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] 199[illegible] the Total

States	Classes I to V			[illegible]			[illegible]es I to X		
	Male	Female	To[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Female	Total
Punjab	20.69	22.94	21.[illegible]	[illegible]			[illegible]	52.80	48.54
Haryana	1.60	6.81	3.9[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]			74.74	70.90

Source: CMIE, 1996.

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

([illegible]per thousand per annum)

Years	Birth rate						[illegible]ality rate		
	Rural	Urban	Total		[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]				44.0	64.0
1990	28.4	25.6	27.[illegible]					45.0	61.0
1991	28.5	25.6	27.7		[illegible]			[illegible]	[illegible]
1992	28.2	24.2	27.1		8.2			[illegible]	[illegible]
1993	27.7	22.6	26[illegible]	[illegible]5	[illegible]			[illegible]	[illegible]
1994	26.2	22.0	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]
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

	Expectant mothers			Infants (D.P.T) ([illegible] years)			[illegible]		
	Target	Achievements	Percentage of the [illegible]	[illegible]	Achievements	Percentage	Target	Achievements	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3,78,800	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

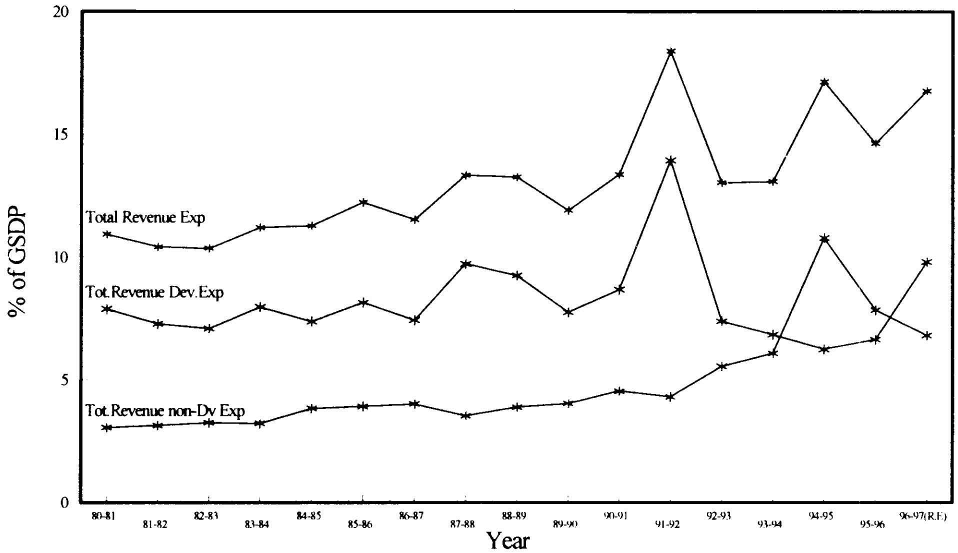


Chart C.2: Current Development Expenditure

Agriculture & Allied Activities

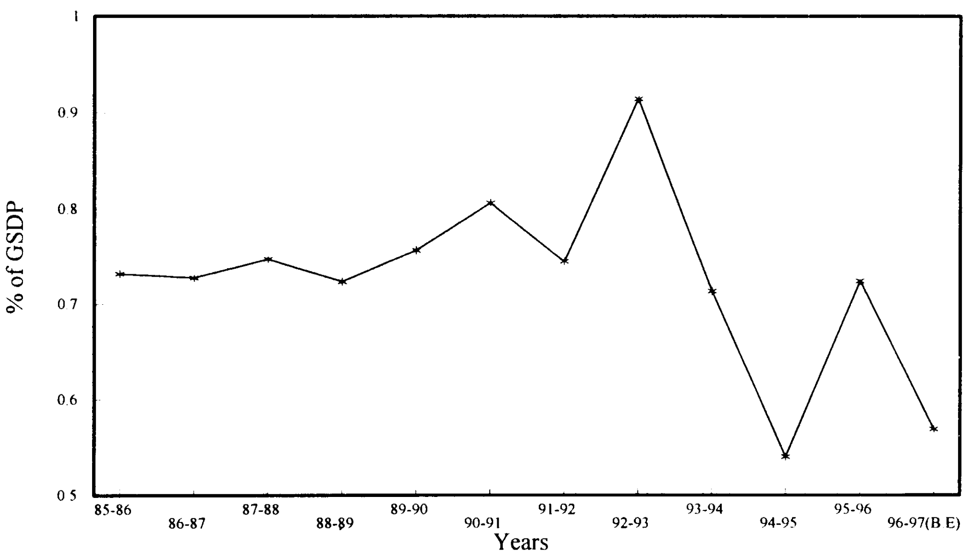


Chart C.2 cont'd.

