-tax revenue					
Net of #1, #2 and #3.	16.53	12.90	12.28	11.05	18.45
a. Interest receipts					
Net of #2.	5.26	3.44	2.17	2.27	1.93
b. Dividends & profits	0.09	0.04	0.21	0.12	0.11
c. General services	3.98	2.26			
Net of #1 and #3.	1.06	1.64	1.75	1.06	9.12
d. Social services	6.14	5.51	1.33	1.02	1.42
e. Economic services	16.46	9.17	6.82	6.58	5.87
2. Grants			7.29	8.21	12.32
Memorandum items					
#1. Expenditure on lotteries (spikes)	-	-	41.02	12.11	
#2. Expenditure on accumulated	-	-	-		27.77
subsidies to PSEB					1.83
#3. Non-tax receipt (Central loan waiver)	-	-	-		

Source: RBI, relevant years.

Notes: See notes to table 2.1 for explanation of memorandum items.
The brief experiment with single-digit lotteries carried sharp upward spikes in both expenditure and revenue; the expenditure figure alone has been subtracted from non-tax revenue, leaving intact the net receipt. The sudden jump in non-tax receipts in 1996/97 (RE) is because of expected returns from a lottery scheme which did not materialise; see notes to table F.1, appendix F.

Composition of own tax revenue: Table 2.2 shows the composition of own tax revenue. The major constituents are the State sales tax and State excise on liquor, which together account for four-fifth of total own tax revenue.

Trends in own non-tax revenue: Declined steadily since 1980/81 except for recent spikes reflecting notional interest receipts or sporadic activity in single-digit lotteries, both of which carry corresponding expenditure spikes (table 2.1 and chart 2.3). The buoyancy coefficient is well below one (appendix G).

Composition of own non-tax revenue: Table 2.2 shows that interest received and dividends and profits have remained low (see *PSUs and the state exchequer* above).

Shared taxes and grants from the centre: Shared taxes show a decline from 1.6 percent in 1980/81, but have held steady at around 1.2 percent since the mid-eighties (chart 2.4 and table 2.1). Grants fluctuate from year to year around an average value of around 1.4 percent of GSDP.

EXPENDITURE

Total expenditure: Because the quantum of the GFD is an outcome of bilateral negotiations between the State and Central governments on permissible net borrowing (see *Fiscal deficit* above), total expenditure accommodates to the limits set by total revenue and the negotiated GFD. Within total expenditure, different components bear the burden in accordance with the scope each offers for discretionary compression. Interest payments are the least discretionary. Starting in the nineties, interest payments have risen sharply to around 3.8 percent of GSDP in 1996/97, despite Central loan write-offs. This adds further to the pressure of fiscal accommodation on non-interest expenditure.

Capital expenditure: That capital outlay has borne the brunt of fiscal accommodation is displayed in its decline (table 2.1) from 3 percent of GSDP in 1985/86 to 1.51 percent in 1996/97 (RE). This has, therefore, critically damaged the growth prospects of the State. Chart 2.5 dramatically contrasts the rise in interest payments against the fall in capital outlay since the mid-eighties, both in terms of percent GSDP. Another component that has borne the burden of fiscal accommodation is expenditure on maintenance, although this is not readily observable from reported categories of expenditure classification. Poor maintenance has been an additional contributor to the declining efficiency in delivery of government services.

Table 2.3: Economic Classification of Expenditure: Punjab

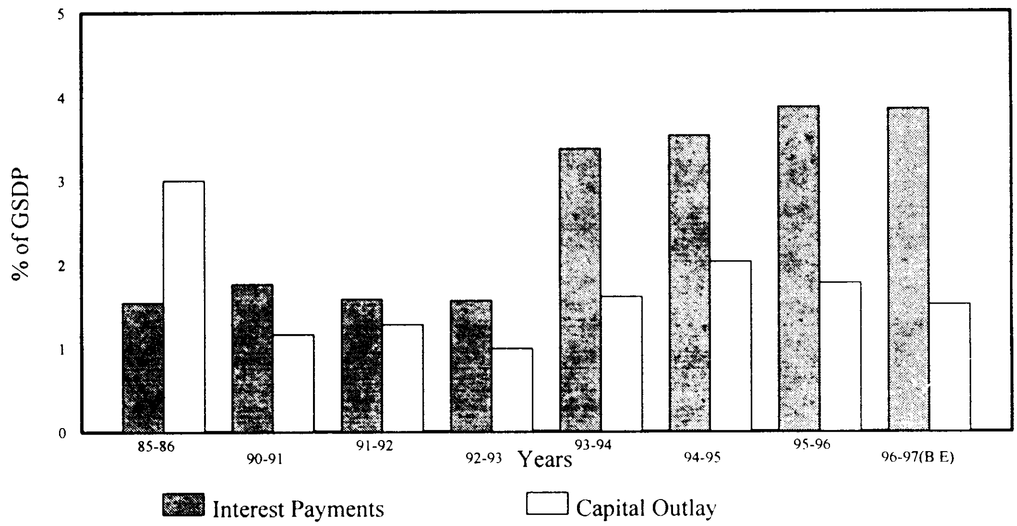
(Rs. crore)

	94/95 A	95/96 RE	96/97 BE
Current expenditure	**3974.55**	**3978.67**	**4857.93**
Interest (budget figures)	1243.69	881.65	1530.20
Compensation of employees	1779.07	2074.23	2136.47
Wages and salaries	1560.68	1847.87	1850.37
Pensions	218.39	226.36	286.10
Gross purchase of goods and services	563.99	413.81	675.17
Grants*	271.51	318.90	308.96
Subsidies*	52.03	58.19	106.13
Other current transfers	64.26	231.89	101.00
Capital expenditure (budget figures)	**1043.40**	**1177.00**	**1109.04**
Gross capital formation	711.43	457.74	470.32
Net loans plus equity investment	331.97	719.26	638.72
Aggregate expenditure	**5017.95**	**5155.67**	**5966.97**
Aggregate expenditure (budget figures)	5544.16	5792.38	6727.37
Discrepancy (budget - economic)	526.21	636.71	760.40

Source: GoP, ESO, 1994/95-1996/97; and DoF, relevant years.

Notes:
1. Budget documents show systematically higher expenditure than the aggregate across economic components, because the latter nets intra-departmental flows out of total expenditure. The published figures carry a reconciliation account, but the unpublished economic classification for recent years does not. The items marked with an asterisk account for most of the discrepancy (see appendix F). Budget figures for economic categories are used where available, e.g. interest and capital expenditure.
2. Gross capital formation is the sum of expenditure on construction, machinery, net change in stocks, and capital transfers.

Chart 2.5 Trends in Interest Payments and Capital Outlay



Economic classification: Table 2.3 classifies total expenditure by economic categories. The expenditure projections of the next chapter are performed by these categories, after correction of the discrepancy between expenditure aggregated across economic categories and budgetary aggregates (see notes to table 2.3).

Current expenditure: Appendix C graphs trends in current expenditure broken down into developmental/non-departmental categories. Developmental expenditure (which excludes interest payments and expenditure on general administration) has fallen steadily since 1980/81 (see charts C.1-C.2). The two expenditure spikes in recent years correspond to the non-tax revenue spikes noted in table 2.1. The decline in current developmental outlay is most marked in agriculture, irrigation and transport within economic services; and education and health in social services.

SUBSIDIES: EXPLICIT AND IMPLICIT

Of total explicit subsidies, industry is the recipient of 46 percent, and agriculture 28 percent (appendix D). Industrial subsidies are offered as incentives to new industrial units based on their fixed capital investment upto a maximum of Rs. 50 lakh per unit in zone A (border areas of the State); Rs.30 lakh in zone B (other areas). The unilateral withdrawal of such subsidies is seen by the State government as impossible. This is a case of mutually impoverishing inter-State competition which has to be reversed through inter-State co-operation. Agriculture accounts for 28 percent of all explicit subsidies, but these are linked to Central subsidies. A unilateral phase-out or even freeze of these is not possible without a parallel development at the Centre.

Implicit rates of subsidy are basically unreceived non-tax revenues. Table 2.4 shows the sectoral implicit subsidy rates in 1993/94 in Punjab as estimated in a nationwide study (Srivastava *et.al.*, 1997).

The rate of implicit subsidy, varies inversely with non-tax revenue receipts for a given level of expenditure, and directly with expenditure for a given level of non-tax revenue. Thus, if explicit subsidies rise in a sector with no rise in non-tax revenue, the rate of implicit subsidy also goes up.

Explicit and implicit subsidies can also be inversely related if explicit subsidies are offset against non-tax receipts as is the case in the power sector. Such accounting offsets give rise to lower recorded rates of explicit subsidy, with simultaneously higher rates of implicit subsidy as compared to what would have been obtained otherwise.

DEFICITS AND DEBT

The debt burden of 31 percent of GSDP, accumulated from past fiscal deficits which peaked at 8 percent in 1987/88, is being reduced through debt and interest write-offs from the Centre (these waiver commitments run upto the year 1999/2000 and have been factored into the projections). These waivers have been granted on the grounds that the burden of past debt accumulated during the battle against terrorism must be nationally borne. The mechanism of bilaterally negotiated constraints on new borrowing over each five-year Plan horizon between the State and Central governments holds the debt stock at the level judged to be sustainable.

The share of Central government loans in total debt stock remained above 82 percent during the period 1990/91 - 1994/95, but declined to 78.9 percent in 1995/96 (table 2.5). The share of other internal debt in total debt stock (borrowings from SBI and other financial institutions) shot up sharply from 0.74 percent in 1994/95 to almost 4 percent in 1995/96. The shares of market loans and small savings and provident funds in total debt stock also registered a rise in 1994/95.

Contingency liabilities: The guarantees given by the State government against loans and credits given by banks to (PSUs) for the years 1993/94 to 1995/96 and outstanding as on 31 March 1996 are shown in table C.1. Total contingency debt outstanding works out at 9 percent of total debt stock as on March 31, 1996. The State government earns a guarantee commission on contingency debt; arrears on these owed to the State government as on March 31,1996 amounted to Rs. 10.97 crore.

Table 2.4: Implicit Subsidy Rates by Sector: 1993-94

(Rs. crore)

	Total cost	Total receipts	Subsidies/ surplus(-)	Recovery rate	Implicit subsidy rate
Social services (subsidised) of which	**1151.50**	**20.29**	**1131.21**	**1.76**	**98.24**
Elementary education	218.78	0.47	**218.32**	0.21	99.79
Other education, art and culture	492.84	5.27	**487.56**	1.07	98.93
Public health	23.16	0.19	**22.97**	0.84	99.16
Medical and family welfare	208.51	2.74	**205.77**	1.32	98.68
Water supply, sewerage & sanitation	58.89	6.21	**52.68**	10.55	89.45
Economic services (subsidised) of which	**1776.04**	**204.39**	**1571.65**	**11.51**	**88.49**
Agriculture and allied activities	170.49	21.55	**148.94**	12.64	87.36
Irrigation	362.08	16.57	**345.51**	4.58	95.42
Power	486.54	0.20	**486.34**	0.04	99.96
Industries	117.89	1.79	**116.10**	1.52	98.48
Roads and Bridges	134.80	0.47	**134.33**	0.35	99.65
Transport	198.09	156.56	**41.53**	79.03	20.97
Total subsidised sectors (1+2)	**2927.54**	**224.68**	**2702.86**	**7.67**	**92.33**
Non-subsidised sectors	**0.25**	**34.94**	**-34.69**	**13748.20**	**-13648.20**
Social services	0.16	8.40	**-8.24**	5342.73	-5242.73
Economic services	0.10	26.54	**-26.45**	27377.89	-27277.89
Subsidies net of surplus (3-4)	**2927.79**	**259.63**	**2668.17**	**8.87**	**91.13**

Source: Srivastava *et.al.*, 1997.

Notes: The rate of implicit subsidy in the ith functional sector, α_i, is as follows:

NTR_i = $E_i(1-\alpha_i)$ where

i = functional category, $i=1,\dots\dots 13$

α_i = implicit rate of subsidy in ith category.

E_i = total current cost of providing the ith service.

The manner in which E_i must be obtained is detailed in Appendix E.

Table 2.5: Composition of Debt of the Government of Punjab and Effective Interest Rates

(Percent)

	85/86	90/91	93/94	94/95	95/96
Debt: Opening balance (Rs. crore)	**1793.17** **100.00**	**5657.71** **100.00**	**9244.84** **100.00**	**10498.47** **100.00**	**12096.36** **100.00**
Internal debt	27.11	6.84	5.39	5.08	9.18
Market loans	(7.70)	(5.39)	(4.39)	(4.35)	(5.19)
Others	(19.41)	(1.45)	(1.00)	(0.73)	(3.99)
Loans and advances from Central govt.	61.82	82.57	83.66	83.08	78.90
Rescheduled loans	37.73	6.88	2.87	2.14	1.70
Others	24.09	75.69	80.79	80.94	77.20
Small savings, P.F. etc.	11.07	10.59	10.95	11.84	11.92
Effective interest rate					
Internal debt*	14.40	9.69	11.09	11.72	17.38
Market loans	7.37	9.06	10.05	11.26	11.28
Others	17.19	12.02	15.64	14.46	25.31
Loans & advances from Central govt.	4.47	4.72	11.08	11.37	11.62
Rescheduled loans	5.47	6.28	6.54	6.70	6.62
Others	2.90	4.58	11.24	11.49	11.73
Small savings, P.F. etc.	11.88	12.32	12.75	12.52	12.97

Source : CAG, various years.

Notes: * Old dues of interest payments on loans and advances from SBI and other banks for purchase of foodgrains (Rs. 3296.58 lakhs) paid during 1994/95 have been excluded.

3. Sectors: profiles and issues

Focus: The focus in the examination of sectoral issues in this chapter will be on performance shortfalls, and on the measures that could be implemented towards enhancing the effectiveness of existing expenditures in each sector. The possible impact of the measures suggested is not quantified since even an underlying model for each sector would be calibrated to past outcomes. A final section examines whether expenditure shortfalls can be identified by application of sector-specific norms.

Services are provided either through a department of the Government (as in education, health, irrigation), a departmental enterprise [Punjab Roadways (PR) in transport], or a non-departmental enterprise Punjab State Electricity Board (PSEB). The difference between departmental and non-departmental enterprises in their relationship with the State exchequer has been detailed in *PSUs and the State exchequer,* chapter 2. Departmental enterprises are found in sectors where cost-recovery is expected (such as transport) as distinct from sectors where it is not (such as social sectors). Thus, a reform programme which enhances user costs in departmental enterprises is in line with the *raison-d'etre* of creating these enterprises in the first place, and should in principle meet with less opposition than enhanced charges on services provided through government departments.

EDUCATION

Primary school enrolment is close to universal in rural areas, 60 percent in urban (table B.2), but drop-out rates upto class VIII, although lower than the all-India level, are high relative to neighbouring Haryana and of course Kerala (table B.3). Beyond class VIII, however, the incremental drop-out rate is lower than in Haryana and even Kerala, surprisingly.

Because of the drop-out problem, no change is suggested here to the present structure of free school education for all students upto class VIII, and free education upto class XII for girl students and students from scheduled and backward castes and tribes (50 percent of all seats are reserved for scheduled/backward castes/tribes and children of ex-servicemen). In general, however, the replacement of caste-based by income-based concessions would better serve the purpose for which they are intended.

Student-teacher ratios are more favourable in Punjab than in the reference states of Haryana and even Kerala for all levels with the exception of secondary education in Kerala, where there is a well-known teacher redundancy problem resulting from the demographic transition (table E.2). Within the State, as elsewhere, student-teacher ratios are lowest at secondary level. Growth in staff strength (table E.3) has in recent years been the highest at secondary, particularly senior secondary level. A staff freeze of the kind imposed in scenario #1 would do no damage at this level. Staff growth at primary level has actually been negative in recent years. Reform scenario #2 allows for an increase in staff strength **in primary education alone.**

Even without expansion of staff, there is considerable scope for reducing spatial unevenness in the quality of education and thereby improving the effectiveness of expenditure on education. Table E.4 shows the student-teacher ratios in the state by district. The variations across districts show considerable room for reallocation of teachers away from currently favoured districts, especially at primary level. Transfers can only be executed within each level of education.

Provision of additional staff is merely an enabling condition for improved educational outcomes. Ultimately, success is a matter of the institutional arrangements in place for correction of teacher absenteeism, a major contributory factor towards poor outcomes and high dropout rates. Legislative transfer of the education monitoring function to the local level of governance, and in particular of primary education to the lowest tier within the three-tier *panchayat* structure, is a necessary first step (Rajaraman et.al., 1996). Prescription of curricula and textbooks can remain in the hands of the state-level department of education.

The phenomenon earlier referred to (chapter 1) whereby rural girls migrate to urban schools at upper primary level suggests the need for measures other than a mere evening-out of the teacher-student ratio if the gender gap in school attendance is to be closed. Because this may require additional expenditure on physical infrastructure, such as, separate toilets for girls, it is recommended that some of the additional capital outlay made possible by fiscal correction be earmarked for gender-specific upgradation of school facilities. It must be added that other factors, such as hooliganism in rural schools could cause out-migration of girl-children. Correction of teacher absenteeism is a first but not sufficient step towards making the rural school environment favourable for the girl-child.

HEALTH

Of all health status indicators, the crude birth rate alone, at 24.7 per thousand in 1995, falls short of the year 2000 national target of 21.0 per thousand (tables B.4, B.6). To quote the Draft Ninth Five Year Plan of the Government of Punjab: "the state has achieved and even surpassed most of the goals laid down in the National Health Policy" (p.32).

A Punjab Health System Corporation was set up in 1996-97 covering 150 hospitals at the level of community health centre and above. The Corporation upgrades facilities with the aid of a soft World Bank loan (70 percent), State government grants (30 percent) and loans (10 percent). User charges in the 150 hospitals are levied at the same rate as in other hospitals in the State. Collections have improved because of the upgradation of facilities, but are retained entirely by the hospitals concerned, unlike collections from hospitals not covered by the Corporation, which accrue to the State exchequer. **Thus the burden of servicing the World Bank loan (after a five-year loan moratorium) will be borne by the State government, to which the charges levied on beneficiaries of the loan do not at present accrue.** It is thought that five years hence, user charges on all improved facilities could be enhanced. At that stage, there could perhaps be an earmarking of a portion of the enhanced charge for servicing of the loan.

AGRICULTURE

The decline in the agricultural growth rate post-1985 has been discussed (under *Sectoral performance*, chapter 1). There is a need for infrastructure development on storage facilities and feeder roads into the hinterland so as to enable a supply-side response to the new post-reform export opportunities. The 4 percent market fee at present levied on sale of agricultural produce in designated market yards is intended for rural infrastructure development and bypasses the State exchequer (see section J.3, appendix J). This arrangement should remain undisturbed since the expenditure break-up provided by the SFC Report shows fairly low percentages devoted to establishment costs. The State Finance Commission (SFC) recommendation that *panchayats* should have a greater say in the choice of rural development schemes is endorsed here (see *Lack of transparency*, chapter 2).

Input subsidies: Agriculture accounts for 28 percent of all explicit subsidies, but these are linked to Central subsidies. A unilateral phase-out or even freeze of State-level subsidies is not possible without a parallel development at the Centre. The recent zero-pricing of irrigation water and electricity for farmers, is discussed in the following three paragraphs.

IRRIGATION

Even prior to the 1997 abolition of irrigation charges, the irrigation department in Punjab was incurring losses (table J.1) due to low, infrequently revised rates; the department denies that arrears are a contributory factor. The reform scenarios project a rise in irrigation charges Going beyond mere reversal of the 1997 zero-rating of irrigation water.

INDUSTRY

Industrial growth rates showed a revival after 1991/92 (see *Sectoral performance*, chapter 1), but even this buoyancy will suffer if reforms do not increase expenditure on infrastructure development. Industrial subsidies account for 46 percent of total explicit subsidies in Punjab and must be phased out to yield resources for infrastructure development, but this will require inter-State coordination (see *Subsidies: explicit and implicit*, chapter 2).

POWER

The financial health of the PSEB has been critical during the nineties. "Gross internal resources" (defined as retained surplus plus net change in inventories, which may be positive or negative) has been negative throughout the nineties. In 1997/98, this deficit amounted to as much as Rs. 638 crore, including the impact (Rs. 207 crore) of the 1997 decision to give free power to agriculturists (see table H.1). It is important to note that all of the deficit cannot be wiped out by the reversal of that decision alone. Interest due to the State government is not included in this figure, since the rural electrification subsidy is adjusted notionally against it (see para after next). **When it is included, the total loss amounts to over Rs.1000 crore annually.**

Denial of compensation for the 1997 giveaway is merely the most egregious example of lack of autonomy in tariff setting. The PSEB average tariff of Rs. 1.38/kwh (before the 1997 decision to give away electricity free to farmers) is below the national average of Rs. 1.49/kwh by 11 paise (table H.2). The average tariff paid by industrial consumers in the State, who account for 40 percent of total sales, is as much as 19 paise per Kwh below the national average (table H.7). PSEB is not at liberty to raise these tariffs without state government approval.

