Chapter - I

Introduction

The Constitution of India provides for a federal system of polity and governance, originally envisaging a two-tier structure: Central (i.e., federal) Government and State (i.e., provincial) Governments. With the Constitution (73rd and 74th) Amendment Acts, 1992, rural and urban local bodies, i.e., Panchayati Raj Institutions (PRIs) and Urban Local Bodies (ULBs) have been accorded constitutional status as the third-tier of Government. All the three levels of the government have their duties defined and the sources of revenue enunciated in the domain of fiscal policy and the Constitution of the country. There is a mechanism of transfer of resources from the higher level of the government to the lower level through the Finance Commission of India and the State Finance Commissions for transfer from the centre to the states and states to local bodies respectively.

As the country developed the responsibilities of the state governments and the local governments increased, especially in the delivery of citizen-centric services. The critical role of state finances in the realignment and restoration of the macro-economic balance in the economy is well recognised particularly in the context of economic restructuring. In a liberalised economic environment, sub-national governments have to play a relatively more important role than in the past. The increased responsibility requires an augmentation in the resources available with the governing bodies at every level. The states of India enjoyed a healthy fiscal position up to the beginning of 1990s, even though the fiscal position of the Central Government started deteriorating in the early 1980s. The transition from a controlled economy towards a market oriented economy in the post-reform period necessitated heavy investment in infrastructure. The expenditure of the sub-national governments far out stripped their sources of revenue, thereby escalating fiscal imbalances in state finances. The poor fiscal health of the state governments was further exacerbated by the awards of the Fifth and Sixth Central Pay Commissions which led to a heavy burden of increased salaries, wages and pensions.

The political scenario in India has also undergone a change in the last two decades, with the national parties losing out to the regional parties in a major way. This also has impacted the state finances as also the finances of the central government as the governments are indulging in

competitive populism and extending a lot of sops and freebies to their constituents. This is aggravating the fiscal deterioration of all layers of the government and increasing the burden of subsidies and resulting in huge deficits in government finances. Keeping in view the declining trend in Central and State finances successive Finance Commission recommended that all the governments must manage their budgets and use the finances in the most effective and efficient manner. For this they urged the governments to enact Fiscal Responsibility and Budget Management Legislations comprising a Medium Term Fiscal Strategy and a roadmap for fiscal consolidation. Accordingly, Fiscal Responsibility and Budget Management Act (FRBMA), 2003 was enacted by the Government of India and was later followed by the state governments also. Fiscal Responsibility Legislations (FRLs) act as a watch dog for the governments to be careful in indulging in fiscal profligacy. It is important to study the finances of the governments in order to analyse the causes of fiscal deterioration and identify the path for fiscal correction and consolidation both for the Central and state governments. The second phase of fiscal consolidation (post FRBMA) started with the fiscal correction path recommended by the Thirteenth Finance Commission.

The present study has been taken up as a part of the endeavour of the Fourteenth Finance Commission (FFC) to elicit the views of academia, industry, civil society and all stake holders before making the recommendations regarding the sharing of resources between the centre and the states and local bodies. The Evaluation of State Finances with respect to Punjab has been taken up for the period 2002-03 to 2011-12 from the point of view of the sources of revenue, analysis of expenditure, debt and the overall fiscal situation of the State. This chapter introduces the state of Punjab briefly followed by Chapter –II on revenue position of the Government of Punjab (GOP). Chapter –III deals with the analysis of expenditure while Chapter-IV analyses the debt of the State. The next chapter will look into the fiscal imbalances and consolidation measures followed by Chapter-VI gives an overview of State Level Public Enterprises (SLPEs). Chapter- VII will be devoted to the finances of local bodies in Punjab. Finally the findings and recommendations will be summarised in Chapter –VIII. The present study shall focus on the analysis of different aspects of Punjab state finances, without devoting too much time to the historical developments as a lot of literature on the genesis of federal finance, the changes over time, importance of state public enterprises, etc. is available in the public domain.