Irrigation

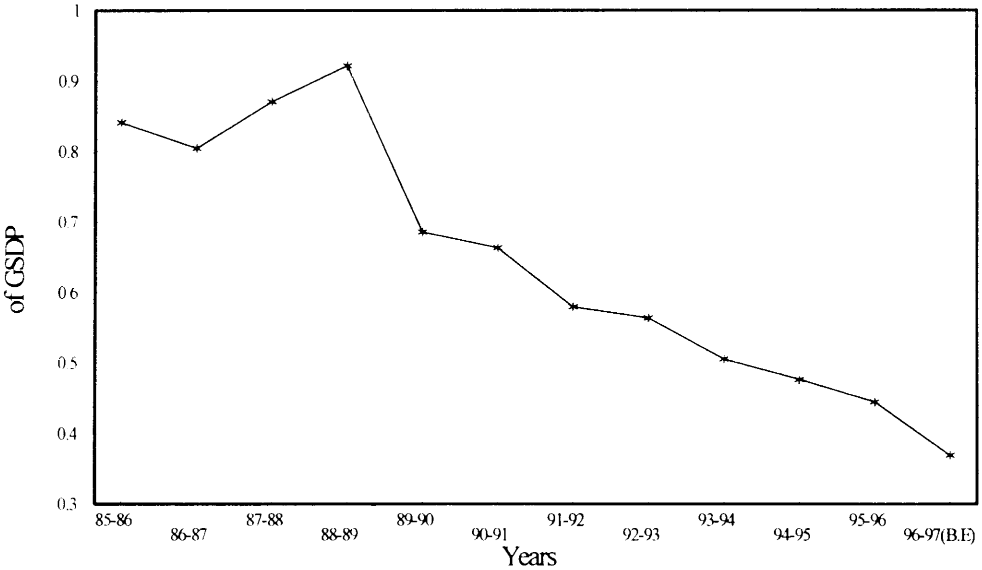


Chart C.2 cont'd.

Industry

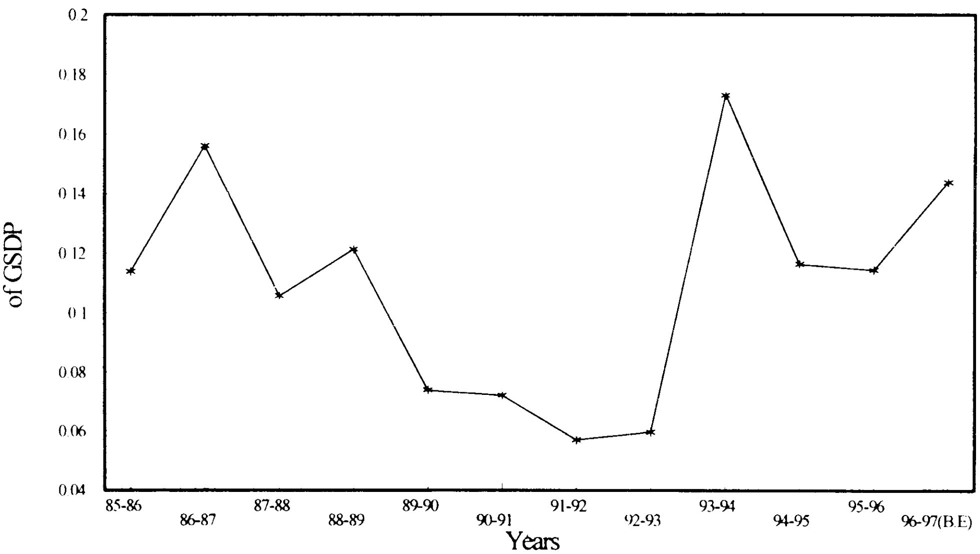


Chart C.2 cont'd.