As part of an attempt to make transparent the operating losses of PSEB on account of rural electrification, an undertaking in April 1977 commits the State government to an annual explicit subsidy to PSEB. The subsidy was to be either the difference between operating expenses and operating revenue in respect of rural electrification operations, or the amount required (if lower) to achieve a stipulated 9.5 percent return on assets. Since PSEB does not maintain a separate account of operating expenses and revenue relating to rural electrification, it is the rate of return basis on which the subsidy necessarily has to be estimated. Starting 1995/96, the PSEB has unilaterally moved to a 15 percent rate of return instead of 9.5 percent, and so the subsidy figure for 1995/96 remains in dispute.

This subsidy never results in an actual expenditure outflow in any year because it is adjusted against interest due from the PSEB on State government loans, with a periodic routing through the budget of accumulated subsidy against a notional interest receipt of the same amount, ignoring the excess of interest over subsidy due. The excess of interest dues from PSEB over the subsidy commitment, which is never paid or formally restructured, afforded room for denial of compensation for the Rs. 207 crore loss to PSEB resulting from the 1997 zero-rating of electricity for agriculturists, which was adjusted against unpaid interest dues (see *Fiscal misgivings*, chapter 2).

The thermal plant load factor (plf) in Punjab has fallen after 1993/94 below the average for the northern region, which in turn is below the national average (table H.4). The share of operations and maintenance (O&M) in total cost has declined from 3.10 percent in 1992/93 to 2.69 percent in 1996/97 (table H.5). In terms of absolutes per unit output, O&M expenditure has risen over the period per unit of sale, but remains below the national average and below levels in all the sample states (table H.7).

No additional equity investments have been made by the State government in PSEB after 1991/92. The total equity stake in PSEB is reported at Rs. 1617 crore as on 31 March 1996, of which as much as Rs. 1117 crore was supplied in 1991/92 alone. There is no return to the State government on this equity.

TRANSPORT

There are two State road transport undertakings in Punjab. Punjab Roadways (PR) is a departmental undertaking and Pepsu Road Transport Corporation (PRTC) is non-departmental. The losses of these undertakings amounted in 1996/97 to Rs. 48.59 (PR) and Rs. 16.73 crore (PRTC). The loss is partially covered by converting the depreciation provision into a notional entry. This is reflected in the age structure of their fleets; overaged buses constituted 47 percent (PR) and 36 percent (PRTC) of their respective fleets in 1996/97. Appendix I examines the available options for reform of this situation.

Grant of autonomy in setting fares is a necessary pre-condition for reform in this as in other sectors. The government-prescribed bus fare on PSU buses, at 25 paise/km, compares unfavourably with fares in neighbouring States of 37 paise (Haryana); 32 paise (Himachal Pradesh); 31 paise (Rajasthan).

Large arrears of tax remain unpaid because the tax payable per bus either approaches (PRTC) or actually exceeds (PR) the gross operating surplus. Thus, PSU reform will feed back into the State exchequer.

POLICY TOWARDS PSUS

The stated policy towards non-departmental PSUs is that they will be required to cover all losses themselves. This arm's length relationship might be justifiable if it is extended to all spheres. But in conjunction with denial of autonomy in tariff-setting, PSUs simply do not have the latitude they need to turn themselves around. While the State exchequer cannot possibly meet the financial restructuring needs of PSUs, which can only be worked out as part of a package with assistance from financial institutions and privatisation components, it is difficult to see how the recent decision not to extend any further loans from the State government to the PSU starting 1997/98 can be sustained. The baseline scenario assumes that the percentage to GSDP of net loans and advances in the base period 1994-97 will have to continue into the immediate future because of the critical financial situation in the power and other sectors. **No other contribution from the State government towards PSU restructuring is either necessary nor indeed feasible. The grant of complete autonomy in tariff-setting will be a sufficient contribution.** In the case of PSEB, previous experience in Orissa and Haryana can serve as guideposts for the design of financial restructuring.

SPENDING GAPS

Operation and maintenance (O&M): The focus in this chapter has been on identifying reforms that can improve the effectiveness of present levels of expenditure. Although these should undeniably be the immediate focus of reform efforts, there is also an expenditure shortfall that needs to be rectified. It is clear that capital expenditure has borne the brunt of fiscal accommodation, and needs to be restored. This is frontally addressed in reform scenario #1 (see next chapter). In addition, there has also been a squeeze on maintenance, which cannot readily be unearthed from reported categories of current expenditure. Rectification of these (current) spending gaps will be added on in reform scenario #2.

4. Reform scenarios: fiscal prospects

BASELINE SCENARIO

The baseline scenario has been constructed to show the fiscal path of the State in the absence of any corrective action on either expenditure or revenue fronts. The baseline scenario represents our best judgement of future expenditures and revenue collections. Departures if any from the declared intentions of the government are justified (see *Policy towards PSUs,* chapter 3).

Projected GSDP growth rates: Nominal GSDP is projected to grow at an annual rate of 13 percent over the five years 1997-2002,[1] of which the inflation component is 7 percent as notionally projected for the Ninth-Five-Year-Plan (1997-2002), as also for the State Ninth Plan. This is broadly consistent with the inflation experience in Punjab relative to the national rate over 1980-96 (see appendix A). In conjunction with 13 percent nominal growth, that implies a real growth rate of 5.6 percent per annum. This is a little higher than the growth rate of 5.06 percent targeted by the draft Ninth Plan for Punjab but well below the targeted national rate of 7 percent. Given the average growth rate of 5 percent achieved over the last fifteen years (table 1.1), a projected growth rate at 5.6 percent for 1997-2002, even though lower than the national target, borders on the optimistic. It must be remembered, however, that growth in Punjab in the last ten years has been disrupted by terrorism, and that with the restoration of law and order, the stage is set for a growth spurt, if backed by supportive public policy.

All State-level GSDP figures are available only at factor cost. Deficits and other magnitudes as percentages of these figures will be higher than, and therefore, not directly comparable to the Central government deficit which is expressed as a percentage of the market price aggregate.

The procedure: Because permissible net borrowing is an outcome of bilateral negotiations between the state and centre (see *Fiscal deficit;* and *Total expenditure,* chapter 2), the GFD cannot be obtained as a residual after independent projections of revenues and expenditures. The GFD is defined by the approved rates of increase for

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[1] The 13 percent nominal growth rate is used also to estimate the GSDP for 1996/97 in the absence of official estimates for that year.

components of new borrowing for the Ninth Plan (1997-2002) period (table F.4).[2] Since these rates of increase are lower than the growth rate of nominal GSDP assumed here, the debt stock shows a fall as a percent of GSDP. The GFD as projected here at approved rates of new borrowing shows a steady fall as a percent of GSDP to a terminal value of 3.20 percent for 2001/02 (table F.1; see also *Projected GSDP growth rates* above).

Debt dynamics: Because GFD/GSDP is exogenously prescribed, the dynamics of debt lives independently of the process of fiscal accommodation, and is the same across baseline and all reform scenarios. The debt write-offs scheduled for the period 1997-2000 have been factored into the projections.

Total revenue: The exogeneity of GFD means that total expenditure is subjected to accommodation within what the negotiated GFD/GSDP and the revenue effort together make possible. Revenue projections thus critically underpin the whole exercise. Total revenue as projected here rises from 10.60 percent in 1997/98 to 10.99 percent in 1998/99 and 10.66 percent thereafter, essentially because of the growth in shared taxes from the Centre. This in turn results from application of the alternative devolution formula for States' share starting 1998/99 (see appendices F and G), and for 1998/99 alone the additional devolution from the VDIS scheme of 1997/98. Own tax revenue (gross), projected at the historical buoyancy coefficient of 0.98, remains at a constant ratio to GSDP, but there is a mild drop in net revenue after the deduction of revenue assigned to local bodies. There is a drop in own non-tax revenues resulting from use of the historical buoyancy coefficient of 0.68. Table F.1 also provides the budget estimates of revenue for 1997/98, so as to provide a check on the projected figures. Budget estimates are not always reliable, however (see *Lack of transparency,* chapter 2; and note 1 to table F.1).

Recent revenue giveaways: Of the four 1997 giveaways (free water and electricity for farmers; abolition of land revenue and property taxes) only free water has a revenue impact (see *Fiscal giveaways,* chapter 2); as pointed out there, the revenue impact of these measures does not adequately measure their damage.

Expenditure components: After the projection of total expenditure obtained from the sum of projected revenue and GFD, each component was projected by economic rather than functional classification, starting with interest payments, the least discretionary,

2 In case of market borrowings, if an issue is over-subscribed, as does indeed happen with Punjab, actual borrowings might exceed the negotiated amount. An alternative route not adopted here is to project the GFD at its observed average as a per cent of GSDP. The average value of 4.82 per cent over the period 1980-96 was exceeded several years in the mid-eighties (chart 2.1), owing to exceptional circumstances, but in recent years it has stabilised at this level (table 2.1).

proceeding to pensions and wages/salaries, and downward in ascending order of amenability to compression. The last component, capital outlay, is residually determined and thus bears the brunt of fiscal adjustment. This is in line with the revealed decline in capital outlay in the State (see *Economic classification,* chapter 2).

Interest: The marginal (nominal) rate on gross incremental debt is assumed at 13.25 percent. This raises the average (nominal) interest rate on debt rises from 11.23 percent in 1996/97 to 12.86 percent in the terminal year. The method of calculation is explained in detail in appendix F. The interest projections, like the progression of debt stock (see *Debt dynamics* above), do not vary between scenarios because of the exogeneity of GFD/GSDP. The interest write-off on loans from the centre (see *Loan waivers,* chapter 2) suppresses interest payments upto 1999/2000. Beyond that, interest payments rise to a terminal value of 3.58 percent of GSDP.

Non-interest components of expenditure: Because of the particular recent history of Punjab State, whereby expenditures from the mid-eighties until about 1993 are known to have been distorted in both quantum and composition by the fight against terrorism (see *Introduction*; and *Sectoral performance,* chapter 1), projecting expenditure based on trends in the previous decade was not an available option. Therefore the baseline scenario projects economic components of expenditure by the ratios to GSDP that prevailed during the three years 1994-97 immediately preceding the projection period, except for wages and salaries (see *Wages and salaries,* chapter 4). An economic breakdown was fortunately available for all three years, but only of the R.E. for 1995/96 and B.E. for 1996/97. In the case of three components of expenditure which carry some element of discretionarity, the projected percent of GSDP is at or in some cases a little below the lowest value observed in the base period, so as to incorporate in the baseline scenario the stated intentions of the State government to contain infructuous expenditures (see earlier para, *Loans and advances* below; and appendix F).

Expenditure smoothing: Expenditure to GSDP averages by economic category for 1994-97 were obtained after elimination of assorted expenditure spikes; adjustments to the raw data are detailed in appendix D.

Adjustment to budget expenditure aggregates: Total expenditure aggregated across economic categories is always systematically lower than those from Budget documents, because the economic classification nets out intra-government flows (see table 2.3). Since the Budget documents are the only source of information on non-tax (as indeed all other) revenue, the budget total for expenditure had necessarily to be retained for compatibility with the revenue figures. The manner of adjustment of the economic components of expenditure to the budget aggregate is detailed in appendix F.

Plan/non-Plan classification: Expenditure has not been broken down in any of the scenarios by Plan/non-Plan classification, because this deflects away attention from the more important breakdown of expenditure by economic classification. For example, Plan expenditure becomes a conventional escape valve through which government staff can be increased (see *Wages and salaries* below/). The general approach of regarding non-Plan expenditure as deserving of curtailment and Plan schemes as not has led among other things to a squeeze on maintenance, a non-Plan expenditure.

Wages and salaries: Wages and salaries, at 4.5 percent of GSDP on average in the base period constitute the single largest component of expenditure, exceeding even interest payments. The stated policy of the government on staff size is a freeze on recruitment. However, recruitment of staff under new Plan schemes falls outside the purview of this freeze, and functions as an escape valve; there is no internal redeployment of existing staff to the new posts created. The budgetary exercises of the Ministry of Finance provide for an annual 10 percent increase in the wage/salary bill, but the figures show that at least in 1995/96 (R.E.) the wage/salary bill rose by 18.4 percent relative to the previous year. The next year's budget estimate shows only a 0.14 percent increase, but in the absence of the RE economic breakdown for that year, it is not known if the budgeted containment was in fact achieved. This is a category where there is a wide gap between budgetary intentions and actuals. There was however no justifiable alternative to projecting an annual increase of 10 percent, starting from 1996/97 (B.E). This projection is on account of staff expansion and inflation indexation alone, independently of real wage increases, which occur only discretely with the implementation of the scales recommended by successive Pay Commissions. So projected, the salary bill for 1997/98 pre-Pay Commission amounts to Rs. 2035, a little above the Ministry of Finance figure of Rs. 2000 (see *Pay Commission impact,* chapter 2).

The Pay commission impact: To the base wage/salary projections must be added the additional expenditure on account of the real wage increases of the Fifth Pay Commission, payable starting January 1998 in amounts shown in *Pay Commission impact,* chapter 2. The impact of the Pay Commission on pensions has not been worked in; the effect will show only beyond the projection horizon of this exercise.

Loans and advances: The stated government policy of an absolute reduction of loans to PSUs by 10 percent a year is so implausible in the face of the immediate impact on PSUs of the Pay Commission increases, that it cannot go into the baseline scenario. Net loans and advances in the base period show a steep rise from a starting value of 0.97 percent in 1994/95 to 1.93 percent in 1995/96 (R.E.). The reduction in the next year is not necessarily evidence of fiscal correction. Loans and advances can be deferred in the short-run, but not indefinitely in the absence of PSU reform. This does however offer one avenue for containment in the expenditure compression scenario, **if accompanied by PSU reform.**

The baseline fiscal squeeze: Capital outlay shows no reduction in the first three years entirely because of the substantial interest write-off (see *Loan waivers,* chapter 2; and table F.1). Within these three years the squeeze further loosens in 1998/99 because of the sharp rise that year in central tax shares (see *Total revenue* above). In subsequent years, there is a further reprieve on account of the decline in percentage share of wages and salaries after the initial Pay Commission impact. Despite this, the terminal year capital outlay reduces to a mere 0.25 percent of GSDP.

Revenue deficit: The negotiated GFD and the residual character of expenditure on capital outlay together imply that the revenue deficit (RD) rather than the GFD must be looked to as an indicator of fiscal health at State level (see *Fiscal deficit,* chapter 2). The RD shows some decline in the first three projection years on account of the interest write-offs, but rises thereafter to a terminal value of 1.75 percent of GSDP.

Key fiscal variables in baseline scenario: Table 4.1 summarises the baseline scenario in terms of three key projected variables, and two outcomes:

i. Total revenue receipts
ii. Wages and salaries
iii. Net loans and advances
iv. Capital outlay
v. Revenue deficit

Reform scenario #1 attempts fiscal correction in respect of each of the first three. The impact shows in capital outlay and the revenue deficit.

REFORM SCENARIO #1

Revenue enhancement: Given the exogenously specified cap on permissible borrowing, a release from the total expenditure constraint is possible in the first instance only if revenues are enhanced. Possible avenues of revenue enhancement were explored through discussions with the relevant State government officials and quantified in terms of feasible absolute increments. The alternative for tax revenues of injecting into the reform scenario higher than historical buoyancy coefficients is a mechanical exercise unless it carries formal justification. For non-tax revenues, on the other hand, there is a formal alternative. Non-tax revenues can be derived from current expenditure projections broken down by functional sector, assuming an implicit rate of subsidy in each (see *Subsidies: explicit and implicit,* chapter 2). Rates of implicit subsidy by sector are available for 1993/94 (Srivastava et.al. 1997). Since baseline expenditures were with a few exceptions projected at the GSDP growth rate, use of a constant set of implicit subsidy rates with

Table 4.1: Annual Impact of Reforms on Key Fiscal Variables

(Percent of GSDP)

	96/97 (B.E.)	97/98 (P)	98/99 (P)	99/2000 (P)	2001/01 (P)	2001/02 (P)
Baseline						
Revenue Receipts	10.87	10.60	10.99	10.67	10.66	10.66
Wages and salaries	4.25	5.42	5.24	4.75	4.62	4.50
Net loans and advances	1.47	1.20	1.20	1.20	1.20	1.20
Capital outlay	1.08	0.37	0.91	0.88	0.16	0.25
Revenue deficit	2.04	1.82	1.23	1.21	1.88	1.75
Reform scenario #1						
Revenue receipts	10.87	11.17	11.55	11.21	11.18	11.16
Wages and salaries	4.25	5.34	5.08	4.51	4.31	4.12
Net loans and advances	1.47	1.02	0.90	0.80	0.70	0.62
Capital outlay	1.08	1.21	2.03	2.24	1.75	2.02
Revenue deficit	2.04	1.17	0.41	0.25	0.79	0.55
Reform scenario #2						
Revenue receipts	10.87	11.17	11.55	11.21	11.18	11.16
Wages and salaries	4.25	5.37	5.10	4.53	4.33	4.14
Net loans and advances	1.47	1.02	0.90	0.80	0.70	0.62
Capital outlay	1.08	0.60	1.49	1.75	1.30	1.62
Revenue deficit	2.04	1.77	0.95	0.75	1.24	0.95

***Source*:** Tables F1 to F3.
Notes: For reasons explained in appendix F, the projections were based on the B.E. for 1996/97 because the economic classification of the RE for that year was not available.

reference to baseline expenditures essentially implies growth of non-tax revenue at GSDP growth rates, i.e. a buoyancy coefficient of unity, as opposed to the baseline projections of non-tax revenue, which were based on the historical buoyancy coefficient of 0.68. Not surprisingly, the absolute increment in own non-tax revenue projected in accordance with this formula were judged to be totally infeasible by State government officials.

Feasible revenue enhancement: Feasible increments in non-tax and tax revenue are given below. The tax increment is the expected outcome of an October 1997 agreement between eight states in the northern region on floor rates of 15 commodities; commodity-specific details are in section J.1, appendix J. These floor rates are yet to be notified in Punjab. The non-tax increment is aggregated across sector-specific possibilities identified in section J.2, appendix J. The projected figures for 1997/98 are counterfactuals.

(Rs. crore)

	97/98	98/99	99/2000	2000/01	2001/02
Non-tax	250	275	300	325	350
Tax	30	35	40	45	50

Sectoral break-up of enhanced non-tax revenues: The sectoral break-up of the revenue addition in 1997/98 is listed in the synopsis. Of the Rs. 250 crore initial-year increment, Rs.125 crore is from the planned introduction of on-line state lotteries, patterned on the National Lottery of England. The scheme, scheduled for introduction in 1997 with foreign collaboration, was obstructed by the Central Foreign Investment Promotion Board and adverse High Court rulings (see section J.2, appendix J and note 2, table F.1). It would not be too much of an exaggeration to say that lotteries are seen as the future revenue bail-out of the State government. As a result, not enough attention is being paid to user charges from beneficiaries of government services. The attempt in this report at identifying sources of additional revenue from every possible sector, no matter how trivial the amount, is part of an effort to drive home the culture of revenue-consciousness across the entire spectrum of service-provision by government. Some measures along the directions suggested have already been introduced, such as hikes in fees charged for public service examinations. Much remains to be done.

Departmental enterprises: Departmental enterprises are found in sectors where cost-recovery is expected (such as transport) as distinct from sectors where it is not (such as social sectors). Departmental enterprises are not supposed to make losses, let alone of the order of the losses of Punjab Roadways (PR) (see *Transport,* chapter 3; and appendix J). Although the initial additional recovery is only Rs.5 crore (see *Synopsis*), as against an annual loss of Rs.16.73 crore, the objective should be to **wipe out losses completely by 2001/02.** The Rs.25 crore increment in total non-tax revenue each year has not been broken down sectorally, but the first target for eventual full cost recovery should be departmental enterprises.

Expenditure compression: Three expenditure compression initiatives are introduced in reform scenario #1.

i. A staff freeze (zero net addition), starting 1997/98. Growth in wages and salaries is reduced to 8 percent, with 7 percent for inflation indexation, and 1 percent for increments/promotions. The absolute wage hike of the Pay Commission has been phased in identically to the baseline scenario. For details see *Staff freeze* (net) below.

ii. A freeze on net loans and advances at Rs. 500 crore, the BE figure for 1997/98. (For details, see *Loans and advances* below).

iii. A freeze on non-educational grants (45 percent of the total) at Rs. 393.72 crore starting 1997/98; this is the estimated absolute expenditure in 1996/97 B.E. (see table F.1). This includes grants to local bodies but does not touch their share of state taxes.

Uncompressed expenditures: Non-discretionary categories like interest and pensions are not amenable to compression. Discretionary payments left uncompressed are:

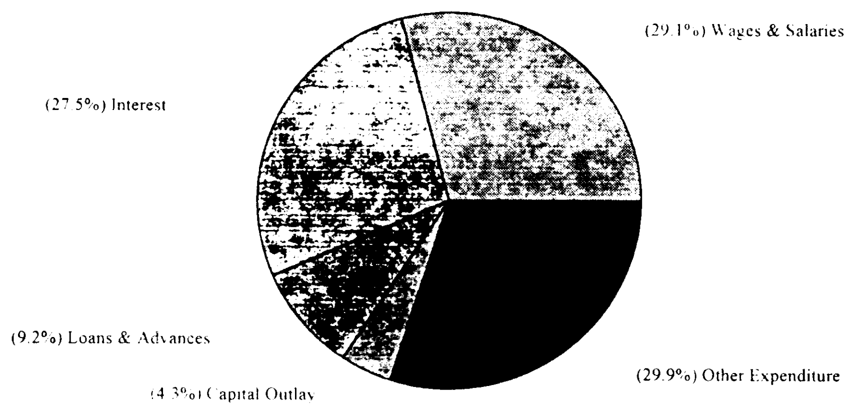
i. Educational grants: (see *Expenditure compression* above(iii). Potential fiscal gain from elimination: 0.99 percent of GSDP. These are committed expenditures to aided educational institutions, impossible to freeze over the five-year horizon when these institutions will be under pressure to raise salaries.

ii. Explicit subsidies: Potential fiscal gain from elimination: 0.35 percent of GSDP. Of the total subsidy bill, industry is the recipient of 46 percent, and agriculture 28 percent (table D.2, appendix D). The industrial subsidies fall in the class of competitive fiscal giveaways which require inter-State coordination for elimination (see section J.2, appendix J). Agricultural subsidies likewise are linked to Central subsidies and will require Central government coordination for elimination.