Data and Methodology:

The sources of data on various parameters like finances, state income, population, etc. include the budget documents and Statistical Abstracts of the GOP, State Finances- A Study of Budgets published by the Reserve Bank of India (RBI) annually and the reports on several aspects of finances of the Government of Punjab by the Comptroller and Auditor General(CAG) of India. The reports of various Finance Commissions of India and State Finance Commissions have also been referred to wherever necessary. The information on several aspects of trends in state finances was sought from the officials of the GOP in the Department of Finance.

The analysis of revenues, expenditure, deficits, utilization of funds, etc. has been carried out using percentages and Compound Annual Growth Rates (CAGR) of different parameters. The revenue capacity, technical and allocativeefficiency of expenditure and debt sustainability have been studied using econometric techniques and indicator analysis explained in the respective sections and appendices.

Profile of Punjab Economy:

Economic

Punjab, in its present form, came into existence after the trifurcation of Indian Punjab, in 1966 and 1971 when Haryana and Himachal Pradesh were carved out of Punjab respectively.The state has borne the brunt of not only partition but two wars with Pakistan in 1965 and 1971 as also a decade long civil strife during the 1980s. It shares a sensitive border with Pakistan. The State has been a leader in ushering Green Revolution in India and enabling food security in the country. It is the largest contributor of food grains in the central pool.

Punjab was one of the fastest growing states of India in the 1970s and the 1980s. The data (GOP, 1992, 1994, 2010) show that when the average Compound Annual Growth Rate (CAGR) of Gross National Income in India was 4.08 percent in 1985-86, Gross State Income grew at a CAGR of 7.88 percent in Punjab; when it was 1.20 percentin India in 1991-92, it grew at 5.09 percent in Punjab. But when the same for the Indian economy was 9.52 percent in 2005-06, it was only 4.50percent in Punjab which was less than half of the all India figure. Similarly during the Tenth Five Year Plan (2002-07) the Gross National Income in India grew at 7.80 percent per annum and it grew at only 5.11 percent in Punjab. The average CAGR for various sectors of the economy of Punjab and India also shows similar results. When the growth rate of the primary

sector in India in 1985-86 was only 0.87 percent, it was 8.41percent in the case of Punjab and for the secondary sector the figures were 4.53 percentand 12.93 percentfor India and Punjab respectively; while the tertiary sectors growth rates were 7.05percent and 3.38 percent for India and Punjab for the same year. The situation remained the same in 1991-92 as well when the primary sector in the country grew at a negative rate; its growth rate was 5.85 percent in Punjab. But in 2005-06 the situation reversed and the All-India rates of growth of the primary, secondary and tertiary sectors were 5.75percent, 10.65percent and 10.59 percentrespectively while the same for Punjab were 1.94percent, 7.77percent and 4.73percent. During the Tenth Five Year Plan the annual rates of growth of all the three sectors of the Punjab economy improved and were 2.28percent, 7.75percent and 5.96percent for primary, secondary and tertiary sectors, but were still below the rates for the country as a whole which were 2.74percent, 9.40 percentand 9.37 percentrespectively. This shows a marginal improvement in the performance of the Punjab economy.

The State had the highest per capita income in the country up to 2003-04 when it started faltering. Punjab lost its 'numerouno' position gradually as its pace of growth slowed down during the 1990s and in 2005-06 it was at the third position in terms of per capita income amongst the major Indian states and in 2008-09 slipped to the sixth position (GOP, 2011). The rate of growth of the Punjab economy is much slower than the all-India growth rate as mentioned above, even though the poverty ratio in the State is only 15.9percent as compared to 29.8percent in India (GOP, 2012-13). However a matter of concern is the higher unemployment rate per thousand (66^{th} round of NSSO) in Punjab which was 42percent as compared to only 25percent at the all- India level.