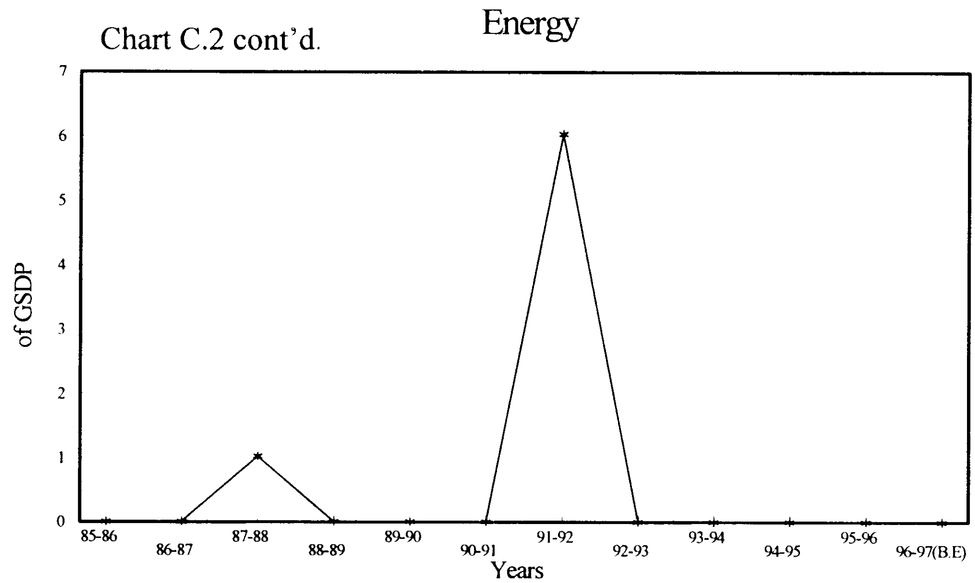


Chart C.2 cont'd.

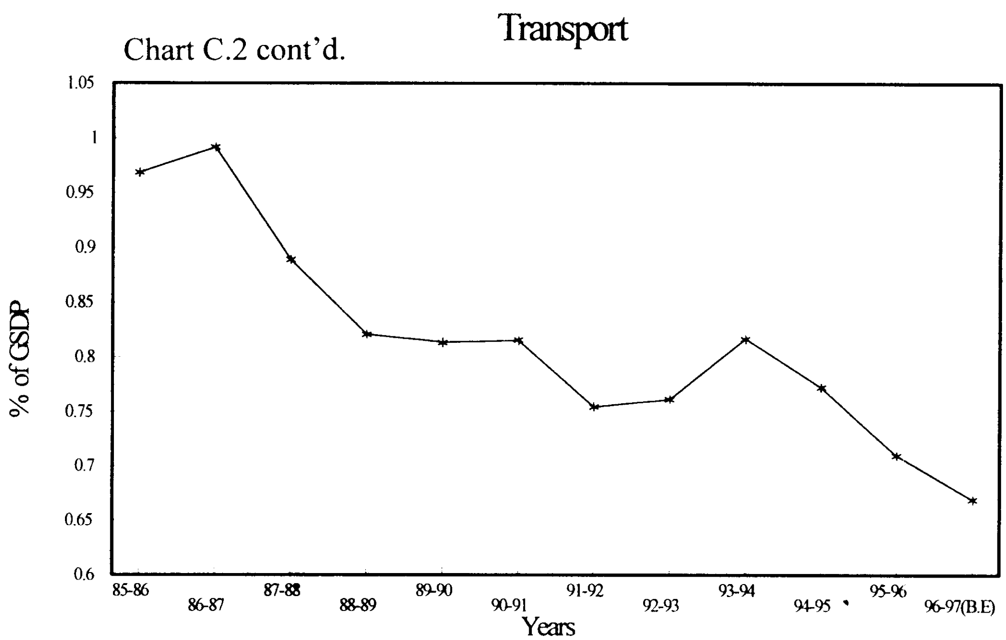


Chart C.2 cont'd.