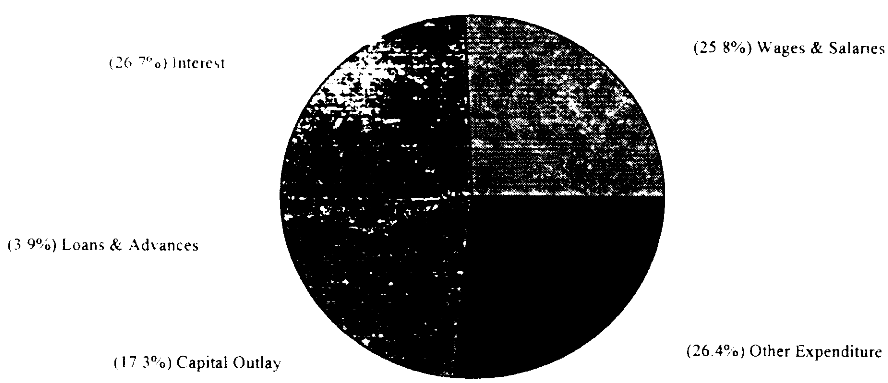
iii. Other current transfers: Potential fiscal gain from elimination: 0.15 percent of GSDP. Of the total, 46 percent goes to social security and welfare. These are underpinned by equity considerations, not politically amenable even to an absolute freeze, let alone a reduction.

Staff freeze (net): The wages/salary bill is a necessary area of expenditure compression in Punjab. At 4.5 percent of GSDP on average in the immediate pre-projection period 1994/97, it is the highest component of government expenditure (see *Wages and salaries* above). Over the fifteen years to 1995/96 public administration grew at an annual

Baseline



Reform Scenario # 1



rate of 6.23 percent (table A.1) as compared to 5.81 percent all-India, with a particularly rapid spurt during the five years 1986-91, when annual growth in public administration rose to 10.63 percent, clearly reflecting the administrative effort to curb terrorism. The inflation rate in public administration, at 9.44 percent annually in the fifteen years to 1995/96, was no higher than the national level (table A.5). The two together show that it is staff growth at higher than national levels that is responsible for the present size of the wage bill, and that this should be a critical feature of fiscal correction. Zero net growth in staff is a far less stringent curtailment than the 3 percent per year downsizing in filled posts recommended by the Fifth Pay Commission, as a condition for the introduction of the revised salary scales.

Loans and advances: This is the single largest area of opportunity for fiscal correction, but is not possible without PSU reform (see *PSUs and the state exchequer,* chapter 2). Net loans/advances amounted in 1995/96 (RE) to 1.87 percent of GSDP, and were projected in the baseline scenario at 1.2 percent of GSDP. The budget estimates for 1997/98 provide Rs. 500 crore for net loans/advances. Net loans are frozen at this fixed absolute sum of Rs. 500 crore. This alone yields by 2001/02 fiscal resources amounting to 0.58 percent of GSDP.

Reform impact on capital outlay and the revenue deficit: Table 4.1 shows that these reforms, which are independent and additive, together push up capital outlay in the terminal year from 0.25 percent in the baseline scenario to 2.02 percent of GSDP. The revenue deficit in the terminal year declines from 1.75 percent in the baseline scenario to 0.55 percent in reform scenario #1.

REFORM SCENARIO #2

Rationale for a Second Reform Scenario: The reforms of scenario #1 enable higher capital outlay, but an alternative use for some of the additional expenditure made possible is higher current expenditure to plug spending gaps in three particularly critical sectors. There has been a historical sacrifice of expenditure on maintenance to fiscal accommodation (see *Capital expenditure,* chapter 2; and *Operation and maintenance,* chapter 3), although even the economic classification categories do not permit a quantification of this suspicion. **The two scenarios separate the suggested reforms by type and imply no necessary time sequencing,** although in general additional fiscal resources will have to be generated by reforms of the type suggested in scenario #1 before the expenditure enhancements of scenario #2.

Plugging spending gaps: Enhanced current expenditures are added on to the expenditures of reform scenario #1 for three sectors: irrigation, roads and primary education. The maintenance gap for the power sector, quantified in appendix H, will have to be a part of a financial restructuring exercise for PSEB, a non-departmental PSU whose expenditures are not included in the State budget (see *Policy towards PSUs*, chapter 3). The same holds for transport where again there is underfunding of maintenance (appendix I). Irrigation and roads are directly administered by the State government.

Maintenance norms: Standard expenditure norms for maintenance of roads and irrigation works have been used to generate the incremental requirement over and above that provided for in reform scenario #1. This exercise is performed in Appendix L. The required increment is included in expenditure on materials alone, since this is the category that bears the burden of fiscal accommodation. The staff required for maintenance are already in place.

Enhanced expenditure on primary education: Staff growth in primary education has in recent years been negative (table E.3). In order to correct for this, the (net) staff freeze of reform scenario #1 is augmented by an annual 3 percent (net) staff addition in primary education alone. There is also a small augmentation of the expenditure provision for teaching materials (appendix L).

Impact on capital outlay and the revenue deficit: Table 4.1 shows that the combined effect of these increases in current expenditure reduces capital outlay in the terminal year by 0.40 percent relative to reform scenario #1. The contribution of each component is shown in appendix L and summarised in the synopsis of proposed reforms. The revenue deficit in the terminal year correspondingly rises to 0.95 percent of GSDP in reform scenario #2 from 0.55 percent in reform scenario #1.

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Appendices

Appendix A: Macro overview

Sectoral growth rates shown in table 1.1 are supplemented in table A.1 by sub-sectoral tertiary sector growth rates. It can be seen that the accelerated service-sector growth after the mid-eighties decomposes into a marked growth in public administration, and banking and insurance — clearly reflecting the official and public response to the unsettled conditions at the time.

Table A.1: Service Sector : Growth

(annual average (percentage)

	81/82-95/96	81/82-85/86	86/87 - 90/91	91/92-95/96
PUNJAB				
Transport, storage and communication	**6.95**	7.02	7.74	6.10
Trade, hotels and restaurants	**3.25**	2.70	2.95	4.12
Banking and insurance	**8.38**	10.19	13.85	1.49
Real estate, ownership and business services	**2.18**	2.92	1.43	2.19
Public admn. and defence	**6.23**	3.47	10.63	4.71
Other services	**2.41**	2.62	2.32	2.30
All services	**4.20**	3.80	5.20	3.60
INDIA				
Transport, storage and communication	**6.90**	6.79	7.02	6.88
Trade, hotels and restaurants	**6.79**	5.96	6.23	8.19
Banking and insurance	**11.88**	11.33	13.89	10.43
Real estate, ownership and business services	**3.58**	3.76	3.47	3.52
Public admn. and defence	**5.81**	6.71	7.16	3.59
Other services	**5.56**	4.56	6.63	5.49
All services	**6.60**	6.10	7.00	6.80

Source: CSO, relevant years; and GoP, ESO, 1997(a).

Overall inflation in Punjab, at 9 percent over 1980–96, was not significantly different from the national rate (table A.2), but was higher after 1985/86, lower before. Agricultural sector inflation in particular was much lower in the first quinquennium, but rose to more than parity with national levels in the subsequent ten years. The service sector on the other hand shows consistently higher than national levels of inflation (see also table A.5 for constituents of the service sector).

Table A.2: Inflation Rates (Factor Cost Deflators)

	81/82 - 95/96	81/82 - 85/86	86/87 - 90/91	91/92 - 95/96
	PUNJAB			
All sectors	**9.1**	7.3	9.7	10.4
Agriculture & allied	**9.0**	5.2	10.3	11.5
Industry*	**7.9**	7.3	9.4	7.1
Services	**10.4**	10.7	8.7	11.8
	INDIA			
All sectors	**8.9**	8.4	8.6	9.8
Agriculture & allied	**9.2**	7.3	9.6	10.6
Industry*	**8.7**	8.8	7.6	9.6
Services	**8.9**	9.0	8.3	9.5

Source: CSO, relevant years; and GoP, ESO, 1997(b).
Notes: * Mining, manufacturing, utilities and construction.

The sharp rise in the inflation rate in agriculture during the second sub-period does not seem to have been driven by procurement prices, the annual rate of increase of which was not substantially higher after 1985/86 (table A.3). The explanation would seem to lie in the sustained supply shock caused by lower foodgrain production in Punjab in both 1986/87 and 1987/88 as compared to 1985/86. Agricultural inflation rates of 8.32 percent in 1986/87 and 14.07 percent in 1987/88 should have narrowed the gap between market prices and procurement prices during this period.

Inflation is projected at 7 percent, yielding together with the real growth projection of 5.06 percent a nominal GSDP growth rate of 13 percent. All projections are based on this figure, which can accommodate alternative growth and inflation configurations.

Table A.3: Increase in Procurement Prices

	81/82 - 85-86	86/87 - 90/91
Paddy	6.22	7.62
Wheat	6.06	6.49

Source: GoI, 1991.

Table A.4: Foodgrains Production

(thousand tonnes)

	84/85	85/86	86/87	87/88
Rice	5052	5485	5949	5442
Wheat	10176	10988	9447	11084
Total foodgrains	16098	17226	16215	17092

Source: GoP, ESO, 1991.

Table A.5: Service Sector : Inflation

(annual average percentages)

	80/81 - 95/96	**81/82 - 85/86**	**86/87- 90/91**	**91/92 - 95/96**
PUNJAB				
Transport, storage & communication	**9.75**	8.40	11.38	9.50
Trade, hotels & restaurants	**12.11**	13.97	9.42	13.01
Banking and insurance	**9.12**	9.22	2.62	15.92
Real estate, ownership and business services	**6.09**	4.30	5.75	8.25
Public admn.	**9.44**	9.40	8.90	10.02
Other services	**10.32**	9.82	12.56	8.63
All services	**10.40**	10.70	8.70	11.80
INDIA				
Transport, storage and communication	**11.18**	12.14	11.37	10.05
Trade, hotels and restaurants	**8.84**	9.58	8.06	8.90
Banking and insurance	**7.91**	7.24	5.90	10.65
Real estate, ownership and business services	**5.67**	5.52	5.26	6.22
Public admn. and defence	**9.46**	9.31	8.92	10.15
Other services	**9.21**	8.48	8.96	10.19
All services	**8.90**	9.00	8.30	9.50

Source: CSO, relevant years; and GoP, ESO, 1997(b).

Appendix B: Social indicators of development

Table B.1: Literacy Rates:1991

(percent)

	Rural			Urban			Total		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Punjab	60.71	43.85	52.77	77.26	66.12	72.08	65.66	50.41	58.51
All-India average	57.87	30.62	44.69	81.09	64.05	73.08	64.13	39.29	52.21

Source: i. GoP, ESO, 1997(b).
ii. All-India averages are from CMIE, 1996.

Notes : Literacy rates have been worked out as a percentage to the total population aged 7 and above, by taking the actual figures from the 1991 census.

Table B.2 : Gross Enrolment Ratio

Educational stage	**Area**	**Gross enrolment ratio**					
		All communities			**Scheduled castes**		
		Boys	**Girls**	**Total**	**Boys**	**Girls**	**Total**
Primary	Rural	100.4	93.5	97.1	115.2	102.4	109.2
	Urban	59.8	60.6	60.2	58.1	58.5	58.3
	Total	80.1	77.0	78.6	86.6	80.4	83.7
Upper primary	Rural	66.4	52.6	60.0	58.2	43.0	51.1
	Urban	62.4	79.1	70.2	45.0	44.0	44.5
	Total	64.4	65.8	65.1	51.6	43.5	47.8

Source: GoP, DoE, 1993.

Table B.3: State-wise Dro[illegible] Number of St[illegible] [illegible] Total [illegible]

States	Classes I to V			Classes [illegible] VIII			Classes I to X		
	Male	Female	Total	[illegible]	[illegible]	[illegible]	[illegible]	Female	Total
Punjab	20.69	22.94	21.[illegible]	[illegible]	[illegible]	[illegible]	44.[illegible]	52.80	48.54
Haryana	1.60	6.81	3.9	[illegible]	[illegible]	[illegible]	[illegible]	58.81	51.19
Kerala	-5.35	-3.05	-4.2	[illegible]	[illegible]	[illegible]	[illegible]	24.51	29.07
All-India average	35.05	38.57	36.[illegible]	[illegible]	52	[illegible]	[illegible]	74.74	70.90

Source: CMIE, 1996.

Table B.4: Birth Rate, [illegible]ant [illegible]

([illegible] per thousand per annum)

Years	Birth rate			[illegible]			Mortality rate	
	Rural	Urban	Total	[illegible]	[illegible]al	[illegible]	[illegible]	Total
1986	29.0	27.6	28[illegible]			[illegible]	55.0	68.0
1987	28.9	27.9	2[illegible]				[illegible]	[illegible]
1988	28.9	27.5	2[illegible]				[illegible]	62.0
1989	28.7	27.5	28.3				[illegible]	64.0
1990	28.4	25.6	27.[illegible]				[illegible]	61.0
1991	28.5	25.6	27.[illegible]				[illegible]	[illegible]
1992	28.2	24.2	27.1		8.2		[illegible]	56.0
1993	27.7	22.6	26[illegible]	5.5			[illegible]	55.0
1994	26.2	22.0	[illegible]		[illegible]	[illegible]	[illegible]	53.0
1995	26.0	20.8	24.[illegible]		[illegible]		[illegible]	54.0
ALL-INDIA AVERAGE								
1991	30.90	24.30	29.50					[illegible]
1992	30.90	23.10	[illegible]				[illegible]	79.0
ALL-INDIA TARGET								
2000	[illegible]							[illegible]

Source: i. GoP, ESO, 1997(b).
ii. CMIE, 1996.
iii. Targets from GoI, 1993(b)

Progress of Immunization Programme in Punjab

	[illegible]pectant mothers			Infants (D.P.T) ([illegible] years)			[illegible]		
	Target	Achievements	Percent of the [illegible]	[illegible]	[illegible]	[illegible]	Target	Achievements	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]6,[illegible]	[illegible]	3,78,8[illegible]	4,95,033	130.68
1993-94	6,07,185	6,22,350	102.50	5,56,008	6,07,678	109.29	3,85,787	4,98,199	129.14
1994-95	6,12,200	6,32,477	103.30	5,59,700	6,07,995	108.63	4,51,200	5,32,803	118.09
1995-96	5,99,000	6,13,531	102.40	5,48,600	6,01,671	109.60	4,56,100	4,92,497	107.90

Source: GoP, ESO, 1997(b).

Notes: These annual coverage targets do not necessarily equal the entire target population especially in the earlier years.

Table B.6: Expectation of Life at Birth By Sex

Year	Punjab		All-India	
	Male	Female	Male	Female
1976-80	56.2	55.1	52.6	51.5
1981-86	62.8	62.7	55.6	56.4
1986-91	65.6	65.3	58.1	59.1
1991-96	66.6	66.6	60.6	61.7
2000 (target)	..	..	64.0	64.0

Source: GoP, ESO, 1997(b); and GoI 1993(b).

Table B.7: Number of Medical Institutions in Punjab

Years	Area	Hospital	Hospital cum C.H.C	C.H.C	C.H.C cum P.H.C	P.H.C	Dispensary/ Subsidiary health centre clinic	Total
1993-94	Rural	73	2	34	24	422	1220	1775
	Urban	135	10	20	14	24	242	445
	Total	208	12	54	38	446	1462	2220
1994-95	Rural	73	2	34	24	422	1220	1775
	Urban	135	10	20	14	24	242	445
	Total	208	12	54	38	446	1462	2220
1995-96	Rural	73	2	34	24	422	1220	1775
	Urban	135	10	20	14	24	250	453
	Total	208	12	54	38	446	1470	2228

Source: GoP, ESO, 1997(b).
Notes : C.H.C : Community health centre.
P.H.C : Primary health centre.

Table B.8: Population Served and Average Radius Per Medical Institution

Year	Population served per institution	Average radius served per institution (km)
1986-87	8905	2.70
1987-88	9110	2.70
1988-89	9291	2.70
1989-90	9484	2.69
1990-91	9245	2.69
1991-92	9307	2.69
1992-93	9479	2.69
1993-94	9697	2.69
1994-95	9873	2.69
1995-96	10053	2.69

Source: GoP, ESO, 1997(b).

Appendix C: State finances since 1985

The gross fiscal deficit (GFD) is defined thus:

$$GFD = [TD - LRP] - LR - TR$$
$$= TE - LR - TR$$

where

TE = Total expenditure = TD-LRP
TD = Total disbursement (current[1] + capital)
LRP = Loan repayment (internal debt plus loans from centre)
LR = Loan recovery
TR = Total revenue

Since

TE = TO + GLA

where

TO = Total outlay (direct expenditure)
GLA = Gross loans and advances.

hence GFD = TO + [GLA - LR] - TR
= TO + Net LA - TR

Table C.1: Guarantees Given By The State Government

(Rs. crore)

	93/94	94/95	95/96	Outstanding as on 31 March 1996
Cash credit from SBI and other nationalised banks	925.50	1317.00	1455.00	1054.67
Loans from other sources	6.39	12.41	57.32	24.44
Total	931.89	1329.41	1512.32	1079.11

Source: 1. CAG, 1996(a).
2. CAG, 1996(b).

Notes: Figures in parentheses are the percentage of total debt stock.