Punjab, believed to be predominantly an agricultural economy, has undergone a structural change in terms of the contribution of various sectors to the Gross State Domestic Product (GSDP). As per the data provided in the Statistical Abstracts of Punjab (various issues), the primary sector contributed more than 57 percent to GDP in 1970-71, followed by the tertiary sector (26.87 percent) and the secondary sector (15.70 percent). But the contribution of GSDP originating in the primary sector declined to nearly 47 percent in 1990-91 and only 25.40 percent in 2009-10. The contribution of secondary sector increased to nearly 25 percent in 1990-91 and that of the tertiary sector remained more or less the same at about 28 percent. However, the contribution to GSDP from the tertiary sector has gone up to 44.8percent in the recent past

(2012-13)) and that of secondary sector more than 26percent during the same time. This clearly shows that the primary sector is no longer the leading sector in Punjab and the tertiary sector is contributing the maximum to GSDP in Punjab. The sector –wise growth rates in Punjab have also been lower than all-India average over the last few years. Annual compound growth rate of Gross National Income during the Tenth Five Year Plan was 7.80 percent and Gross State Income for Punjab was 5.11 percent. The following table summarizes the growth rates of different sectors in Punjab and India in the recent past:

Table 1.1: Growth Rate of Gross State/National Income

(percent)

Year	Punjab				India			
	Primary	**Secondary**	**Tertiary**	**Overall State Income**	**Primary**	**Secondary**	**Tertiary**	**Overall National Income**
Tenth Plan	2.28	7.75	5.96	5.11	2.74	9.40	9.37	7.80
2007-08	3.84	16.61	7.52	9.05	5.52	10.27	10.27	9.32
2008-09	2.05	4.22	9.57	5.85	0.36	4.66	9.98	6.72
2009-10 (R)	-0.32	8.79	8.63	6.29	1.47	9.46	10.5	8.59
2010-11 (P)	1.67	6.28	9.45	6.53	7.53	9.53	9.75	9.32
2011-12 (Q)	2.22	3.11	9.82	5.94	3.08	3.84	8.20	6.21

Source: Statistical Abstract of Punjab, 2011-12

Note: R-Revised, P-Provisional, Q-Quick Estimates

Demographic

The population of Punjab has grown at a rate of 13.73percentas per the Census of 2011 as compared to the Census of 2001, whereas it has grown at the rate of 17.64percen in the country as a whole. The density of population is also very high in the State at 550, when the same for the country as a whole is only 382. The proportion of Scheduled Caste (SC) population in the State is 31.9 percent as compared with all India average of 16.64 percent as per the Census of 2011. This requires more focus and expenditure on social welfare activities of the State. The literacy rate in Punjab (75.84) is about the same as the all-India average (74.04) as per the Census of 2011.

The level of urbanization in Punjab is much higher than the country as a whole. 37.5 percent population of Punjab lives in urban areas as compared to only 31.2 percent in India.

High rate of urbanization demands more civic amenities and higher expenditure on public services. Density of population in Punjab has always been higher than the country as whole. In 1951, it was 182 and 117 for Punjab and India respectively and in 2011 it was 550 and 382 for Punjab and India. This is mainly on account of migratory population in the State. Keeping in view the high rate of unemployment, proportion of SC population as also the high rate of urbanization, the expectation of the citizens of the State regarding social welfare/social security provision, civic amenities and opportunities for employment creation from the GOP are very high.

Having presented an overview of Punjab economy, the present study will present a fiscal profile of the State which will give an idea about the capacity of the State to carry out its responsibilities towards the citizens in terms of service delivery and the quality of public services in Punjab.

Chapter-II

Revenue Profile of Punjab

The Consolidated Fund of a State is the fund constituted under Article 266(1) of the Constitution of India, into which all receipts, revenue and loans flow. It consists of two main divisions namely Revenue Account (Revenue Receipts and Revenue Expenditure) and Capital Account (Public Debt and Loans). Revenue receipts of the states include states' own tax revenue (OTR), non-tax revenue, share of central taxes and grants in aid from the Government of India (GOI). State taxes include taxes on agricultural incomes, taxes on commodities and services which includes, sales tax/ Value Added Tax (VAT), state excise duty, taxes on passengers and goods, electricity duty and taxes on vehicles, taxes on property, land revenue and stamps and registration fees.