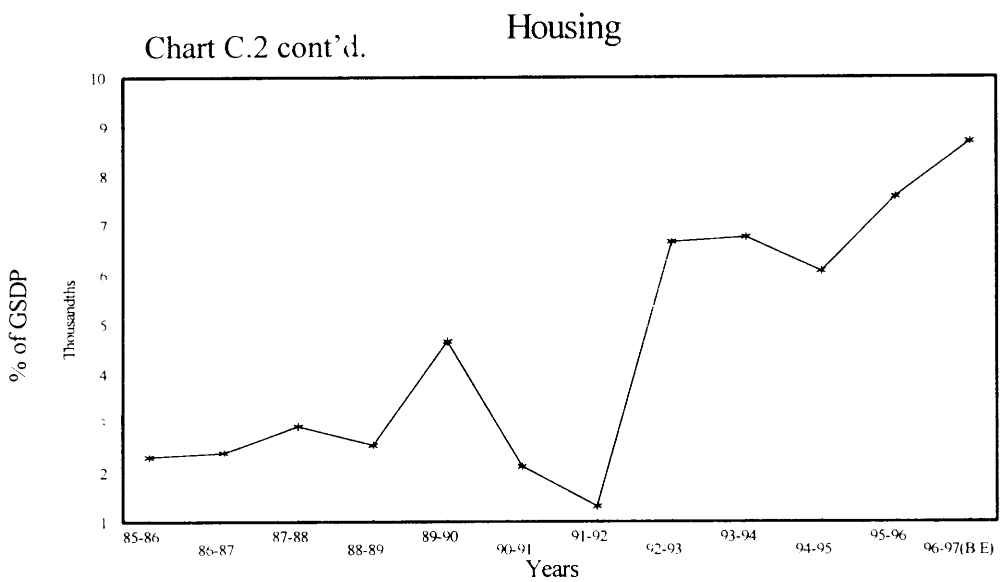


Chart C 2 cont'd.

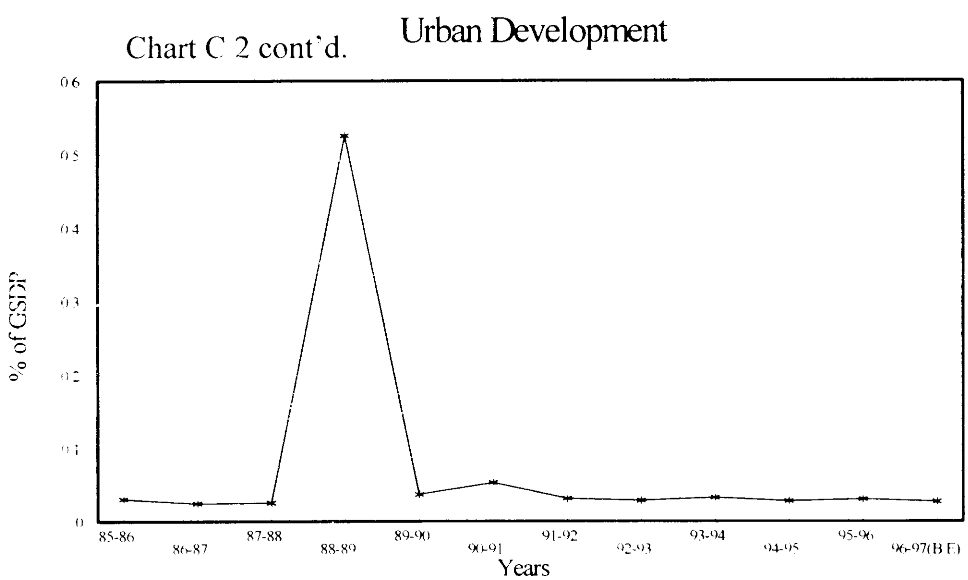


Chart C.2 cont'd.