1 Revenue account expenditure is termed current expenditure throughout.

Chart C.1: Current Expenditure

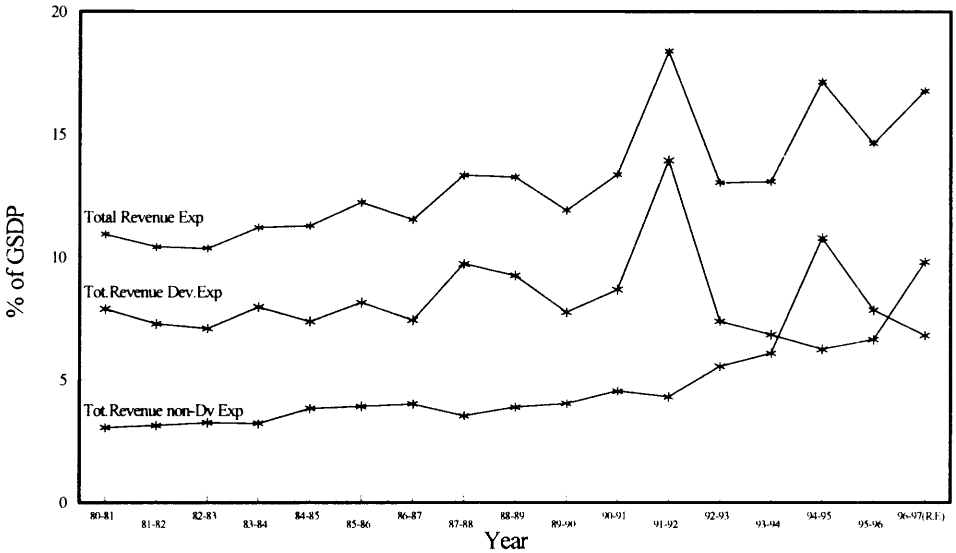
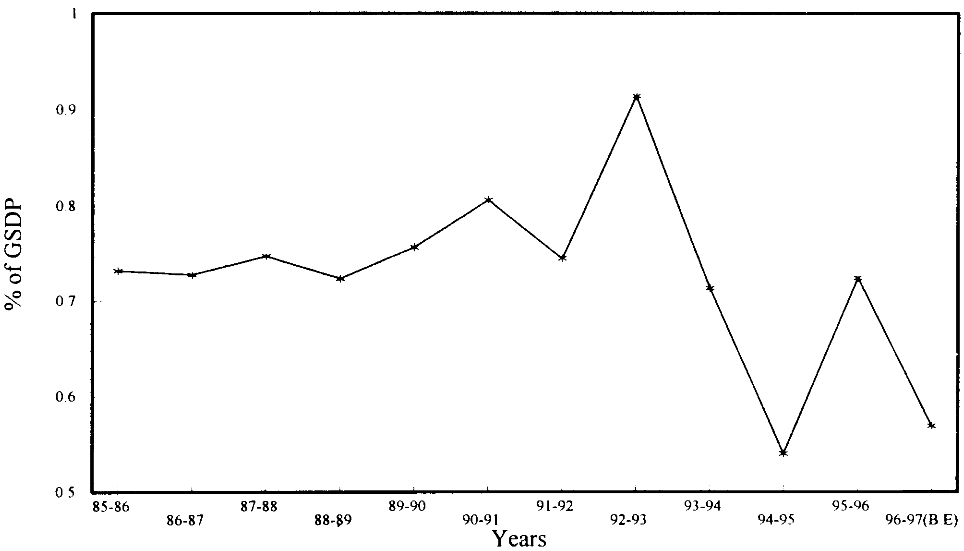


Chart C.2: Current Development Expenditure

Agriculture & Allied Activities



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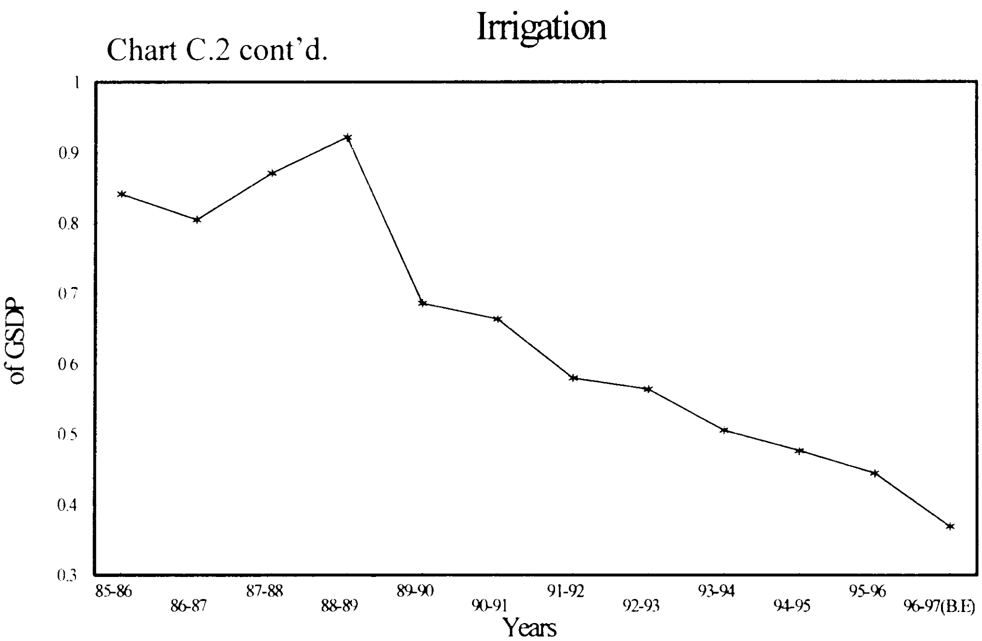

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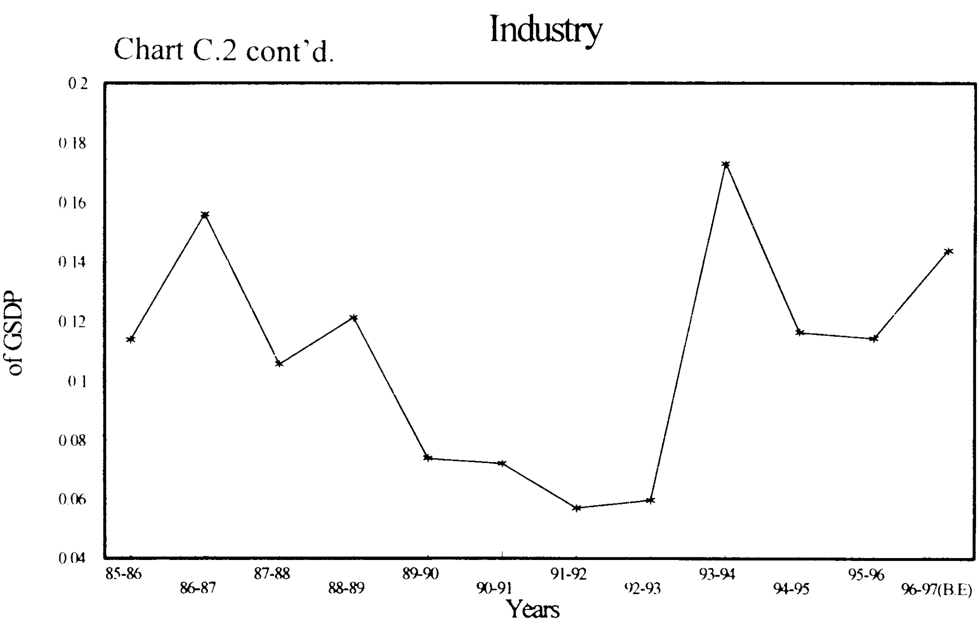

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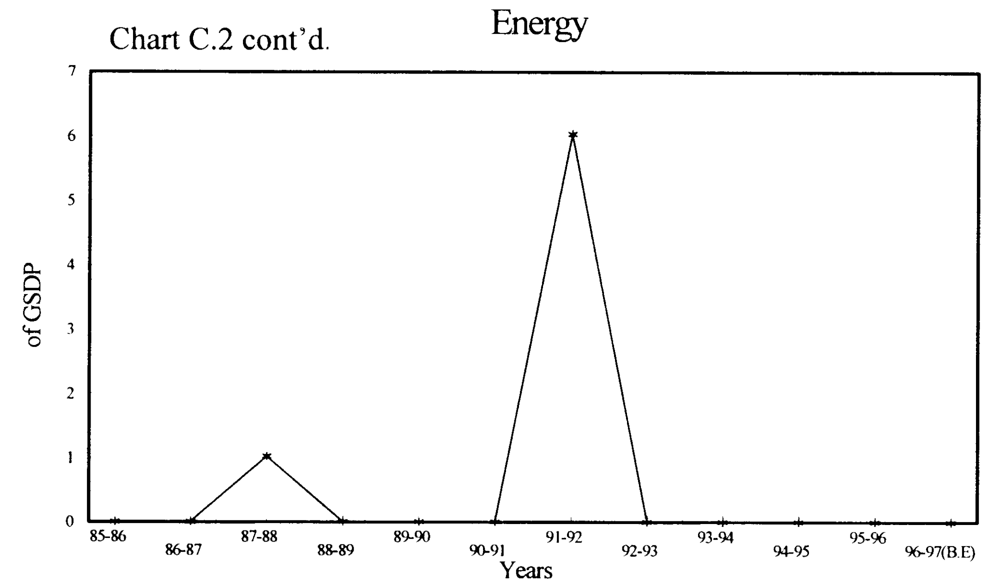


Chart C.2 cont'd.

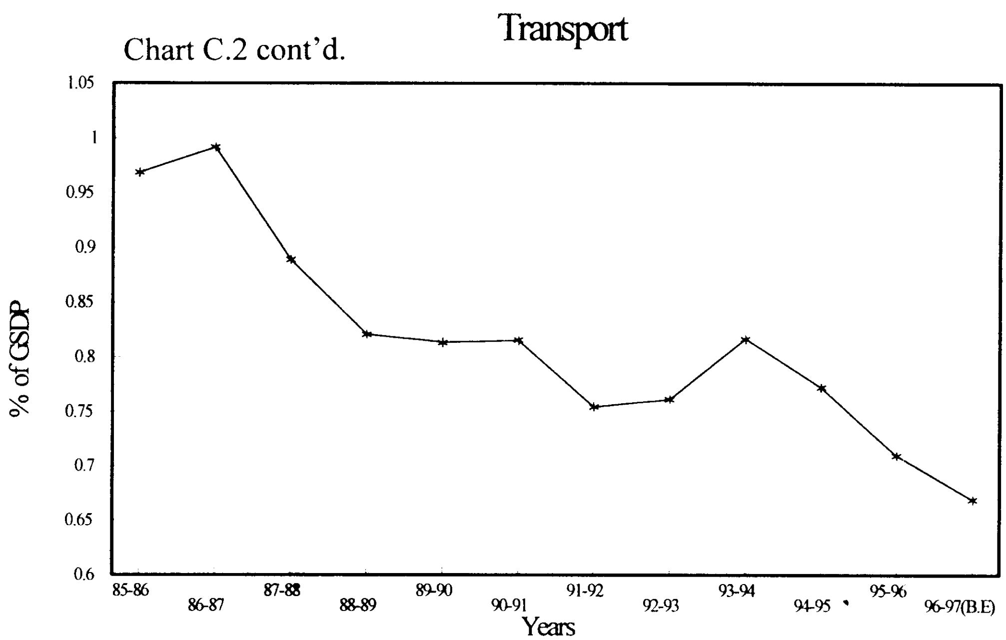


Chart C.2 cont'd.

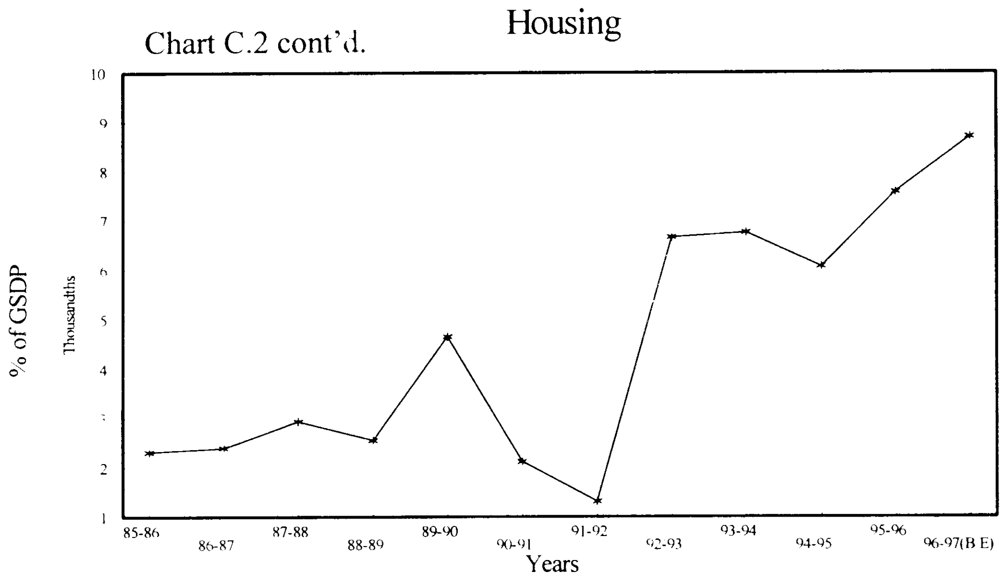


Chart C 2 cont'd.

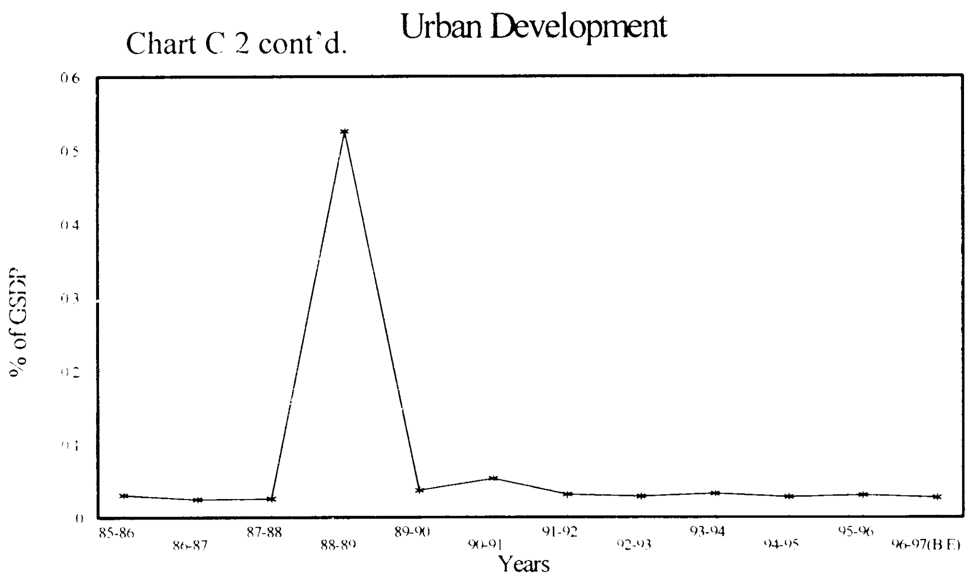


Chart C.2 cont'd. Water Supply

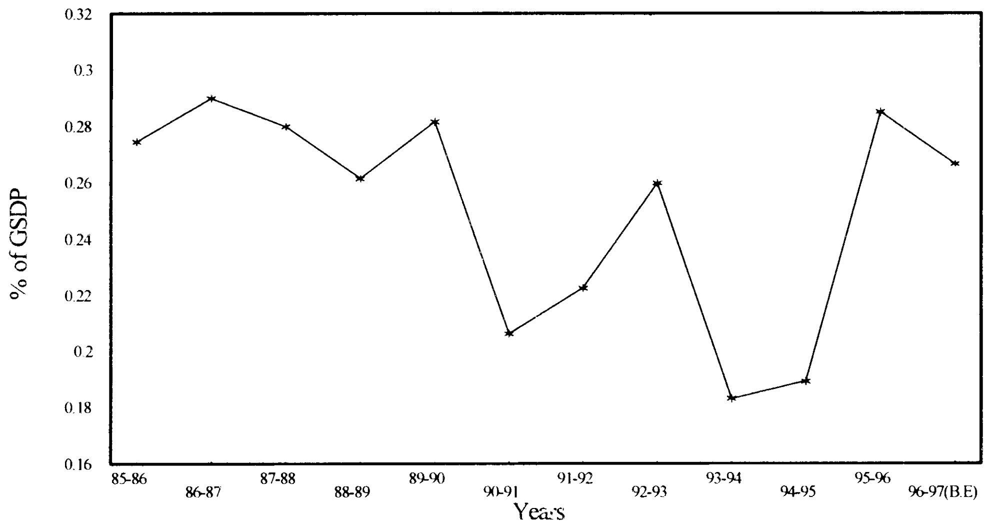


Chart C.2 cont'd. Education

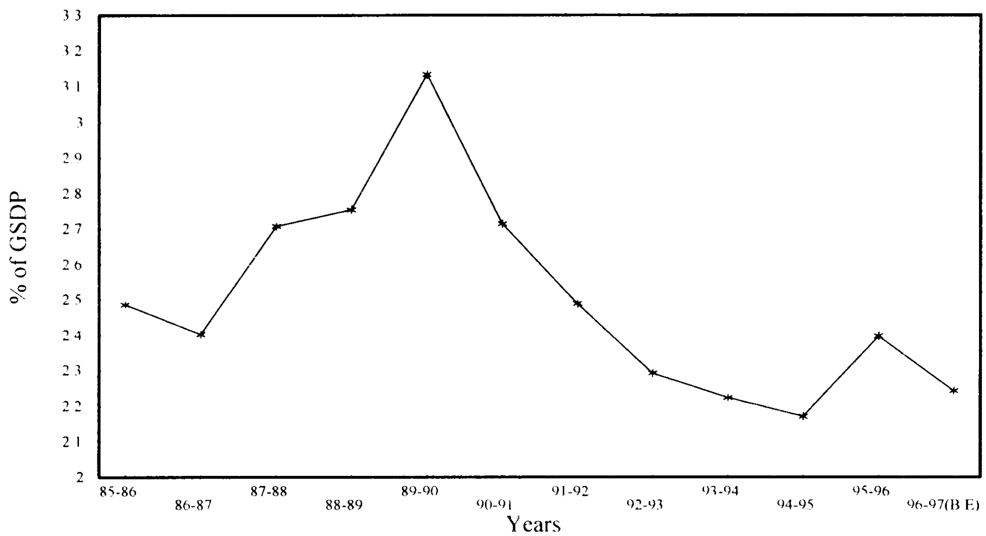
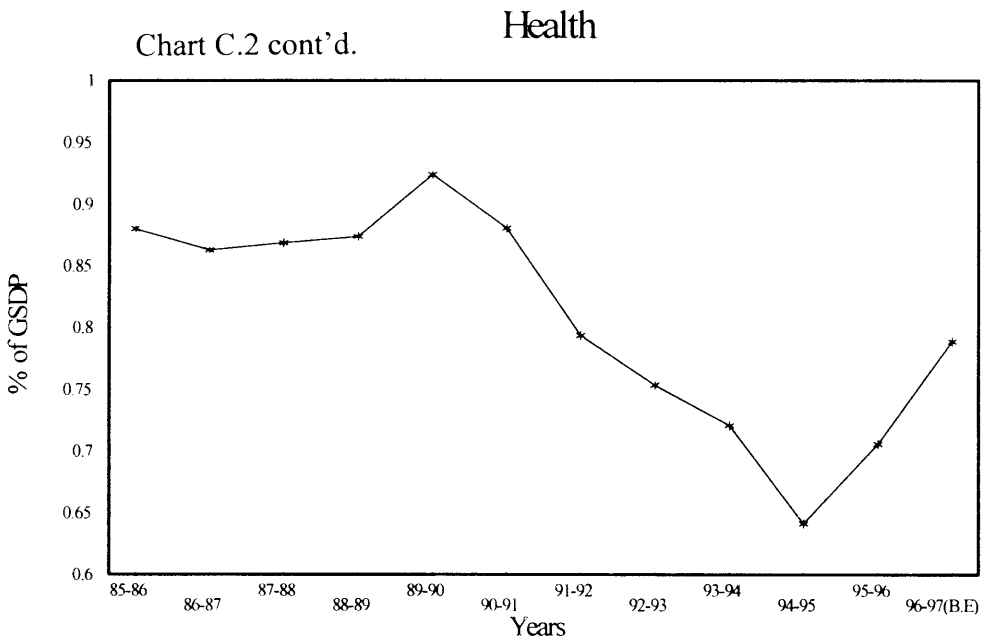


Chart C.2 cont'd.



Appendix D: Functional and economic classification of expenditure

The functional classification heads into which government expenditure is broken down are:

1. general administration
2. education
3. public health
4. other health
5. social security and welfare
6. housing
7. water supply and sanitation
8. agriculture
9. irrigation
10. industry
11. power
12. transport and communication
13. other

The economic classification heads are:

1. wages and salaries
2. purchase of goods and services (current)
   Total consumption expenditure (1+2)
3. pensions
4. subsidy payments (explicit)
5. grants to local bodies (and other institutional recipients)
6. other transfers
7. interest
   Total current transfers (3+4+5+6+7)
   Total current expenditure (1+2+3+4+5+6+7)
8. gross fixed capital formation
9. net changes in stocks
10. capital transfer

11. net loans and advances
12. equity investment in shares

Total capital expenditure and (8+9+10+11+12)
Total expenditure (1+2+3+4+5+6+7+8+9+10+11+12).

Total expenditure aggregated across all EF categories is systematically below aggregate expenditure reported in Budget documents because the EF classification nets out intra-government flows. Since the Budget documents are the only source of information on non-tax (as indeed all other) revenue, expenditure figures aggregated across EF categories need to be adjusted upwards for compatibility with Budget figures.

A further adjustment was required in respect of non-interest current expenditure for 1994/95 and 1995/96 because payments on account of State lotteries jumped from near-zero values to an abnormally high level in 1994/95, with an accompanying revenue spike, on account of the introduction of single-digit lotteries, (discontinued in May 1995). The expenditure spike was deducted from both expenditure and receipts, leaving intact the net receipt. See also notes to tables 2.1 and F.1.

(Rs. crore)

1996/97	1994/95	1995/96	
	A	RE	BE
State lottery payments	1542	447	16
Amount deducted from payments	1542	447	-
Amount deducted from receipts	1542	447	-

Table D.1: Economic Components of Expenditure in Functional Sectors: 1994-97

		Grand total	Total current expenditure	Wages & salaries	Gross purchase of goods	Grants	Explicit subsidies	Other current transfers	Total capital expenditure	Gross capital outlay	Gross loans & advances	Investment in shares
1	General administration	100.00	89.16	50.20	30.60	5.98	0.15	2.24	10.84	10.84	0.00	0.00
2	Education	100.00	98.96	75.81	3.60	18.50	0.68	0.38	1.04	1.03	0.00	0.00
3	Public health	100.00	99.65	95.74	1.49	0.00	0.00	2.42	0.35	0.35	0.00	0.00
4	Other health	100.00	97.87	81.19	13.93	0.47	0.02	2.26	2.13	2.13	0.00	0.00
5	Social security and welfare	100.00	97.10	22.33	31.54	11.80	3.59	27.84	2.90	2.25	0.00	0.65
6	Housing	100.00	18.16	9.62	0.75	7.36	0.43	0.00	81.84	77.28	4.56	0.00
7	Water supply & sanitation	100.00	98.36	85.66	11.95	0.01	0.00	0.74	1.64	1.64	0.00	0.00
8	Agriculture	100.00	45.59	13.84	15.85	10.21	5.56	0.14	54.41	51.73	0.00	2.67
9	Major & medium irrigation	100.00	76.13	89.74	-14.63	0.00	0.00	1.02	23.87	23.87	0.00	0.00
10	Industry	100.00	43.97	29.50	4.71	0.14	9.36	0.25	56.03	11.29	43.63	1.11
11	Power	100.00	12.30	9.30	2.92	0.00	0.07	0.00	87.70	8.11	79.59	0.00
12	Transport and communication	100.00	20.14	17.99	2.15	0.00	0.00	0.00	79.86	73.70	6.16	0.00
13	Other sectors	100.00	57.58	28.17	8.79	4.75	1.74	14.13	42.42	29.82	10.29	2.56
14	Total	100.00	67.92	42.39	13.41	7.26	1.73	3.14	32.08	16.51	14.97	0.60

Source: GoP, DoF, relevant years; and; GoP, ESO, 1994/95 – 1996/97.
Notes: These are averages across 1994/95 (actual); 1995/96 (RE); 1996/97 (BE).