The following table shows the proportion of revenue and capital receipts of the Punjab government over the last one decade:

Table 2.1:Aggregate Receipts of the State

(Rs. Crores)

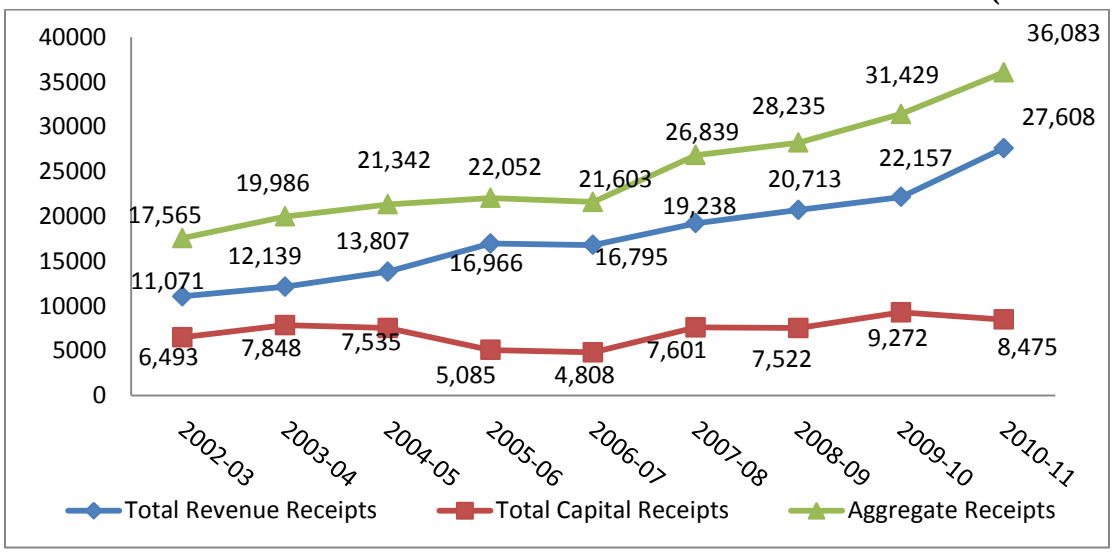
Year	Total Revenue Receipts	Total Capital Receipts	Aggregate Receipts
2002-03	11071.00 (63.03)	6493.00 (36.97)	17565.00 (100)
2003-04	12139.00 (60.74)	7848.00 (39.26)	19986.00 (100)
2004-05	13807.00(64.20)	7535.00 (35.30)	21342.00 (100)
2005-06	16966.00 (76.94)	5085.00 (23.06)	22052.00 (100)
2006-07	16795.00 (77.74)	4808.00 (22.26)	21603.00 (100)
2007-08	19238.00 (71.68)	7601.00 (28.32)	26839.00 (100)
2008-09	20713.00 (73.36)	7522.00 (26.64)	28235.00 (100)
2009-10	22157.00 (70.50)	9272.00 (29.50)	31429.00 (100)
2010-11	27608.00 (76.51)	8475.00 (23.49)	36083.00 (100)
CAGR	**11.29**	**3.34**	**8.67**

Source: RBI State Finances: A Study of State Budgets, various issues.
Note: Figure in parenthesis is percentto total.

Non- tax revenue receipts of the state government include interest receipts and dividends, irrigation, forests, public works, administrative services, social and developmental services. Share of central taxes is determined by the Finance Commission of India from the central pool of resources and grants-in-aid are given in case of natural calamities and for specific projects. Receipts on Capital Account include the Public Debt and Loans and Advances.

Figure 2.1: Aggregate Receipts of the State

(Rs. Crores)



Source: RBI State Finances: A Study of State Budgets, various issues.
Note: Figure in parenthesis is percentto total.

It is evident from the above table and figure that the rate of growth of revenue receipts in the State has been much higher than the capital receipts. The proportion of revenue receipts has increased over the years from nearly 63 percent to more than 76 percent over the period of study and consequently the share of capital receipts has come down from nearly 37 percent to 24 percent.