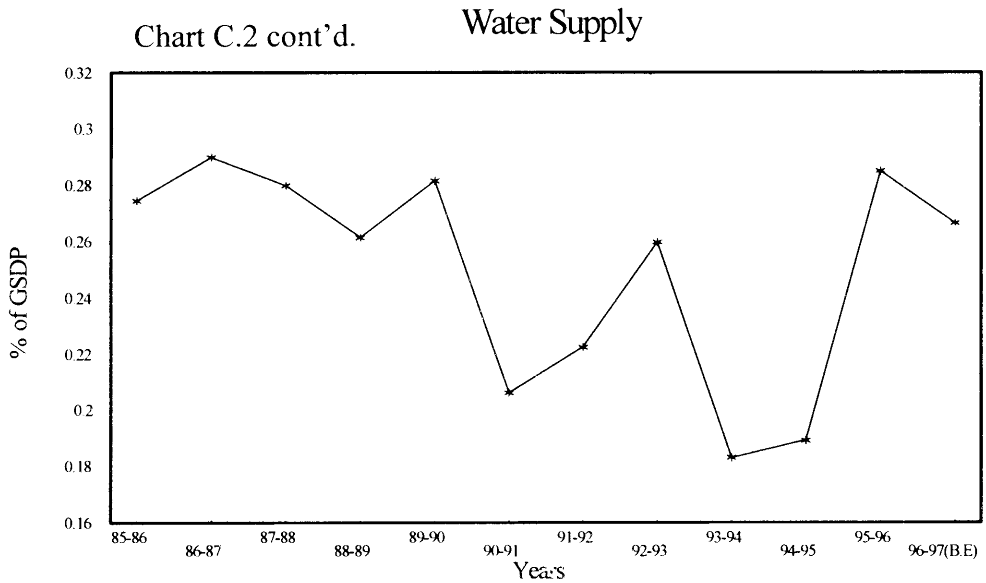
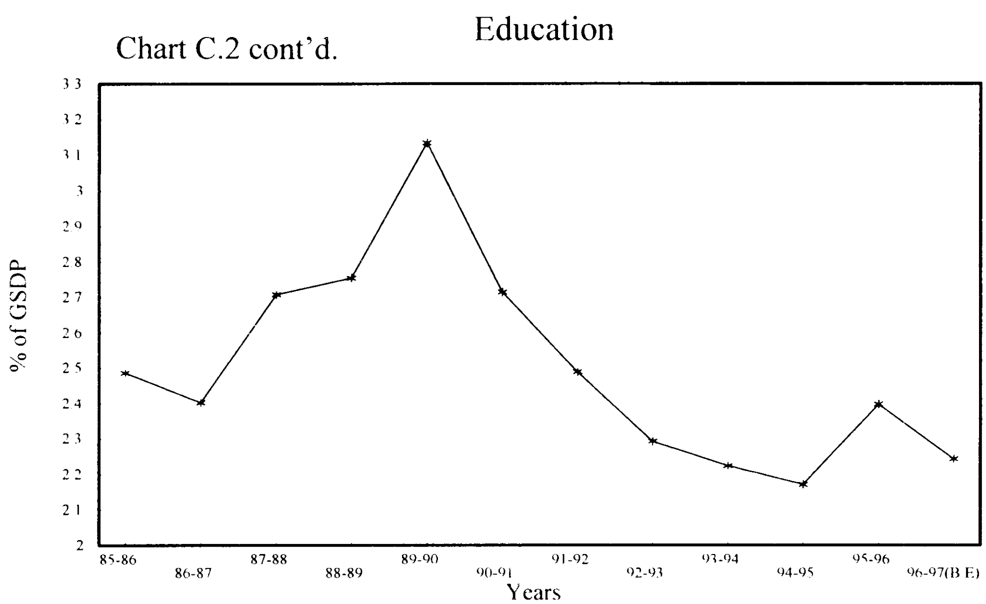


Chart C.2 cont'd.



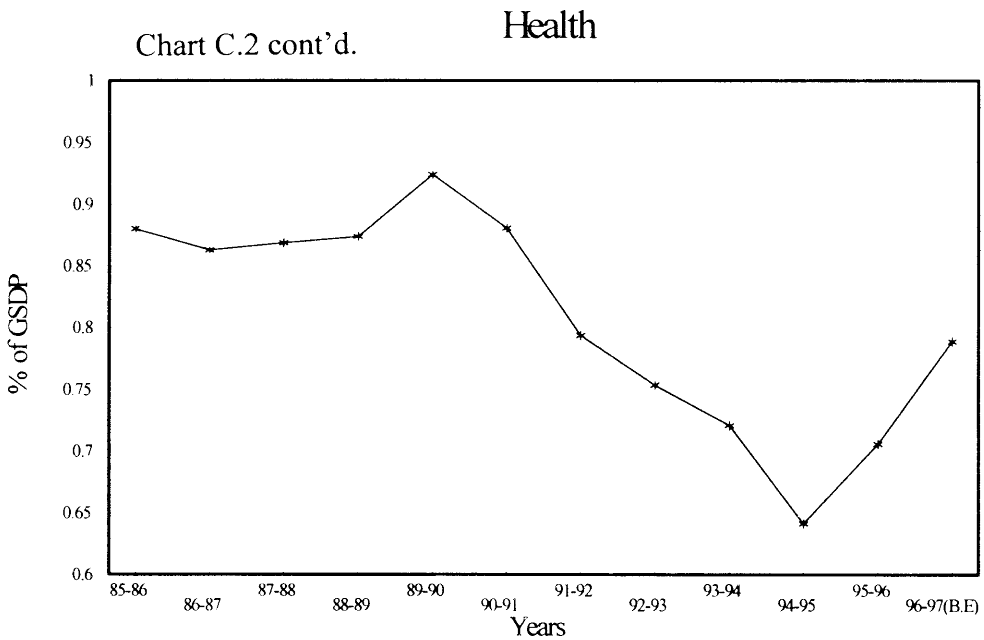


Chart C.2 cont'd.
Health
1
0.95
0.9
0.85
0.8
0.75
0.7
0.65
0.6
% of GSDP
85-86
86-87
87-88
88-89
89-90
90-91
91-92
92-93
93-94
94-95
95-96
96-97(B.E)
Years

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 expend iture	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:

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

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:

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

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 Report, 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 Institutions	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.