Table D. 2: Functional Components of Expenditure by Economic Classification: 1994-97

		Grand total	Total current expenditure	Wages & salaries	Gross purchase of goods	Grants	Explicit subsidies	Other current transfers	Total capital expenditure	Gross capital outlay	Gross loans & advances	Investment in shares
1	General administration	17.73	31.33	27.85	54.02	19.11	2.08	21.46	8.24	18.39	0.00	0.00
2	Education	16.16	31.48	38.63	6.22	54.98	6.54	3.18	0.70	1.40	0.00	0.00
3	Public health	0.29	0.56	0.87	0.04	0.00	0.00	0.38	0.00	0.01	0.00	0.00
4	Other health	3.17	6.12	8.12	4.59	0.29	0.06	3.90	0.28	0.58	0.00	0.00
5	Social security and welfare	3.85	7.38	2.66	11.98	8.31	11.47	45.89	0.47	0.71	0.00	3.90
6	Housing	1.28	0.41	0.35	0.09	1.51	0.47	0.00	4.62	9.19	0.55	0.00
7	Water supply & sanitation	0.90	1.75	2.44	1.10	0.00	0.00	0.52	0.06	0.13	0.00	0.00
8	Agriculture	6.85	5.57	2.73	10.13	12.14	27.98	0.59	16.82	28.94	0.00	53.14
9	Major & medium irrigation	1.13	1.70	3.18	-1.69	0.00	0.00	0.47	1.11	2.31	0.00	0.00
10	Industry	6.40	5.12	5.33	3.36	0.17	45.63	0.65	16.20	5.78	25.92	14.65
11	Power	9.13	2.07	2.53	2.40	0.01	0.66	0.00	32.94	6.53	65.35	0.00
12	Transport and communication	2.03	0.71	0.98	0.47	0.00	0.00	0.00	7.14	12.61	1.30	0.00
13	Other sectors	6.98	7.99	5.97	8.42	5.92	7.59	41.14	11.42	13.43	6.88	30.60
14	Total	74.79	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
15	Pensions	4.39										
16	Interest	20.82										
17	Gross total	100.00										

Source: GoP, DoF, relevant years; and GoP, ESO, 1994/95 – 96/97. Expenditure on pensions and interest is not allocated by sector.
Notes: These are averages across 1994/95 (actual); 1995/96 (RE); 1996/97 (BE).

Appendix E: Expenditure on education

The coefficient of variation of the student-teacher ratio across districts is not very high (see table E.4). For each level of education, districts with a higher than average student-teacher ratio are marked with an asterisk. These are the districts into which teacher transfer must take place. Districts with unfavourable ratios at all four levels are Sangrur, Firozpur and Ludhiana. Officials in the Department of Education, Punjab Government agree that there is scope for reallocation of existing teachers.

Table E.1: Selected Economic Categories of Expenditure on Education

(percentage of total expenditure)

	95/96 (Actual)	96/97 (R.E)	97/98 (B.E)
Primary			
Wages and salaries	33.02	28.15	29.66
Net purchase of goods and services	0.06	0.11	0.11
Grants	0.29	0.25	0.25
Secondary			
Wages and salaries	42.45	35.81	35.15
Net purchase of goods and services	0.17	0.13	0.16
Grants	5.56	4.73	4.58
University			
Wages and salaries	2.97	2.55	2.89
Net purchase of goods and services	0.01	0.03	0.2
Grants	11.43	9.51	9.30
Total			
Wages and salaries	78.44	66.51	67.7
Net purchase of goods & services	0.24	0.27	0.47
Grants	17.28	14.49	14.13

Source : GoP, DoF, relevant years, and GoP, ESO 1994-95, 1996-97

Note : Total expenditure is aggregated across revenue and capital, and pertains to education, art, sports and culture. Therefore, the percentages do not sum to 100

Table E.2: State-wise Student-Teacher Ratios at Various School Stages

States	Primary	Middle	Secondary/ Higher secondary
Punjab (1995)	40.16	31.30	21.00
Kerala (1993)	49.73	37.03	17.45
Haryana (1994/95)	50.34	39.21	33.55

Source: GoP, ESO, 1997(a); GoH, ESO, 1995; and GoK, 1994.

Table E.3: Annual Growth Rate of Teachers: 1993-1995

(percentage)

	1993	1994	1995
Primary	0.04	-2.03	-3.24
Middle	-0.84	0.47	5.00
Secondary	4.74	0.78	-3.40
Sr.Secondary	5.93	13.60	9.93

Source: GoP, ESO, 1997(a).

Table E.4 : District-wise Student-Teacher Ratios in Different Categories of Schools (1993)

Districts	Primary	Upper primary	Secondary	Higher secondary
Bhatinda	67.69*	28.10*	25.95	25.50
Faridkot	56.95*	29.78*	26.66	24.90
Sangrur	52.20*	23.33*	36.74*	42.04*
Rupnagar	48.86*	17.28	22.30	20.60
Fategarh sahib	47.20*	26.48*	25.36	35.74*
Firozpur	46.99*	24.43*	29.52*	36.92*
Mansa	46.68*	30.33*	36.86*	29.79
Ludhiana	43.25*	27.73*	29.83*	31.30*
Patiala	39.59	23.43*	31.02*	28.64
Gurdaspur	36.89	28.12*	28.87	28.61
Amritsar	36.38	13.29	30.98*	49.50*
Jalandhar	34.60	25.96*	29.29	26.96
Kapurthala	34.33	19.20	26.40	21.72
Hoshiarpur	33.05	20.03	28.65	31.59*
Average	42.29	22.85	29.35	31.02
Range	34.64	17.04	14.56	28.90
Standard deviation	9.89	5.04	4.02	7.90
Coefficient of variation	0.23	0.22	0.14	0.25

Source : GoP, DoF, 1993.
Note : * Above the average.

Appendix F: Baseline and reform projections

Baseline projections: The sequence in which the baseline projections have been performed is explained in chapter 4, and listed in table F.1. Economic classification of expenditure was available only for, and therefore dictated the use of, RE figures for 1995/96 and BE for 1996/97 despite the availability of the budget figures for the expenditure actuals/RE for the two years respectively.

Debt projections: The rate of growth of debt stock as projected by the State government, obtained as a sum of projected increases in net borrowing by component, is given in table F.4. Since all components are projected to grow at less than the growth rate (13 percent) of nominal GSDP projected here, these show a falling debt stock as a percent of GSDP. The start of year stock is thus increased by the gross fiscal deficit (net new borrowing aggregated across all components) of the preceding year, and reduced by any debt write-offs in the preceding year. Since net new borrowing is determined bilaterally through negotiation between State and Centre (see *The procedure*, chapter 4), the dynamics of debt and interest and the quantum of the GFD are determined independently of the process of fiscal accommodation.

Interest payments: The interest payments projected for each year are the sum of interest on the gross increment to debt in the preceding year at a marginal nominal rate of 13.25 percent, and interest on received debt stock at the average (nominal) interest rate of the preceding year. The gross incremental debt is the sum of the GFD and matured debt renewed, the latter assumed at 20 percent of the start-of-year stock (average maturity of five years). The received debt stock is obtained residually after subtraction of gross incremental debt in the preceding year from the start-of-year stock. The interest rate is obtained before subtraction of interest write-offs (see *Loan waivers*, chapter 2; and *Interest*, chapter 4).

Revenue projections. The methodology in respect of each individual category is explained in turn below. In each case, the BE for 1997/98 is given in table F.1 along with the projected figure to enable a validation of the method used (but see *Lack of transparency*, chapter 2).

Own tax revenues (net): Gross own tax revenue has been projected for 1997/98 and beyond using the estimated overall buoyancy coefficients of 0.98 obtained for the period 1980/81 to 1995/96 (details in appendix G). The coefficient implies an essentially constant ratio to GSDP for taxes. From total own tax receipts, the revenues assigned to local bodies have been subtracted to obtain net own tax receipts.

Central tax share: The share of Punjab in Central taxes has been obtained from NIPFP projections of the shareable Central tax pool for the period 1997-2002. Details are in appendix G.

Non-tax revenue: Own non-tax revenue has been projected using the estimated overall buoyancy coefficient of 0.68 obtained for the period 1980/81 to 1995/96 (details in appendix G). For the startling rise in reported non-tax revenues for 1996/97 (RE) and 1997/98 (BE), see notes to table F.1.

Grants from the centre: Projected at 1.33 percent of GSDP, the average in 1995-97 (the 1994/95 figure was unusually low). Even at 1.33 percent, the projected figure for 1997/98 of Rs. 656 crore is below the B.E. figure by nearly 300 crore.

Expenditure projections: The basic approach for all non-interest components of expenditure is explained in *Non-interest components of expenditure*, chapter 4 of the text.

Adjustments between budgetary and aggregate economic expenditure: The discrepancy between the two (table 2.3) after use of the budgetary figures for interest[1] and capital expenditure is pro-rated between expenditure on subsidies and grants in proportion to their relative importance; these are the two categories most likely to contain intra-government flows, on account of subsidies and grants to departments or departmental undertakings (see notes to table 2.3). Other current transfers are more in the nature of transfers to individuals and therefore unlikely to contain intra-government flows. The proportion to GSDP of the adjusted figure for subsidies and grants in the base period is projected analogously to the method used for other (unadjusted) components of non-interest expenditure (see *Non-interest components of expenditure,* chapter 4), with some

[1] The budgetary figure for interest paid is above the economic classification figure by a uniform Rs. 60 crore every year because of interest paid by departmental undertakings to the State exchequer (an intra-government flow).

modifications. Subsidies have been projected at 0.35 percent, lower than the base-period average of 0.40 percent excluding 1996/97 (BE) when the percentage rose to 0.69 percent of GSDP. Grants, likewise, are projected at 1.80 percent, lower than the base-period average of 2.00 percent excluding the spike to 2.23 percent in 1995/96 (RE).

The projection sequence for expenditures begins with interest and on downwards in ascending order of amenability to compression. The only component that is residually determined is capital expenditure. The interest write-off delays the squeeze until the last two years of the projection period, when capital outlay falls to 0.16 percent of GSDP and rises only to 0.25 percent of GSDP by the terminal year.

Revenue scenarios: The methodology used for reform scenario #1 (table F.2) and reform scenario #2 (table F.3) is spelled out in detail in chapter 4.

Table F.1: Baseline Scenario

(Rs. crore)

		94-95	95-96 (R.E.)	96-97 (B.E.)	96-97 (R.E.)	97-98 (B.E.)	97-98 P	98-99 P	99-2000 P	2000-01 P	2001-02 P
1	GSDP	35260.00	38524.00	43532.12			49191.30	55586.16	62812.37	70977.97	80205.11
	Debt and interest calculations										
I	**Debt stock (start-of-year)**	10500.00	12150.00	13630.46			15039.21	16582.11	18216.66	20041.09	22342.09
	percent of GSDP	29.78	31.54	31.31			30.57	29.83	29.00	28.24	27.86
Ii	**GFD = net borrowings**						1666.20	1855.13	2065.88	2301.00	2563.32
Iii	**Debt write off**			88.07			123.30	220.58	241.45		
Iv	**Matured debt renewed**						3007.84	3316.42	3643.33	4008.22	4468.42
v	**Gross incremental debt (ii+iv)**			4222.91			4674.04	5171.55	5709.21	6309.22	7031.74
vi	**Interest on gross incremental debt**						559.54	619.31	685.23	756.47	835.97
vii	**Interest on old debt**						1214.27	1403.96	1591.50	1791.48	2037.78
viii	**Total interest (vi+vii)**	1243.69	881.65	1530.20	1679.71	1828.59	1773.81	2023.27	2276.73	2547.96	2873.75
	Interest rate	11.84	7.26	11.23			11.79	12.20	12.50	12.71	12.86
ix	**Interest write-off**						460.86	550.57	517.90		
x	**Interest net of write off (viii-ix)**	1243.69	881.65	1530.20			1312.95	1472.70	1758.83	2547.96	2873.75
	percent of GSDP	3.53	2.29	3.52			2.67	2.65	2.80	3.59	3.58
2	Own gross tax revenue	2598.67	2738.50	3056.28	2806.79	3147.40	3444.78	3882.67	4376.22	4932.51	5559.52
	percent of GSDP	7.37	7.11	7.02			7.00	6.98	6.97	6.95	6.93
	Devolution to local bodies						109.00	116.00	124.00	133.00	141.00
	percent of GSDP						0.22	0.21	0.20	0.19	0.18

		94-95	95-96 (R.E.)	96-97 (B.E.)	96-97 (R.E.)	97-98 (B.E.)	97-98 P	98-99 P	99-2000 P	2000-01 P	2001-02 P
3	Net own tax revenue after devolution	2598.67	2738.50	3056.28			3335.78	3766.67	4252.22	4799.51	5418.52
	percent of GSDP	7.37	7.11	7.02			6.78	6.78	6.77	6.76	6.76
4	Shared taxes from Centre	424.33	447.50	521.72	528.35	603.76	610.50	936.62	885.85	1033.93	1207.64
	percent of GSDP	1.20	1.16	1.20			1.24	1.68	1.41	1.46	1.51
5	Total tax revenue (3+4)	3023.00	3186.00	3578.00			3946.29	4703.29	5138.07	5833.44	6626.15
	percent of GSDP	8.57	8.27	8.22			8.02	8.46	8.18	8.22	8.26
6	Own non-tax revenue	462.00*	578.00*	561.00*	889.24*	1068.95	610.43	664.23	722.76	786.45	855.75
	percent of GSDP	1.31	1.50	1.29			1.24	1.19	1.15	1.11	1.07
7	Grants received	274.00	500.00	591.00	593.84	950.00	656.41	741.74	838.17	947.13	1070.25
	percent of GSDP	0.78	1.30	1.36			1.33	1.33	1.33	1.33	1.33
8	Total non-tax revenue (6+7)	736.00	1078.00	1152.00			1266.84	1405.97	1560.92	1733.57	1926.00
	percent of GSDP	2.09	2.80	2.65			2.58	2.53	2.49	2.44	2.40
9	Total revenue receipts (5+8)	3759.00	4264.00	4730.00			5213.13	6109.26	6699.00	7567.02	8552.16
	percent of GSDP	10.66	11.07	10.87			10.60	10.99	10.67	10.66	10.66
10	Gross fiscal deficit	1785.16	1528.38	1997.37			1666.20	1855.13	2065.88	2301.00	2563.32
	percent of GSDP	5.06	3.97	4.59			3.39	3.34	3.29	3.24	3.20
11	Total expenditure (9+10)	5544.16	5792.38	6727.37			6879.33	7964.39	8764.88	9868.02	11115.48
	percent of GSDP	15.72	15.04	15.45			13.98	14.33	13.95	13.90	13.86
12	Interest net of write off	1243..69	881.65	1530.20			1312.95	1472.70	1758.83	2547.96	2873.75
	percent of GSDP	3.53	2.29	3.52			2.67	2.65	2.80	3.59	3.58

		94-95	95-96 (R.E.)	96-97 (B.E.)	96-97 (R.E.)	97-98 (B.E.)	97-98 P	98-99 P	99-2000 P	2000-01 P	2001-02 P
13	Pensions	218.39	226.36	286.10			305.67	345.41	390.31	441.05	498.39
	percent of GSDP	0.62	0.59	0.66			0.62	0.62	0.62	0.62	0.62
14	Wages & salaries	1560.68	1847.87	1850.37			2665.41	2911.95	2983.14	3281.46	3609.60
	percent of GSDP	4.43	4.80	4.25			5.42	5.24	4.75	4.62	4.50
15	Gross purchase goods & services	563.99	413.81	675.17			692.72	782.77	884.53	999.52	1129.46
	percent of GSDP	1.60	1.07	1.55			1.41	1.41	1.41	1.41	1.41
16	Net loans & advances plus equity	331.97	719.26	638.72	365.08	490.87	590.30	667.03	753.75	851.74	962.46
	percent of GSDP	0.94	1.87	1.47			1.20	1.20	1.20	1.20	1.20
	Subsidies (ECO)	52.03	58.19	106.13							
	Grants (ECO)	271.51	318.90	308.96							
	Bud. - Eco (discrepancy)	526.21	636.71	760.40							
	Subsidies (% discrepancy)	16.08	15.43	25.57							
	Grants (% discrepancy)	83.92	84.57	74.43							
17	Subsidies adj.	136.65	156.44	300.55			172.17	194.55	219.84	248.42	280.72
	percent of GSDP	0.39	0.41	0.69			0.35	0.35	0.35	0.35	0.35
18	Grants adj	713.10	857.36	874.94			885.44	1000.55	1130.62	1277.60	1443.69
	percent of GSDP	2.02	2.23	2.01			1.80	1.80	1.80	1.80	1.80
19	Other current transfers	64.26	231.89	101.00			73.79	83.38	94.22	106.47	120.31
	percent of GSDP	0.18	0.60	0.23			0.15	0.15	0.15	0.15	0.15
20	Capital outlay	711.43	457.74	470.32			180.89	506.04	549.62	113.80	197.10
	percent of GSDP	2.02	1.19	1.08			0.37	0.91	0.88	0.16	0.25

			94-95	95-96 (R.E.)	96-97 (B.E.)	96-97 (R.E.)	97-98 (B.E.)	97-98 P	98-99 P	99-2000 P	2000-01 P	2001-02 P
21	Revenue deficit		741.76	351.38	888.33			895 01	682.05	762 51	1335.46	1403.76
		percent of GSDP	2 10	0 91	2.04			1.82	1.23	1 21	1.88	1 75

***Source* :** GoP, DoF, relevant years; and GoP, ESO. 1994/95 - 1996/97. Projections start with the year 1997/98.

Notes : * Adjustments to budgetary figures of own non-tax revenue to obtain figures given here are detailed in table 2 1 upto 1996-97 (R E). The non-tax increase in 1996/97 (RE) over BE) of the order of Rs. 330 crore, and a further increase by Rs. 180 crore to 1997/98 (B E.) is principally on account of an increase in lottery receipts from Rs. 22.27 crore (1996/97 BE) to Rs 354.41 crore (1996/97 RE) and Rs. 454.41 crore (1997/98 BE), with expenditure continuing to remain at Rs. 15 58 crore in both years, indicating a large expected jump in net lottery receipts These are different from the lottery spikes in *both* revenue and expenditure in 1994/95 and 1995/96. Actuals may be far lower

1. Expenditure figures by economic category correspond exactly for the base years to those in table 2.3; see notes to that table
2. The sudden jump in shared taxes from the Centre in 1998/99 is because of distribution of VDIS collections (see appendix G).
3. The debt stock and interest figures in the base years are the reported figures, which incorporate debt and interest write-offs Debt written off in 1995/96 included interest due that year, which accounts for the fall in interest payments. Interest on gross incremental debt for the projection years is calculated at 13.25% Interest on old debt is calculated at the average interest rate of the preceding year. Details in text of appendix F.