Keeping in view the larger contribution of revenue receipts to aggregate receipts, the pattern of revenue receipts will be examined in the following table:

Table 2.2: Pattern of Revenue Receipts

(Rs. Crores)

Year	Tax Revenue			Non-Tax Revenue			Total Revenue Receipts 7 (1+4)
	Total 1 (2+3)	Own 2	Share in Central Taxes 3	Total 4 (5+6)	Own 5	Grants From Center 6	
2002-03	6360.00 (57.45)	5711.00 (51.58)	649.00 (5.86)	4711.00 (42.55)	4036.00 (36.45)	676.00 (6.10)	11071.00 (100)
2003-04	6900.00 (56.84)	6146.00 (50.63)	754.00 (6.21)	5239.00 (43.16)	4666.00 (38.43)	573.00 (4.72)	12139.00 (100)
2004-05	7847.00 56.83)	6945.00 (50.30)	902.00 (6.54)	5961.00 (43.17)	5358.00 (38.81)	602.00 (4.36)	13807.00 (100)
2005-06	10217.00 (60.22)	8989.00 (52.98)	1227.00 (7.23)	6750.00 (39.78)	4536.00 (26.74)	2213.00 (13.05)	16966.00 (100)
2006-07	10583.00 (63.01)	9017.00 (53.69)	1566.00 (9.32)	6212.00 (36.99)	3973.00 (23.65)	2240.00 (13.34)	16795.00 (100)
2007-08	11874.00 (61.72)	9699.00 (50.42)	1975.00 (10.27)	7363.00 (38.28)	5254.00 (27.31)	2109.00 (10.97)	19238.00 (100)
2008-09	13234.00 (63.89)	11150.00 (53.83)	2084.00 (10.06)	7479.00 (36.11)	5784.00 (27.92)	1695.00 (8.18)	20713.00(100)
2009-10	14184.00 (64.02)	12039.00 (54.34)	2144.00 (9.68)	7973.00 (35.98)	5653.00 (25.51)	2320.00 (10.47)	22157.00 (100)
2010-11	19879.00 (72.00)	16828.00 (60.95)	3051.00 (11.05)	7729.00 (28.00)	5330.00 (19.31)	2399.00 (8.69)	27608.00(100)
2011-12	22395.00 (85.36)	18841.00 (71.81)	3554.00 (13.55)	3840.00(14.64)	1400.00(5.34)	2441.00 (9.30)	26236.00 (100)
CAGR	**14.68**	**13.76**	**20.8**	**1.07**	**-4.30**	**18.05**	**10.62**

Source: RBI State Finances: A Study of State Budgets, various issues.
Note: Figure in parenthesis is percentto total.

Revenue receipts of the state government of Punjab increased from Rs. 11071.18 croresin 2002-03 to Rs. 26235.78croresin 2011-12 with a compound annual growth rate of 10.62percent.The share of OTR in the total revenue receipts of the Government of Punjab increased from 51.58 percent in 2002-03 to 71.81 percent in 2011-12 and the share of central taxes devolved to the State increased from 5.86 percent to 13.55 percent over the same period. However, the proportion of non-tax receipts declined from 36.45 percent in 2002-03 to 5.34percent in 2011-12. This indicates that state has failed to increase revenue from public goods and services, where it could have performed better. Grants from centre have been fluctuating between 4 to 11 percent for the period under consideration.

Sources of Own Tax Revenue

It is important to study the different components of OTR of the GOP in order to understand the manner in which Punjab raises resources within the state and how these can be augmented. The own tax revenue of the State has increased at a compound annual growth rate (CAGR) of 13.76 percent , but its components have increased at very different rates ranging from 7 percent to 17 percent.

Table 2.3:Sources of Own Tax Revenue

(Rs. Crores)