Table F.2: Reform Scenario # 1

(Rs. crore)

		94-95	95-96 (R.E.)	96-97 (B.E.)	96-97 (R.E.)	97-98 (B.E.)	97-98 P	98-99 P	99-2000 P	2000-01 P	2001-02 P
1	GSDP	35260.00	38524.00	43532.12			49191.30	55586.16	62812.37	70977.97	80205.11
	Debt and interest calculations										
i	**Debt stock (start-of-year)**	10500.00	12150.00	13630.46			15039.21	16582.11	18216.66	20041.09	22342.09
	percent of GSDP	29.78	31.54	31.31			30.57	29.83	29.00	28.24	27.86
ii	**GFD = net borrowings**						1666.20	1855.13	2065.88	2301.00	2563.32
iii	**Debt write off**			88.07			123.30	220.58	241.45		
iv	**Matured debt renewed**						3007.84	3316.42	3643.33	4008.22	4468.42
v	**Gross incremental debt (ii+iv)**			4222.91			4674.04	5171.55	5709.21	6309.22	7031.74
vi	**Interest on gross incremental debt**						559.54	619.31	685.23	756.47	835.97
vii	**Interest on old debt**						1214.27	1403.96	1591.50	1791.48	2037.78
viii	**Total interest (vi+vii)**	1243.69	881.65	1530.20	1679.71	1828.59	1773.81	2023.27	2276.73	2547.96	2873.75
	Interest rate	11.84	7.26	11.23			11.79	12.20	12.50	12.71	12.86
ix	**Interest write-off**						460.86	550.57	517.90		
x	**Interest net of write off (viii-ix)**	1243.69	881.65	1530.20			1312.95	1472.70	1758.83	2547.96	2873.75
	percent of GSDP	3.53	2.29	3.52			2.67	2.65	2.80	3.59	3.58
2	Own gross tax revenue	2598.67	2738.50	3056.28	2806.79	3147.40	3474.78	3917.67	4416.22	4977.51	5609.52
	percent of GSDP	7.37	7.11	7.02			7.06	7.05	7.03	7.01	6.99
	Devolution to local bodies						109.00	116.00	124.00	133.00	141.00
	percent of GSDP						0.22	0.21	0.20	0.19	0.18

		94-95	95-96 (R.E.)	96-97 (B.E.)	96-97 (R.E.)	97-98 (B.E.)	97-98 P	98-99 P	99-2000 P	2000-01 P	2001-02 P
3	Net own tax revenue after devolution	2598.67	2738.50	3056.28			3365.78	3801.67	4292.22	4844.51	5468.52
	percent of GSDP	7.37	7.11	7.02			6.84	6.84	6.83	6.83	6.82
4	Shared taxes from Centre	424.33	447.50	521.72	528.35	603.76	610.50	936.62	885.85	1033.93	1207.64
	percent of GSDP	1.20	1.16	1.20			1.24	1.68	1.41	1.46	1.51
5	Total tax revenue (3+4)	3023.00	3186.00	3578.00			3976.29	4738.29	5178.07	5878.44	6676.15
	percent of GSDP	8.57	8.27	8.22			8.08	8.52	8.24	8.28	8.32
6	Own non- tax revenue	462.00*	578.00*	561.00*	889.24*	1068.95	860.43	939.23	1022.76	1111.45	1205.75
	percent of GSDP	1.31	1.50	1.29			1.75	1.69	1.63	1.57	1.50
7	Grants received	274.00	500.00	591.00	593.84	950.00	656.41	741.74	838.17	947.13	1070.25
	percent of GSDP	0.78	1.30	1.36			1.33	1.33	1.33	1.33	1.33
8	Total non-tax revenue (6+7)	736.00	1078.00	1152.00			1516.84	1680.97	1860.92	2058.57	2276.00
	percent of GSDP	2.09	2.80	2.65			3.08	3.02	2.96	2.90	2.84
9	Total revenue receipts (5+8)	3759.00	4264.00	4730.00			5493.13	6419.26	7039.00	7937.02	8952.16
	percent of GSDP	10.66	11.07	10.87			11.17	11.55	11.21	11.18	11.16
10	Gross fiscal deficit	1785.16	1528.38	1997.37			1666.20	1855.13	2065.88	2301.00	2563.32
	percent of GSDP	5.06	3.97	4.59			3.39	3.34	3.29	3.24	3.20
11	Total expenditure (9+10)	5544.16	5792.38	6727.37			7159.33	8274.39	9104.88	10238.02	11515.48
	percent of GSDP	15.72	15.04	15.45			14.55	14.89	14.50	14.42	14.36
12	Interest net of write off	1243.69	881.65	1530.20			1312.95	1472.70	1758.83	2547.96	2873.75
	percent of GSDP	3.53	2.29	3.52			2.67	2.65	2.80	3.59	3.58

		94-95	95-96 (R.E.)	96-97 (B.E.)	96-97 (R.E.)	97-98 (B.E.)	97-98 P	98-99 P	99-2000 P	2000-01 P	2001-02 P
13	Pensions	218.39	226.36	286.10			305.67	345.41	390.31	441.05	498.39
	percent of GSDP	0.62	0.59	0.66			0.62	0.62	0.62	0.62	0.62
14	Wages & salaries	1560.68	1847.87	1850.37			2628.40	2822.67	2832.49	3059.08	3303.81
	percent of GSDP	4.43	4.80	4.25			5.34	5.08	4.51	4.31	4.12
15	Gross purchase goods & services	563.99	413.81	675.17			692.72	782.77	884.53	999.52	1129.46
	percent of GSDP	1.60	1.07	1.55			1.41	1.41	1.41	1.41	1.41
16	Net loans & advances plus equity	331.97	719.26	638.72	365.08	490.87	500.00	500.00	500.00	500.00	500.00
	percent of GSDP	0.94	1.87	1.47			1.02	0.90	0.80	0.70	0.62
	Subsidies (Eco)	52.03	58.19	106.13							
	Grants (Eco)	271.51	318.90	308.96							
	Bud. - Eco (discrepancy)	526.21	636.71	760.40							
	Subsidies (% discrepancy)	16.08	15.43	25.57							
	Grants (% discrepancy)	83.92	84.57	74.43							
17	Subsidies adj.	136.65	156.44	300.55			172.17	194.55	219.84	248.42	280.72
	percent of GSDP	0.39	0.41	0.69			0.35	0.35	0.35	0.35	0.35
18	Grants adj	713.10	857.36	874.94			880.72	944.03	1015.57	1096.41	1187.75
	percent of GSDP	2.02	2.23	2.01			1.79	1.70	1.62	1.54	1.48
19	Other current transfers	64.26	231.89	101.00			73.79	83.38	94.22	106.47	120.31
	percent of GSDP	0.18	0.60	0.23			0.15	0.15	0.15	0.15	0.15
20	Capital outlay	711.43	457.74	470.32			592.92	1128.88	1409.09	1239.11	1621.29
	percent of GSDP	2.02	1.19	1.08			1.21	2.03	2.24	1.75	2.02

			94-95	95-96 (R.E.)	96-97 (B.E.)	96-97 (R.E.)	97-98 (B.E.)	97-98 P	98-99 P	99-2000 P	2000-01 P	2001-02 P
21	Revenue deficit		741.76	351.38	888.33			573.28	226.25	156.79	561.89	442.03
		percent of GSDP	2.10	0.91	2.04			1.17	0.41	0.25	0.79	0.55

Source: GoP, DoF.: relevant years and GoP, ESO 1994/95 - 1996/97. Projections start with the year 1997/98.

Notes: * For this and other notes see table F.1

1. The changes in reform scenario #1 relative to the baseline apply in respect of gross own tax and own non-tax revenues, and rows 14,16 and 18 of expenditure The fiscal gain is shown in rows 20 and 21.

Table F.3: Reform Scenario # 2

(Rs crore)

		94-95	95-96 (R.E.)	96-97 (B.E.)	96-97 (R.E.)	97-98 (B.E.)	97-98 P	98-99 P	99-2000 P	2000-01 P	2001-02 P
1	GSDP	35260.00	38524.00	43532.12			49191.30	55586.16	62812.37	70977.97	80205.11
	Debt and interest calculations										
i	**Debt stock (start-of-year)**	10500.00	12150.00	13630.46			15039.21	16582.11	18216.66	20041.09	22342.09
	percent of GSDP	29.78	31.54	31.31			30.57	29.83	29.00	28.24	27.86
ii	**GFD = net borrowings**						1666.20	1855.13	2065.88	2301.00	2563.32
iii	**Debt write off**			88.07			123.30	220.58	241.45		
iv	**Matured debt renewed**						3007.84	3316.42	3643.33	4008.22	4468.42
v	**Gross incremental debt (ii+iv)**			4222.91			4674.04	5171.55	5709.21	6309.22	7031.74
vi	**Interest on gross incremental debt**						559.54	619.31	685.23	756.47	835.97
vii	**Interest on old debt**						1214.27	1403.96	1591.50	1791.48	2037.78
viii	**Total interest (vi+vii)**	1243.69	881.65	1530.20	1679.71	1828.59	1773.81	2023.27	2276.73	2547.96	2873.75
	Interest rate	11.84	7.26	11.23			11.79	12.20	12.50	12.71	12.86
ix	**Interest write-off**						460.86	550.57	517.90		
x	**Interest net of write off (viii-ix)**	1243.69	881.65	1530.20			1312.95	1472.70	1758.83	2547.96	2873.75
	percent of GSDP	3.53	2.29	3.52			2.67	2.65	2.80	3.59	3.58
2	Own gross tax revenue	2598.67	2738.50	3056.28	2806.79	3147.40	3474.78	3917.67	4416.22	4977.51	5609.52
	percent of GSDP	7.37	7.11	7.02			7.06	7.05	7.03	7.01	6.99
	Devolution to local bodies						109.00	116.00	124.00	133.00	141.00
	percent of GSDP						0.22	0.21	0.20	0.19	0.18

		94-95	95-96 (R.E.)	96-97 (B.E.)	96-97 (R.E.)	97-98 (B.E.)	97-98 P	98-99 P	99-2000 P	2000-01 P	2001-02 P
3	Net own tax revenue after devolution	2598.67	2738.50	3056.28			3365.78	3801.67	4292.22	4844.51	5468.52
	percent of GSDP	7.37	7.11	7.02			6.84	6.84	6.83	6.83	6.82
4	Shared taxes from Centre	424.33	447.50	521.72	528.35	603.76	610.50	936.62	885.85	1033.93	1207.64
	percent of GSDP	1.20	1.16	1.20			1.24	1.68	1.41	1.46	1.51
5	Total tax revenue (3+4)	3023.00	3186.00	3578.00			3976.29	4738.29	5178.07	5878.44	6676.15
	percent of GSDP	8.57	8.27	8.22			8.08	8.52	8.24	8.28	8.32
6	Own non-tax revenue	462.00*	578.00*	561.00*	889.24*	1068.95	860.43	939.23	1022.76	1111.45	1205.75
	percent of GSDP	1.31	1.50	1.29			1.75	1.69	1.63	1.57	1.50
7	Grants received	274.00	500.00	591.00	593.84	950.00	656.41	741.74	838.17	947.13	1070.25
	percent of GSDP	0 78	1.30	1.36			1.33	1.33	1.33	1.33	1.33
8	Total non-tax revenue (6+7)	736.00	1078.00	1152.00			1516.84	1680.97	1860.92	2058.57	2276.00
	percent of GSDP	2 09	2.80	2.65			3.08	3.02	2.96	2.90	2.84
9	Total revenue receipts (5+8)	3759.00	4264.00	4730.00			5493.13	6419.26	7039.00	7937.02	8952 16
	percent of GSDP	10.66	11.07	10.87			11.17	11.55	11.21	11.18	11.16
10	Gross fiscal deficit	1785.16	1528.38	1997.37			1666.20	1855.13	2065.88	2301.00	2563.32
	percent of GSDP	5.06	3.97	4.59			3.39	3.34	3.29	3.24	3.20
11	Total expenditure (9+10)	5544.16	5792.38	6727.37			7159.33	8274 39	9104.88	10238.02	11515.48
	percent of GSDP	15 72	15.04	15.45			14.55	14.89	14.50	14.42	14.36
12	Interest net of write off	1243.69	881.65	1530.20			1312.95	1472.70	1758.83	2547.96	2873.75
	percent of GSDP	3 53	2 29	3.52			2.67	2.65	2.80	3.59	3.58

		94-95	95-96 (R.E.)	96-97 (B.E.)	96-97 (R.E.)	97-98 (B.E.)	97-98 P	98-99 P	99-2000 P	2000-01 P	2001-02 P
13	Pensions	218.39	226.36	286.10			305.67	345.41	390.31	441.05	498.39
	percent of GSDP	0.62	0.59	0.66			0.62	0.62	0.62	0.62	0.62
14	Wages & salaries	1560.68	1847.87	1850.37			2640.09	2836.20	2847.45	3075.97	3322.87
	percent of GSDP	4.43	4.80	4.25			5.37	5.10	4.53	4.33	4.14
15	Gross purchase goods & services	563.99	413.81	675.17			979.45	1069.47	1181.56	1300.09	1431.52
	percent of GSDP	1.60	1.07	1.55			1.99	1.92	1.88	1.83	1.78
16	Net loans & advances plus equity	331.97	719.26	638.72	365.08	490.87	500.00	500.00	500.00	500.00	500.00
	percent of GSDP	0.94	1.87	1.47			1.02	0.90	0.80	0.70	0.62
	Subsidies (Eco)	52.03	58.19	106.13							
	Grants (Eco)	271.51	318.90	308.96							
	Bud. - Eco (discrepancy)	526.21	636.71	760.40							
	Subsidies (% discrepancy)	16.08	15.43	25.57							
	Grants (% discrepancy)	83.92	84.57	74.43							
17	Subsidies adj.	136.65	156.44	300.55			172.17	194.55	219.84	248.42	280.72
	percent of GSDP	0.39	0.41	0.69			0.35	0.35	0.35	0.35	0.35
18	Grants adj	713.10	857.36	874.94			880.72	944.03	1015.57	1096.41	1187.75
	percent of GSDP	2.02	2.23	2.01			1.79	1.70	1.62	1.54	1.48
19	Other current transfers	64.26	231.89	101.00			73.79	83.38	94.22	106.47	120.31
	percent of GSDP	0.18	0.60	0.09			0.15	0.15	0.15	0.15	0.15
20	Capital outlay	711.43	457.74	470.32			294.50	828.66	1097.09	921.66	1300.17
	percent of GSDP	2.02	1.19	1.08			0.60	1.49	1.75	1.30	1.62

			94-95	95-96 (R.E.)	96-97 (B.E.)	96-97 (R.E.)	97-98 (B.E.)	97-98 P	98-99 P	99-2000 P	2000-01 P	2001-02 P
21	Revenue deficit		741.76	351.38	888.33			871.70	526.47	468.79	879.34	763.15
		percent of GSDP	2.10	0.91	2.04			1.77	0.95	0.75	1.24	0.95

Source: GoP, DoF, relevant years and GoP, ESO 1994/95 - 1996/97. Projections start with the year 1997/98.

Notes:
* For this and other notes see table F.1.

1. The changes in reform scenario #2 relative to reform scenario #1 apply in respect of rows 14 and 15 of total expenditure The fiscal impact is shown in rows 20 and 21.

Table F.4: Debt Projections

(Rs. crore)

		Annual growth rate	On 1.4.96	On 1.4.97	On 1.4.98	On 1.4.99	On 1.4.2000	On 1.4.2001
1.	Market borrowings	10%	1864.28	2050.71	2255.78	2481.36	2729.49	3002.44
2.	Loans from Centre	12%	9952.71	11147.04	12484.68	13982.84	15660.78	17540.08
3.	Provident Fund and Group Insurance	6%	1813.47	1929.53	2053.02	2184.42	2324.22	2472.97
	Total start-of-year stock		13630.46	15127.28	16793.48	18648.61	20714.49	23015.49
	(Percentage of GSDP)		31.31	30.75	30.21	29.69	29.18	28.70

Source: GoP, DoP, 1997.

Notes: These figures of start-of-year debt stock are before adjustment for the Central debt write-off. See table F.1 for figures adjusted for the debt write-off.

Appendix G: Own revenue buoyancies and Punjab's projected share of central taxes

Estimates of buoyancy: taxes and non-tax revenues

Tax buoyancies have been derived by using data for 1980/81 - 1995/96. The buoyancy estimates are obtained by estimating a double-log equation of the following type:

$$\ln T_i = \alpha_i + \beta_i \ln GSDP \qquad (1)$$

where

T_i	=	Revenue from ith tax.
β_i	=	Buoyancy of ith tax.
GSDP	=	Gross state domestic product (factor cost) at current prices.

The results are reported in table G.1. Some changes in the taxation of motor transport were made in Punjab during 1993/94, whereby a special road tax was levied on vehicles by the transport department in lieu of passenger and goods tax. Consequently, revenue from taxes on passengers and goods declined sharply from 1993/94, and revenue from motor vehicles tax shot up significantly during the same period. Two separate buoyancies have therefore been estimated for taxes on vehicles by adding one slope dummy in equation 1; thus:

$$\ln T = \alpha + \beta \ln GSDP + \gamma \ln GSDP{*}D \qquad (2)$$

where

D = 0 for 1980/81 - 1992/93; 1 for 1993/94 - 1995/96.

The estimated values of β and γ with t values in parentheses are 0.81 (15.96) and 0.88 (11.79); these are the buoyancy coefficients for the periods 1980/81 - 1992/93 and 1993/94 - 1995/96 respectively.

There are three clear outliers in the data for own non-tax revenue in 1991/92 (accumulated subsidy/interest adjustment with PSEB), 1994/95 (single-digit lotteries) and 1995/96 (single-digit lotteries, plus the Central loan write-off, which is entered in the Finance Accounts as a non-tax receipt under the head "Unclaimed loans written off"). The impact of these was eliminated with an intercept dummy while estimating the buoyancy of own non-tax revenue.

Projection of central tax revenues: 1997-98 to 2001-02

The estimation described below was performed at NIPFP. Each of the major categories of Central Tax Revenues was separately projected: income tax, corporate tax, customs, Union excise duties and other Central taxes. The base for income tax and corporation tax is non-agricultural GDP. GDP in the manufacturing sector is taken as the tax-base for the Union excise duties, and total GDP at current market prices for the remaining two categories. Projections have been obtained by using buoyancy coefficients summarised in table G.2. Nominal growth rates assumed for GDP, non-agricultural GDP and GDP in the manufacturing sector for the period from 1998/99 to 2001/02 are 14.5, 17.5 and 18.5 percent per annum, respectively. For 1997/98, these rates are taken as 13.5, 16.0 and 17.5 percent, respectively.

Table G.1: Tax and Non-tax Buoyancies

	Taxes	80/81 - 95-96	80/81 - 92-93	93/94 - 95-96
1.	**Own tax revenue: Total**	0.98 (59.12)		
2.	Taxes on property and capital transaction	0.90 (17.38)		
3.	Sales tax	0.98 (46.49)		
	State sales tax: total	0.95 (32.91)		
	Sales tax on motor spirit	1.28 (24.88)		
4.	State excise	1.11 (54.71)		
5.	Taxes on vehicles		0.81 (15.96)	0.88 (11.79)
6.	**Own non-tax revenue: Total**	0.68 (13.16)		

Source: GoP, DoF, relevant years.
Note: t-values are in parentheses.
Estimated over the period 1980/81 to 1995/96 (Actual).

The share of States for 1997/98 (table G.3) is derived using the main devolution scheme of the Tenth Finance Commission, i.e. by applying 77.5 percent to income tax revenue, and 47.5 percent to Union excise duties after adjustment so that they are applicable to the net distributable amounts. For the period 1998/99 to 2001/02, the share of States is derived by applying 29 percent to the total Central tax revenues. For obtaining the shares of individual States, the aggregate share of the States is divided into three categories; share in respect of additional excise duty (3 percent of Central tax revenues), share in respect of deficit-based devolution (7.5 percent of the percentage contribution of Union excise duties to total Central tax revenues) and the balance meant for general devolution. Distributable revenues under these heads are given below. VDIS proceeds are included in the general devolution category, and are scheduled for 1998/99 notwithstanding a March 1998 announcement that Rs. 4000 crore out 5500 collected by 31 December 1997 would be given to States in the financial year 1997/98. The distribution of arrears is on the basis of the three categories indicated above. The shares of individual States differ by category, and the total is obtained by aggregation across categories. Punjab has a share of 1.461 percent of general devolution, and 3.422 percent of additional excise.

Table G.2: Central Taxes: Estimated Equations for Projections

Tax	Tax-base	Intercept	Buoyancy	Slope shift	Adj. R. Sq.
Income tax	NAG-GDP	-6.41532 (-17.57)	1.186855 (-41.58)		0.994
Corporation tax	NAG-GDP	-6.16335 (-11.30)	1.173351 (-27.51)		0.986
Customs	GDP	-2.97917 (-2.72)	0.977193 (-11.58)	-0.014542 (-2.22)	0.964
Union excise duties	GDP-manufacturing	0.622331 (-1.42)	0.834386 (-21.23)	-0.00862 (-2.70)	0.990
Other Central taxes	GDP	-5.17855 (-1.83)	0.958101 (-4.49)		0.635

***Source* (Basic Data):** CSO, relevant years and Quick Estimates for 1996/97; GoI, 1996-97(a) and 1997/98; and GoI 1996/97(b).

Note: Estimated over the period 1985-86 to 1996-97. GDP figures are at current market prices. All variables are in logs. Non-agricultural GDP and GDP in the manufacturing sector are at factor cost. Using non-agricultural GDP as the base for corporate tax entails leaving out the some part of agricultural GDP (e.g., plantations) that may have relevance for corporate tax. The effect is expected to be small. Figures in brackets are t-statistics.

Table G.3: Projections of Central Tax Revenues and States' Share

(Rs. crore)

Year	Income tax	Corporate tax	Customs	Union excise duties	Other central taxes	Total central taxes	Estimated share of States
1997-98	20944	22368	43374	55453	4508	146647	40458
1998-99	25362	27027	49412	63797	5133	170731	61877*
1999-2000	30712	32657	56292	73397	5844	198901	57681
2000-01	37190	39460	64129	84441	6653	231873	67243
2001-02	45035	47680	73057	97146	7575	270493	78443

Source: NIPFP projections (see text).

Notes: * This includes share of States in VDIS collections (Rs. 7365 crore) and arrears on account of changeover from the main to the alternative scheme of devolution (Rs. 5000 crore) proposed by the TFC.

Table G.4: Allocation of Share of States into Three Categories of Devolution

(Rs. crore)

Year	General devolution	Deficit based devolution	Additional excise duty	Total share of States
1997-98	33521	3408	3529	40458
1998-99	51760	4845	5272	61877
1999-2000	46657	5057	5967	57681
2000-01	54476	5811	6956	67243
2001-02	63651	6677	8115	78443

Appendix H: PSEB

Table H.1 shows financial indicators of PSEB excluding interest due to the State government. When interest due to the State government is included, (for comparability with States like Maharashtra and Kerala where interest dues are paid; see table H.2) cost per unit is higher in Punjab than the national average and clearly needs to be reduced. Average cost figures however are a function of the thermal/hydro mix, so the cost distance of the PSEB from the national average is not necessarily evidence of inefficiency.

The average tariff rate in Punjab has also consistently been below the national average (table H.2). With the zero-tariff charged to farmers in 1997/98, the average tariff will have dropped again. This move caused an additional loss of Rs. 206.60 crore in 1997/98 (see notes to table H.1). The total economic cost of the power subsidy across all categories of consumers, including interest payable to the State government, was Rs. 0.63 per Kwh in 1996/97. Aggregated across the 17188 MKwh generated that year, this yields a gargantuan annual loss of over Rs. 1000 crore.

Cost of supply is a function of type of generation. Table H.3 shows the wide variation between Punjab (52 percent thermal), Maharashtra (91 percent), Haryana (99 percent) and Kerala (0 percent). The national average is around 80 percent. Because of these variations, a direct comparison of cost per unit across States is not useful as an indicator of relative efficiency, nor are costs of supply broken down by type of generation in each State readily available.

The only indicator of relative efficiency is the plant load factor (plf), which is available for *thermal plants alone* (table H.4). The plf in Punjab has fallen after 1993/94 to levels below the national average, and is even below the average for the northern region. The share of operations and maintenance (O&M) in total cost has declined from 3.10 percent in 1992/93 to 2.69 percent in 1996/97 (table H.5). The share of O&M in total cost is lowest in Punjab among the sample States, and has remained below the national average throughout the nineties. In terms of absolutes per unit output, O&M expenditure has risen over the period per unit of sale, but remains below the national average and below levels in all the sample states (table H.6).

Even with efficiency improvements, the case for raising tariffs remains. The average tariff paid by farmers in Punjab in 1996/97 was well below the average tariff paid by the other sectors in Punjab, but higher than the national average by 11 paise/Kwh (see table H.7). In 1997 the tariff for farmers has been reduced to zero, violating the Common Minimum National Action Plan for Power agreed to by all State governments in 1996 for imposition of a minimum tariff on the agricultural sector of not less than fifty paise per Kwh, to be brought to 50 percent of the average cost in not more than three years. However, the new Presidential Ordinance of May 1998 which has replaced that earlier agreement removes any immediate tariff requirements on agricultural consumers. A 50 paise per unit levy on power for agriculturists will, using a consumption norm of 7822 units per annum for a 5 BHP motor, mean a monthly flat tariff of Rs.65.18/BHP. Results from a sample survey among farmers in Punjab by Julka (1993), presented in table H.9, show that the majority of respondents believe that tariffs for farmers should be a function of use. Not surprisingly, percentages of respondents preferring a flat-rate and holding-size tariff are positively and negatively correlated with farm size respectively. Surprisingly, industries pay a tariff lower than the national average. Domestic and commercial rates are however higher than the national average.

Table H.1: Financial Indicators of PSEB

(Rs.crore)

S. No.		93-94	94-95	95-96	96-97	97-98 (Est)
1.	Revenue receipts	1514.43	1927.98	2304.92	2616.14	2491.57
2.	Revenue expenditure	1546.09	1747.10	1967.77	2345.15	2584.21
2a.	O&M expenses	63.24	69.26	78.98	93.10	103.50
3.	Depreciation	173.88	295.62	339.32	307.05	356.50
4.	Interest (excluding State government)	108.29	116.29	128.60	196.31	285.53
5.	Retained surplus	-313.83	-231.03	-130.77	-232.37	-734.47
6.	Gross internal resources=(5)+*	-163.57	-248.35	-146.38	-122.37	-637.47
7.	Net borrowings	465.67	548.01	523.88	543.13	355.78
8.	Total resources for investment=(3)+(6)+(7)	475.98	595.28	716.82	727.81	74.81
9.	Gross generation (MKwh)	15383	16063	15795	17188	16809
10.	Investment=(8)/(9) (paise/Kwh generated)	30.94	37.05	45.38	42.34	4.46
11.	O&M expenses per unit output (paise/(9))	4.10	4.29	5.00	5.40	6.18

Source: PSEB, 1997.

Note: Estimated revenue from electricity sold to agriculture (206.60 cr.) has been deducted from total estimated revenue for 1997/98, because the tariff on agricultural consumption was reduced to zero after PSEB estimates for the year were prepared.

* Net change in inventories.

Finally, transmission and distribution losses amount to roughly 18 percent of electricity available. The PSEB has taken several steps recently to reduce T&D loss. These are:

1. tamper-proof meters for large consumers (almost 53 percent of total revenue is earned from these consumers);
2. parallel meters for loads of 1 mw and above and energy accounting at each substation.

Table H.2: Unit Cost of Production and Average Tariff

(paise per kwh gross generation)

	93-94		94-95		95-96		96-97	
	Cost	**Tariff**	**Cost**	**Tariff**	**Cost**	**Tariff**	**Cost**	**Tariff**
Punjab	143.50 (96.2)	89.74	162.40 (105.6)	109.70	186.70 (120.6)	125.30	200.90 (133.4)	137.90
Maharashtra	152.20	150.50	162.00	161.00	189.10	168.30	197.90	168.30
Kerala	98.32	81.40	107.41	93.90	127.6	98.50	145.70	106.50
Haryana	165.10	83.30	180.20	110.80	187.60	132.70	187.30	133.50
India	144.30	119.30	157.70	129.30	173.60	144.40	186.20	149.20

Source: PSEB, 1997, for table 1 & 2; for other States, GoI, 1997 (a).

Notes: 1. Unit cost = Total cost defined as revenue expenditure + depreciation + interest (**including interest due to State government**) per unit of gross generation. Figures in parentheses are unit cost when interest due to State government is excluded.

2. Figures for Punjab are different in GoI, 1997(a).

3. Except Punjab, other figures for 1995/96 are revised estimates and figures for 1996/97 are projected.

Table H.3: Power Generation By Source: 1995-96

(mkwh)

	Hydel	Thermal	Total
Punjab	7563.34 (47.9)	8232.05 (52.1)	15795.39
Haryana	23.00 (0.7)	3071.00 (99.3)	3094.00
Maharashtra	4410.00 (8.7)	46120.00 (91.3)	50530.00
Kerala	6700.00 (100.0)		6700.00
All India	72383.00 (19.1)	299470.00 (78.9)	379776.00

Source: GoI, 1997(a).

Notes: 1. Figures in parentheses are percentages of total.
2. Hydel and Thermal do not add up to total generation at the All India level because nuclear power generation was 7923 MKwh.

Table H.4: Thermal Plant Load Factor

(percent)

	92/93	93/94	94/95	95/96
Punjab	58.3	63.5	56.7	55.0
Haryana	49.9	40.3	44.7	42.9
Maharashtra	59.7	64.1	61.2	64.9
All India	57.1	61.0	60.0	63.0
Region				
Northern	62.0	64.0	59.1	62.0
Western	59.7	62.4	63.8	68.1
Southern	62.6	68.3	69.1	74.7
Eastern	39.8	44.8	43.7	42.7

Source: GoI, 1997(b).

Table H.5: Share of O&M in Total Cost

(percent)

States	92/93	93/94	94/95	95/96	96/97
Punjab	3.10	2.87	2.67	2.63	2.69
Haryana	4.19	4.22	4.83	5.03	5.14
Kerala	6.36	5.74	4.98	4.36	3.84
Maharashtra	5.76	5.84	6.35	6.25	6.42
All India	4.68	4.51	4.38	4.33	4.21

Source: GoI, 1997(b).
Note: The figures for 1996/97 are approximate.

Table H.6: O& M Expenditure Per Unit of Sale

(paise/kwh)

States	94/95	95/96	96/97
Punjab	4.36	4.64	5.06
Kerala	5.35	5.56	5.60
Haryana	8.70	9.43	9.63
Maharashtra	10.28	11.82	12.70
All India	6.90	7.44	7.85

Source: GoI, 1997(b).

Table H.7: Sector- wise Tariffs in PSEB (1996-97)

(paise/kwh)

States	Agriculture	Domestic	Commercial	Industrial	Rly. Traction	Outside state
Punjab	32.56	140.49	264.69	215.00	-	127.85
Haryana	50.00	145.00	145.00	245.00	245.00	139.60
Kerala	22.00	64.30	150.00	112.25	-	-
Maharashtra	18.20	125.00	233.00	263.60	245.00	255.78
All India	21.42	91.73	223.29	233.95	291.60	121.10

Source: GoI, 1997(b).
Note: Punjab figures are revised.

Table H.8: Consumer Category-wise Sales of Power: 1996-97

(percentage of total sale)

States	Agriculture	Domestic	Commercial	Industry	Rly. traction	Outside State	Others
Punjab	35.38	16.94	3.56	39.91	-	2.06	2.15
Haryana	41.37	20.17	3.19	24.54	0.96	0.78	8.97
Kerala	3.90	32.70	13.50	44.80	-	-	5.09
Maharashtra	30.58	10.28	2.47	36.56	2.15	0.36	17.62
All India	29.14	17.61	4.60	35.49	2.12	1.47	9.54

Table H.9 : Farmers' Responses on Preferred Basis of Determination of Electricity Charges

Farm Size (acres)	Flat Rate (%)	Size of the holding (%)	PSEB cost basis (%)	Electricity use basis (%)	Number of respondents
0 - 5	15	18	6	61	194
5 - 10	29	17	0	54	168
10 - 20	39	7	8	46	149
20 and above	44	4	6	46	50
All	28	14	4	54	561

Source: Julka, 1993.

Appendix I: Road transport undertakings

Punjab Roadways (PR) is a departmental undertaking; Pepsu Road Transport Corporation (PRTC) is non-departmental.

The most recent year for which a comparison is possible of gross surplus per bus to those in a few reference States is 1995/96 (table I.1). The figures show a wide disparity between PR (Rs. 1.9 lakh per bus), the lowest in the table, and PRTC (Rs. 2.8 lakh per bus). But the tax per bus, at Rs. 2.7 lakh for PRTC, almost wipes out its surplus, and at Rs. 2.3 lakh per bus for PR, exceeds its gross operating surplus (although as a departmental undertaking the tax entry for PR is purely notional). The tax per bus varies between PRTC and PR because it is in two parts: a motor vehicles tax of Rs. 500 per seat per annum, raised to Rs. 650 in September 1997; and a special road tax per passenger-km, which is worked out with respect to the scheduled (i.e. authorised) mileage, at an assumed rate of occupancy of 60 percent. The higher tax per bus for PRTC could therefore arise from either higher scheduled mileage or a fleet with more delux buses (on which a higher special road tax applies).

When tax payable approaches gross operating surplus, as it does for PRTC, the figures can only be accruals, not necessarily paid. PRTC owes tax arrears exceeding 50 crore (as of September 1997). The situation is in desperate need of reform. The following possibilities exist:

1. **Reduce the special road tax:** This is not acceptable to State authorities, since it will reduce taxes received from private road operators.

2. **Raise the gross operating surplus:**

   i. ***Raise tariffs:*** The gross fare, of 25 paise/km, is much below fares in neighbouring States of 37 paise (Haryana); 32 paise (Himachal Pradesh); 31 paise (Rajasthan).

   ii. ***Eliminate fare concessions:*** Even the low fare of 25 paise/km does not have to be paid by notified groups (students; the elderly; freedom fighters).

iii. ***Improve operating efficiency:*** Table I.2 shows that operating expenditure as a percentage of operating revenue for PRTC is among the lowest in the country. Staff productivity in both is above the national average, but vehicle productivity is lower than the national average. This suggests that the path to improved functioning for both is better vehicle maintenance through higher provision for O&M. The percentage of overaged buses in the fleet in 1996/97 was 47 percent for PR; 36 percent for PRTC.

Improvements in vehicle maintenance and fleet replacement both require generation of higher post-tax operating surplus, and therefore a tariff hike and elimination of concessions as prior conditions. **What is needed is not a revised tariff schedule so much as the grant of autonomy to PR and PRTC in tariff-setting.**

Table I.1: Selected Financial Indicators Per Bus (1995-96)

(Rs. 000)

	Gross operating surplus	Depreciation	Tax*	Interest	Net operating surplus
	(1)	(2)	(3)	(4)	(5=1-2-3-4)
Andhra Pradesh	250	90	120	10	30
Haryana	290	50	290	30	-80
Maharashtra	260	70	170	20	0
Punjab Roadways	190	60	230	10	-110
PRTC	276	55	268	66	-113

Source: GoI 1995; and PRTC 1997-98.

Note: * This is the sum of motor vehicles tax and a special road tax. For Punjab Roadways, a departmental undertaking, the tax payable is purely notional.

Table I.2: Selected Efficiency Indicators

	Operating ratio (%)		Vehicles productivity (revenue earning kms per bus per day)		Staff productivity (revenue earning kms per worker per day)	
	93/94	**95/96**	**93/94**	**95/96**	**93/94**	**95/96**
Andhra Pradesh	76.66	74.52	299.00	306.00	38.10	N.A.
Haryana	59.69	68.66	313.00	302.00	56.70	55.50
Maharashtra	68.08	72.69	256.00	274.00	35.50	38.98
PR	67.33	76.27	247.00	241.00	46.00	46.20
PRTC	65.35	68.97	248.00	260.00	45.35	49.16
All India	78.61	78.61	266.00	266.00	37.50	37.50

Source: 1993/94 figures from GoI, 1995; and 1995/96 from Transport Department, Planning Commission.

Notes: Operating ratio = (Operating expenditure/operating revenue).

Appendix J: Feasible tax and non-tax revenue enhancements by sector and non-budgetary revenues

Tax revenue

A move to a VAT has not been factored in because it appears an unlikely prospect for the five-year projection horizon of this study. Even a phase-out of the CST appears unlikely, and so has not been worked into any of the projection scenarios.

Additional revenue mobilisation within the existing structure of sales taxation is possible in Punjab in at least two ways. These are as follows:

1. The Punjab State government has lately assumed a leadership role in attempting to achieve some rate coordination between States in the Northern Region,[1] so as to roll back competitive rate reductions, which have become the major instrument for attracting trade and business between States. An October 1997 agreement on floor rates for 15 commodities has been hammered out (table J.1) although Punjab itself may back out on diesel and tractors. The need for rate coordination had been agreed to in principle by an earlier Committee of Finance Ministers on Sales Tax Reforms, but this is the first regional follow-up on the suggestions of that Committee. The floor rates had not yet been notified by January 1998.

2. Every state including Punjab gives liberal tax incentives (table J.2) to encourage the inflow of capital into its jurisdiction. The revenue loss from these remains unquantified. To quote the Committee of Finance Ministers on Sales Tax Reform (NIPFP, 1996).
   "An important feature of the sales tax incentives is that it is difficult to estimate either its cost or benefits in promoting industrialisation of the economy. The cost in terms of tax exemptions or revenue foregone to the exchequer is extremely difficult to quantify" (2.214, p.11).
   The Committee recommendation that sales tax incentives should be phased out by 1 April 1997 has not been implemented. But the agreement between Finance Ministers of Northern States includes the decision to abolish all fiscal incentives by 1st April

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[1] The States were Jammu & Kashmir, Himachal Pradesh, Rajasthan, Punjab, Haryana, Delhi, Uttar Pradesh and Chandigarh.

1998 *(Recommendations of the Conference of Finance Ministers of Northern States*, Government of Punjab, October 1997).

The estimate of an additional Rs. 30 crore (initial) resulting from the floor rate agreement is not so much the result of a wide present disparity in Punjab as from the expected inflow into Punjab resulting from a rise in rates in other States. There is a (negative) trade creation aspect of such agreements which tends to get neglected in the focus on trade diversion. Once floor rates are agreed to, so that attention shifts towards infrastructure provision as a way of attracting industry, it is clearly in the interests of all States to move towards concerted rate reduction over time.

Table J.1: Floor Rates As Recommended by the Finance Ministers of the Northern States

	Items	Floor rates (%)	Present rate
1.	All automobiles except tractors	12	12*
2.	Air conditioners, refrigerators, washing machines, microwave ovens and other high value gadgets	12	12
3.	Other electrical items including transformers	8	12
4.	Petrol	12	12
5.	Diesel	10	4
6.	Tyres and tubes	10	12
7.	Electronic items	8	12
8.	Computers and computer software	4	12
9.	IMFL	20	12
10.	Country liquor	12	0
11.	Watches and clocks and spare parts and accessories	12	12
12.	Cement	10	12
13.	Marble/granite/tiles	12	12
14.	L.P.G.	10	0
15.	Auto parts	4	12

Source: GoP, DoEC, 1997.

Notes: * Motor cars and jeeps of engine capacity exceeding 1000 c.c 3.5
Two wheeler and three wheeler vehicles 3.0

Table J.2: Tax Incentives

Type of industries	Tax holidays	Cap on sales tax incentives in terms of fixed capital investment
New industrial units	7 - 10 years	(150-300)% of fixed capital investment
Electronic units	7 - 10 years	(150-300)% of fixed capital investment

Source: NIPFP, 1996.

Note: The incentive obtainable for any manufacturing unit within the ranges given is a function of location. For electronic units which came into production during 11.12.1986 to 24.6.1991, CST if applicable is at the rate of 1 percent for a period of 7 years, after which both GST and CST are at 3.5 percent for 3 years.

Non-tax revenue

The implicit rates of subsidy in each sector as estimated for 1993/94 (NIPFP, 1997) are given in table 2.4. Since these rates are obtained from total expenditure **including explicit subsidies**, compression of expenditure including explicit subsidies is an alternative to containment/reduction of the implicit rate of subsidy. The non-tax revenues required with retention of the 1993/94 rates of implicit subsidy applied to baseline, i.e. uncompressed expenditure, were judged infeasible in the course of discussions with state officials. The feasible non-tax revenue targets used in reform scenario #1 were identified after discussion with State level officials; they are explained and justified below.

The absolute sectoral non-tax revenue targets (discussed below) are inclusive of interest, as contrasted with Budget documents which list interest and dividend receipts separately from sectoral receipts.

1. ***General public service*** covers the following sub-sectors:

- Recruitment
- Lotteries
- Police
- Jails
- Stationery and printing
- Public works

Of the feasible incremental recovery of Rs. 135 crore, Rs. 125 crore is from the planned introduction of on-line State lotteries, patterned on the National Lottery of England. So far the net annual revenue (actuals) to the exchequer from lotteries have ranged between

Rs. 5-26 crore, even during the 1994-95 experiment with single-digit lotteries (which caused, however, revenue and expenditure spikes; see appendix D). The dramatic increase expected in net revenues from introduction of on-line lotteries is because it is expected to extend participation upmarket to hitherto untapped socioeconomic groups.

Although the start originally scheduled for 1997/98 has been delayed by denial of permission for foreign collaboration from the Central Foreign Investment Promotion Board, the scheme remains in the works and is expected to start in 1998-99, but there could be other snags resulting from a High Court judgement that all lotteries must be State-operated, with gross expenditures and receipts recorded in budget figures (the on-line system is contracted out to a private operator, who pays a guaranteed amount to the State). It has been phased in starting 1997/98 in scenario #3, however, to demonstrate the counterfactual advantage that could have accrued.

Although there is a great deal of scope for raising fees for recruitment examinations conducted by the Public Service Commission and for other recoveries, the only other source from which Rs. 10 crore can feasibly be raised is from tolls on bridges and roads now under construction. The requirements as per NTDC norms for annual and periodic maintenance of the 15,000 kilometres of arterial road in Punjab have exceeded actual expenditures so consistently in the past that roads and bridges are in a dangerous state of disrepair. No additions to arterial road length have been attempted in the last twenty years. Link roads built at field level when paddy was not as widely cultivated as it is today are now periodically flooded and need to be raised. The State government has passed an ordinance permitting private participation in construction of public works, on which tolls can be levied. These collections will accrue to the private operators of the new facilities. The Rs. 10 crore additionally possible is only on those new facilities to be built and operated by the State government.

2. ***Education:*** School education is free for all students upto Class VIII and free for girl students and students from Scheduled and Backward Castes and Tribes upto class XII (50 percent of all seats are reserved for Scheduled/Backward Castes/Tribes and children of ex-servicemen).

The incremental revenue of Rs. 15 crore can only come from college level education.

1. Tuition fees collected by the State government have remained unrevised for so long that officials do not remember the last revision. Only contributions towards an amalgamated fund retained by the college have been increased from time to time. These remain with the college and do not go towards teacher salaries.

2. Examination fees are low and can be raised. The objective should be to cover the costs of examinations at a minimum. A recent hike in examination fees in Punjab University encountered no opposition and could be replicated elsewhere.

Officials thought a Rs. 15 crore yield from examination and tuition fee hikes should be feasible, followed by small six-monthly increments.

3. ***Health:*** A Punjab Health System Corporation was set up in 1996-97 covering 150 hospitals of the level of Community Health Centre and above. The Corporation upgrades facilities with the aid of a soft World Bank loan (70 percent), State government grants (30 percent) and loans (10 percent).

User charges in the 150 hospitals are levied at the same rate as in other hospitals in the State. Collections have improved because of the upgradation of facilities, but are entirely retained by the hospitals concerned, unlike collections from hospitals not covered by the corporation, which accrue to the State exchequer. Thus the burden of servicing the World Bank loan (after a five-year loan moratorium) will be borne by the State government, to which the charges levied on beneficiaries of the loan do not at present accrue. It is thought that five years hence, user charges on all improved facilities could be enhanced. At that stage, there could perhaps be a ear-marking of a portion of the enhanced charge for servicing of the loan.

Meanwhile, the Rs. 15 crore feasible revenue increase projected for the next five years cannot be from the Health Corporation but will have to come from hospitals outside the system. User charges although revised in 1991 are in general very low and not levied on all diagnostic tests. Where levied, the charges are around 20-30 percent of those charged in equivalent private facilities, and consultation remains free. There is thus considerable scope for raising of an additional Rs. 15 crore, with a slight rise in the fee charged on the most widely used diagnostic tests.

4. ***Other social sectors:*** No incremental revenues are seen as feasible from the public health, housing, water supply and social welfare sectors. Water supply is for the most part supplied by independent bodies (local/municipal) with very little direct involvement by the State government.

5. ***Agriculture:*** The most that can be raised from agriculture is zero incremental non-tax revenues. The major service provided is agricultural extension, and it is thought that no charge can possibly be levied here. Possible increases from the few revenue sources available (government-run farms) will have to compensate for the eventual withdrawal of

proceeds from auction of market yards, which is the largest single source of agriculture sector revenue (see section J.3). All input provision (fertiliser, seeds) has been hived off into independent corporations whose revenues from sales do not accrue to the State government.

6. ***Irrigation:*** The irrigation department in Punjab has been incurring losses since 1994/95 (table J.3). The losses are due to low, infrequently revised rates. The department denies that arrears are a contributory factor. The situation became worse in 1997/98 with the abolition of irrigation charges. The Committee on Pricing of Irrigation Water (Government of India, 1992) strongly recommended that irrigation rates should cover operation and maintenance costs, depreciation and interest on capital. Poor performance of irrigation systems in India (Gulati, Svendsen, and Roy Choudhury, 1995) has been attributed to poor cost recovery and consequent paucity of funds.

Table J.3: Financial Indicators of Major and Medium Irrigation in Punjab

(Rs. crore)

		94/95	95/96	96/97 R.E.	97/98 B.E.
A.	Gross receipts	31.45	30.14	33.47	1.45
B.	Gross expenditure	119.40	134.12	139.13	136.01
B.i.	Working expenditure	63.74	72.97	88.57	85.45
B.ii.	Interest charges	55.66	61.15	50.56	50.56
C.	Net receipts (A-B)	-89.95	-103.98	-105.66	-134.56

Source: DoF, relevant years.
Notes: The expenditure figures do not include depreciation.

The Rs. 50 crore increment in revenues presupposes.

i. Rs. 30 crore from reversal of the 1997 policy to give irrigation water free to farmers. This should be relatively easy to do politically, because farmers are the first to experience the damage caused by profligate use of irrigation water.

ii. Rs. 20 crore initially from a gradual increase in water rates (*aabyana*) which, although recently raised with effect from *Rabi* 1993-94, remain very low. The present rates on some principal crops show scope for increase by a factor of 4-5 over the next five years. An initial increase of two-thirds, implicit in the additional revenue of Rs. 20 over the present level of around Rs. 30 crore (prior to zero-rating) is a conservative estimate of the incremental revenue possible.

Present canal water rates for all canal systems in Punjab

i.	Commercial crops, i.e., sugarcane, cotton, oil seeds except sarson	Rs. 40 per crop per acre
ii.	Paddy	Rs. 40 per crop per acre
iii.	Wheat/maize/gram/sarson	Rs. 20 per crop per acre
iv.	Garden/orchards	Rs. 40 per half year
v.	Unspecified use for grass, improvement of land, etc.	Rs. 6 per acre

Note: Farmers who make their own arrangements for lifting water are charged 50 percent of the above rates.

7. ***Industry:*** Additional revenue of Rs. 4 crore from industry can be raised through a combination of the following:

i. Procedural improvements in auctioning of minor minerals such as sand from river beds.

ii. Raising the rental on sheds leased to village and small scale industries.

8. ***Power:*** The excess of interest owed by PSEB over the subsidy payable by government is of the order of Rs. 40 crore annually (see table J.4). A beginning can be made towards recovery of this with Rs. 20 crore payable annually in PSEB.

9. ***Transport and communication:*** The additional revenue of Rs. 5 crore here is from higher fares on Punjab Roadways. The present gross fare per kilometre of 25 paise is much below fares in neighbouring States of 37 paise (Haryana); 32 paise (Himachal Pradesh); 31 paise (Rajasthan).

Table J.4: Subsidy and Interest Due

(Rs. crore)

	Beginning of 94-95	During 94-95	Beginning of 95-96	During 95-96	End 95-96
Subsidy	1338.02	421.95	1759.97	468.49	2228.46
Interest due	1594.89	449.54	2044.44	512.89	2557.33
Interest due-subsidy	256.87	27.59	284.47	44.40	328.87

Source: PSEB, 1995-96.
Notes : The subsidy due in 1995/96 is the disputed figure resulting from use of a 15 percent rate of return and also a capital base inflated by Rs. 220.77 resulting from inclusion of assets leased in (see PSEB, Annual Statement of Accounts 1995-96, p. iii).

10. ***Residual sectors:*** These include civil defence; culture, recreation and religious; relief operations; information and publicity; non-conventional sources of energy; tourism; civil supplies; other scientific research. Tourism is the source from which additional revenue of Rs. 6 crore at an initial minimum should be possible, from package tours designed for the large expatriate community from the State.

Non-budgetary revenues

A 4 percent fee which does not accrue to the State exchequer is charged in Punjab on purchase/sale of all agricultural produce in designated market yards (an additional 1 percent cess was discontinued in March 1987). Of this 4 percent, 2 percent goes as a market fee to Market Committees for development and maintenance of market yards. The remaining 2 percent is a rural development fee, passed on to the Rural Development Fund operated by the Rural Development Board. Total income from these fees was Rs. 307.38 crore in 1996/97 (table J.5), more than 54 percent of the State's own non-tax revenue.

The revenue from auction of sheds in market yards should properly accrue to the Market Committees that built them, so that the funds can be rolled over for development of further market yards and facilities, but the auction proceeds have been accruing to the State government instead (see section J.2: agriculture).

Table J.5: Income from Market Fees/Rural Development Fees

(Rs. crore)

Year	Amount
1991-92	214.00
1992-93	242.00
1993-94	277.62
1994-95	322.94
1995-96	293.12
1996-97	307.38
1997-98 (target)	360.00

Source: Unpublished document of Government of Punjab.

Appendix K: Devolution to local bodies

The State Finance Commission in Punjab was constituted under Articles 243-I and 243-Y of the Constitution of India to recommend principles for assigning taxes, sharing of taxes and assignment of grants-in-aid to Municipalities and *Panchayats*.

1. The Punjab government in its office order dated September 13, 1996 accepted the following recommendations of the State Finance Commission regarding devolution with effect from 1 January 1997.

a. Sharing 20 percent of the net proceeds of the five stipulated State taxes.

b. Assignment of total land revenue to *Gram Panchayats* and any land revenue cesses recommended by *Zilla Parishads*.

The SFC recommendations (see <u>Report</u>, 1995) in respect of the above were:

i. Total land revenue should be assigned to the *Gram Panchayats*. Cesses can be recommended by the *Zilla Parishad*, with rights of levy and collection retained by the State government. The formula for distribution of the proceeds of cesses is as follows:

Gram Panchayat	: 50 percent
Panchayat Samitis	: 30 percent
Zilla Parishads	: 20 percent

ii. Of the net proceeds of five taxes at present levied and collected by the State, 20 percent should be given to Municipalities and *Panchayats*. The five taxes are:

1. Stamp duty
2. Punjab motor vehicles tax (includes special road tax)
3. Electricity duty
4. Entertainment tax
5. Show tax (cinematographic shows).

The principles for the distribution of these taxes amongst the Municipal Bodies and *Panchayati Raj* Institutions have also been specified.

2. Implications for the 1997-98 budget and subsequent years

Land revenue has been abolished in Punjab during 1997/98, so that the issue of sharing land revenue with *Panchayati Raj* Institutions does not arise.

The amounts due to local bodies (20 percent of the five shareable taxes) have been taken as calculated from the Report of the State Finance Commission. **However, that document, as also the 1997/98 Budget, classifies this flow as a Plan grant, whereas in our projections it has been treated as a deduction from tax revenues.**

3. The SFC Report also recommends the following principles for grants:

Principles of grants-in-aid: The grants-in-aid policy of the State should be based on the following principles:

a. The system of grants should be transparent and predictable.
b. The grants should be related to the fiscal needs and the taxable capacities of the local bodies.
c. Grants should be untied rather than tied to any specific government policy.
d. Grants should never be used for salaries and wages.

Based on these principles, the Commission recommends that grant-in-aid should be given to weak Municipalities to bring them to par with the average per capita income of the size class to which they belong. A general purpose grant should normally be resorted to for correcting the fiscal disability of a Local Body only after it has put into use its tax power, has availed itself of the share of State taxes, apart from having put in the normative own revenue effort.

Specific purpose grants: The Commission recommends that the following principles be kept in view while transferring specific purpose grants to local bodies.

a. The grants should be conditional and matching.
b. The local bodies should be accountable to the higher levels of government for proper utilisation of these grants.
c. Provision should exist for cover of emergency expenditure incurred by the local bodies.
d. Full cost of State functions entrusted to the local bodies, such as elections and census should be reimbursed to the local bodies by the State government.

4. Finances of municipalities

Approximately 60 percent of total revenue of municipalities is from municipal taxes (table K.1). In the same year, over 98 percent of the total municipal tax income was from two sources: octroi (86 percent) and property tax (13 percent).

To quote the Report of the First State Finance Commission for Punjab, "Although it is true that there are constraints on municipal taxation by way of state controls, it is also true that municipalities have been unwilling to fully utilise the tax instrumentalities at their disposal. There has been a failure to realise the full potential of other taxes such as advertisement tax which holds a high promise of sizeable income" (p. 68).

Own non-tax revenue constituted 16 percent of the total revenue of the municipalities (from water supply, sewerage charges, rents and licence fee). Additional excise duty on liquor which is imported within the municipal limits, is levied and collected by the state at the rate of 7 percent on country liquor and 16 percent on Indian made foreign liquor in their respective areas. For 1993-94, additional excise duty accounted for 12.39 percent of the total municipal income.

State transfers to the municipalities are in the form of grants which are disbursed through District Planning Boards for specific schemes, approved by the state or the District Planning Boards. During 1993-94, state transfers constituted 11.35 percent of the total revenues of the municipalities. Therefore, municipalities, by and large, depend on their own resources for meeting their expenditure liabilities.

Municipalities incur unduly large expenditure on staff (almost 48 percent of total expenditure; see table K.2). Despite government instructions on limiting the expenditure on establishment to a fixed percentage of the budget, municipalities evade these restrictions by booking expenditure on staff under development heads.

Total expenditure accounted for 86 percent of the total income in 1993-94. This marginal surplus, however, indicates neither self-sufficiency nor affluence of the municipalities. "Considering the less than desirable level of municipal services and vast number of urban population, who are totally deprived of civic amenities, it would be obvious that as compared to their total expenditure responsibilities of providing desirable level of civic services to the urban population , the resources at the disposal of the municipalities are far too meagre and inadequate" (ibid. p.77).

Table K.1: Total Revenue of the Municipalities for 1989-90 and 1993-94 Average Annual Growth Rate

Components of revenue	**89/90** (Rs. crore)	**93/94** (Rs. crore)	**Average annual growth rate (in %)**
Own tax revenue	87.93 (68.73)	159.75 (59.80)	20.42
Property tax	12.38 (14.08)	20.01 (12.53)	15.41
Octroi	74.26 ((84.45))	137.35 ((85.98))	21.23
Advertisement tax	0.24	0.49	27.11
Vehicle/ animal tax	0.08	0.12	14.37
Entertainment tax	0.29	0.30	0.15
Show tax	0.17	0.30	19.63
Others	0.51	1.17	32.68
Additional excise duty on liquor	8.57 (6.70)	33.09 (12.39)	71.52
Own non-tax revenue	20.65 (16.14)	43.98 (16.46)	28.23
Own revenue (I+II+III)	117.15 (91.75)	236.82 (88.65)	25.54
State transfers	10.78 (8.43)	30.33 (11.35)	45.32
Grants	-	29.11	-
Loans	-	1.22	-
Total revenue (I+II+III+IV)	127.93 (100.00)	267.15 (100.00)	27.20

Source: GoP, DoF, 1995.

Notes:
i. Figures in single parentheses refer to the respective component of revenue expressed as a percentage of total revenue.
ii. Figures in double parentheses refer to the respective tax expressed as a percentage of total tax revenue.

Table K.2: Municipal Expenditure for 1989-90 and 1993-94.

(Percent of income)

Expenditure under various heads	Expenditure (Rs. crore) 1989-90	Expenditure (Rs. crore) 1993-94	Expenditure as a % of income 89/90	93/94
Salaries, wages and contingencies	47.92 (40.20)	108.50 (47.32)	37.00	41.00
Water supply	16.94 (14.21)	30.50 (13.00)	13.00	11.00
Street light	-	10.01 (4.00)	-	4.00
Public health/sanitation	24.87 (20.87)	36.45 (16.00)	19.00	14.00
Fire services	-	2.50 (1.00)	-	0.94
Slum improvement	-	1.85 (1.00)	-	0.69
Roads & bridges	10.69 (8.97)	24.58 (11.00)	8.00	9.00
Others	18.76 (15.74)	14.90 (7.00)	15.00	6.00
TOTAL	119.18 (100.00)	229.29 (100.00)	92.00	86.63

Source: GoP, DoF, 1995

Notes: Figures in parentheses refer to the respective expenditure items expressed as a percentage of the total expenditure.

5. Finances of panchayati raj institutions

Transfers from the State government constitute 65 percent of total income of *Panchayati Raj* Institutions (table K.3). Income from own taxes is less than 1 percent of total income; own non-tax income accounts for 35 percent.

Almost 90 percent of the total expenditure of *Panchayati Raj* Institutions was incurred by *Gram Panchayats* (table K.4). Total expenditure of *Panchayati Raj* Institutions showed an average annual growth of 7.59 percent over the period 1991-94. *Zilla Parishads* spent 86 percent of their income on the Administration and the Panchayat Samitis spent 79 percent. *Gram Panchayats* spent a very small proportion of their income on administration. This reflects the supervisory role of the *Zilla Parishads* and the *Panchayat Samitis.*

Table K.3: Total Revenue of *Panchayati Raj* Institutions: 1991-94

(Rs. crore)

S. No.	Components of revenue	Zila Parishads	Panchayat Samitis	Gram Panchayats	Total income of the Panchayati Raj Institu-tions	Average annual growth rate in total income (%)
	1	2	3	4	5=2+3+4	6
I.	Tax revenue	-	-	1.31 (0.66)	1.31 (0.60)	10.64
II.	Non-tax revenue	1.19 (43.12)	4.59 (24.86)	70.19 (35.64)	75.97 (34.82)	39.01
III.	Transfers from the government	1.57 (56.88)	13.87 (75.14)	125.46 (63.69)	140.90 (64.58)	32.45
	Total revenue of the three-tiers (I+II+III)	2.76 (100.00)	18.46 (100.00)	196.96 (100.00)	218.18 (100.00)	34.44

Source: GoP, DoF, 1995.

Notes: i. Figures in parentheses refer to the respective component of revenue expressed as a percentage of the total revenue.

ii. *Zilla Parishads* and *Panchayat Samitis* do not levy any taxes.

Table K. 4: Total Expenditure of *Panchayati Raj* Institutions: 1991-1994

(Rs. crore)

Expenditure under various heads	*Zilla Parishads*		*Panchayat Samitis*		*Gram Panchayats*		Total expenditure of the *Panchayati Raj* Institutions	
	1993-94 (Rs. crore)	Average annual growth rate (%)	1993-94 (Rs. crore)	Average annual growth rate (%)	1993-94 (Rs. crore)	Average annual growth rate (%)	1993-94 (Rs. crore)	Average annual growth rate (%)
Establishment & staff	3.20 (86.72)	4.42	10.70 (79.55)	8.28	N.A.			
Contingencies	0.35 (9.49)	20.00	2.40 (17.84)	26.92				
Contri. to kh. par	0.01 (0.27)	0.00	-	-				
Sports/ tournaments	0.13 (3.52)	-15.78	-	-				
Loan repayment	-	-	0.35 (2.60)	26.09				
Total expenditure of the three-tiers	3.69 ((2.15))	4.42	13.45 ((7.83))	11.30	154.56 ((90.01))	7.37	171.70 ((100.00))	7.59

Source: GoP, DoF, 1995.

Notes:
i. Figures in single parentheses refer to the respective expenditure item of the three-tiers of the *Panchayati Raj* Institutions, expressed as a percentage of their total expenditure.
ii. Figures in double parentheses refer to the expenditure of the three-tiers expressed as a percentage of the total expenditure of the *Panchayati Raj* Institutions.
iii. N.A -The break-up of the total expenditure of *Gram Panchayats* is not available.

Appendix L: Spending gaps

Irrigation

Table L1 calculates the required expenditure on maintenance from the irrigated acreage potential in Punjab (broken down by utilised/unutilised), using standard norms. These were the norms that underlay the Finance Commission estimates, which however were scaled down to feasible levels. The gap between the norm-based requirement and the Finance Commission figures is shown. The gap between required expenditure and that projected in reform scenario #1 is even larger. This is added on in reform scenario #2 to expenditure on materials *alone,* since this is the expenditure category that bears the burden of fiscal accommodation. The staff required for maintenance are already in place.

Roads

As in the case of irrigation, table L.2 calculates the required expenditure on maintenance from the road length in Punjab categorised by type, using standard annualised norms for each; and shows the gap between these and expenditure on roads projected in reform scenario #1. The latter are added on in reform scenario #2 to expenditure on materials alone.

Education

Additional expenditure here is not based on norms. Instead, the (net) staff freeze of reform scenario #1 has been released for staff in primary education alone, the wage/salary bill of which has been increased by 3 percent annually. Gross purchase of goods at all levels of education has been doubled in the last base year (1996/97), and increased thereafter by the rate of inflation for the projection years.

Table L1: Spending Gaps: Irrigation

(Rs. crore)

	96/97 lakh hectares	Exp. norms 95/96 prices (Rs/ha)	97/98	98/99	99/2000	2000-01	2001-02
		Required Expenditure					
Utilised potential	57.955	300	199.06	212.99	227.90	243.85	260.92
Unutilised potential	1.1687	100	1.34	1.43	1.53	1.64	1.75
Total	59.1233		200.40	214.42	229.43	245.49	262.68
		Tenth Finance Commission estimates					
Major & medium irrigation			92.05	97.55	102.99		
Minor irrigation			61.72	75.17	88.61		
Total			153.77	172.72	191.6		
		Reform scenario #1 * provision					
			82.57	95.53	105.70	119.26	134.59
Gap between required expenditure and reform scenario # 1			117.82 (0.24)	118.89 (0.21)	123.73 (0.20)	126.23 (0.18)	128.09 (0.16)
Gap between required expenditure and Finance Commission Estimates			46.63	41.70	37.83		

Source: Irrigated potential from ESO, 1997(a); and norms and Finance Commission estimates from GoI, 1994.

Notes: * Computed at 1.05% of total expenditure after adding on to aggregate expenditure across economic categories, the discrepancy between budget and economic classification aggregates (table D.2, appendix D).

Table L2: Spending Gaps: Roads

(Rs. crore)

	Road length kms	Exp. norms 1996-97 Prices Rs. lakh/km	97/98	98/99	99/2000	2000-01	2001-02
			Required Expenditure				
National highways	988	1.55	16.39	17.53	18.76	20.07	21.48
State highways	2401	1.01	25.95	27.77	29.71	31.79	34.02
Other PWD roads	36561	0.55	215.16	230.22	246.34	263.58	282.03
Other roads	17089	0.30	54.86	58.70	62.80	67.20	71.90
Total	57039		312.35	334.22	357.61	382.64	409.43
			Tenth Finance Commission Estimates				
			134.82	160.27	185.71		
			Reform scenario #1 * provision				
			148.63	171.96	190.26	214.67	242.26
Gap between required expenditure and reform scenario # 1			163.72 (0.33)	162.25 (0.29)	167.35 (0.27)	167.98 (0.24)	167.17 (0.21)
Gap between required expenditure and Finance Commission Estimates			177.53	173.95	171.90		

Source: Road Length from GoP, ESO, 1997(a); norms from GoI, 1996; Finance Commission estimates from GoI, 1994.

Notes: * Computed at 1.89% of total expenditure after adding on to aggregate expenditure across economic categories (table D.2, appendix D) the discrepancy between budget and economic classification aggregates.

Table L3: Spending Gaps: Education

(Rs. crore)

	96/97	97/98	98/99	99/2000	2000/01	2001/02
	Reform scenario #1 * provision					
Total	1009.78	1180.41	1365.69	1510.99	1704.86	1923.99
Primary education (wages & salaries)	333.43	389.77	450.95	498.93	562.94	635.30
Gross purchase of goods (all levels)	2.42	2.83	3.28	3.63	4.09	4.62
	Additional Required Expenditure					
Primary education (wages & salaries)	10.00	11.69 (0.02)	13.53 (0.02)	14.97 (0.02)	16.89 (0.02)	19.06 (0.02)
Gross purchase of goods (all levels)	4.85	5.19 (0.01)	5.55 (0.01)	5.94 (0.01)	6.35 (0.01)	6.80 (0.01)

Source: Table E.1 for components of expenditure on education.
Notes: * Computed at 15.01 of total expenditure after adding on to aggregate expenditure across economic categories (table D.2, appendix D) the discrepancy between budget and economic classification aggregates.

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