YEAR	Land Revenue	Stamps and Registration fees	Sales Tax /VAT	State Excise	Taxes on Vehicles	Taxes and Duties on Electricity	Other Taxes	Total Own Tax Revenue
2002-03	9.00 (0.15)	559.00 (9.79)	3072.00 (53.80)	1429.00 (25.02)	444.00 (7.77)	188.00 (3.29)	10.00 (0.18)	5711.00 (100)
2003-04	13.00 (0.22)	729.00 (11.86)	3308.00 (53.82)	1463.00 (23.80)	389.00 (6.33)	235.00 (3.82)	9.00 (0.15)	6146.00 (100)
2004-05	14.00 (0.20)	966.00 (13.91)	3816.00 (54.95)	1487.00 (21.41)	404.00 (5.82)	252.00 (3.62)	6.00 (0.09)	6945.00 (100)
2005-06	16.00 (0.18)	1671.00 (18.58)	4627.00 (51.47)	1568.00 (17.44)	431.00 (4.80)	669.00 (7.45)	7.00 (0.08)	8989.00 (100)
2006-07	15.00 (0.17)	1804.00 (20.01)	4829.00 (53.55)	1368.00 (15.17)	468.00 (5.19)	528.00 (5.85)	6.00 (0.06)	9017.00 (100)
2007-08	17.00 (0.17)	1568.00 (15.84)	5342.00 (53.97)	1862.00 (18.80)	499.00 (5.05)	604.00(6.10)	7.00 (0.07)	9899.00 (100)
2008-09	15.00 (0.14)	1730.00 (15.52)	6436.00 (57.72)	1810.00 (16.23)	524.00 (4.70)	631.00 (5.66)	3.00 (0.03)	11150.00 (100)
2009-10	15.00 (0.13)	1551.00 (12.88)	7577.00 (62.94)	2101.00 (17.45)	555.00 (4.61)	230.00 (1.91)	10.00 (0.08)	12039.00 (100)
2010-11	19.00 (0.11)	2319.00 (13.78)	10017.00 (59.52)	2373.00 (14.10)	654.00 (3.89)	1423.00 (8.46)	24.00 (0.14)	16828.00 (100)
2011-12	25.00 (0.13)	3079.00 (16.34)	11172.00 (59.29)	2755.00 (14.62)	850.00 (4.51)	928.00 (4.93)	33.00 (0.17)	18841.00 (100)
CAGR	**7.77**	**16.88**	**15.60**	**7.35**	**7.35**	**17.46**	**10.96**	**13.76**

Source: RBI State Finances: A Study of State Budgets, various issues.
Note: Figure in parenthesis is percentto total.

Own Tax Revenue of Punjab has increased at a CAGR of 13.76percent over the study period. The share of land revenue in State's OTR is negligible, varying between 0.11 to 0.22 percent for all the years.Receipts from stamps and registration fee registered a high growth rate of 16.88

percent per annum and the share of these in OTR doubled between 2002-03 to 2006-07 but declined thereafter. Sales tax/ VAT is the most important source of tax revenue for the government contributing between 50-60 percent to OTR of the State. It has increased at a rate of 15.60percent per annum between 2002-03 to 2011-12. There has been a considerable increase in the realization on account of this head after the introduction of Value Added Tax in Punjab. Share of revenue from state excise decreased continuously and its share came down from nearly one-fourth of OTR of Punjab to 14.62percent over the ten year period, even though its annual compound growth rate was 7.35 percent. Share of taxes on vehicles has also halved during the same period.The growth rate of taxes and duties on electricity have been 17.46 percent but its share has fluctuated over the last decade. The receipts from other taxes are a negligible proportion of the OTR in Punjab, even though the rate of growth is nearly 11percent per annum.

Sources of State's Own Non tax Revenue

Non-tax receipts are collected from fees and charges on account of different type of services provided to citizens. Receipts through the administration, commercial enterprises, grants are the major source of non-tax revenue of the state government. Major heads of non-tax revenue are shown in Table 3. It shows that interest receipts of the state government nearly doubled from from Rs.913.37 croresin 2002-03 to Rs. 1890.29 crores in 2004-05. Thereafter revenue from interest receipts fell drastically and decreased continuously registering a negative rate of growth of 24.65 percent per annum. Share of interest receipts in state's own non-tax revenue also declined from 22.63 percent in 2002-03 to 3.18 percent in 2010-11, but was 12.16 percent in the subsequent year. The reason for such a significant decline in this head is that the GOP is not able to recover the interest on its lending to public sector and other state entities.

Table 2.4: Sources of Own Non-Tax Revenue

(Rs. Crores)

Year	Interest Receipts	Dividends and Profits	General Services	Social Services	Economic Services	State's Own Non-Tax Revenue
2002-03	913.00 (22.63)	1.00 (0.02)	2724.00 (67.49)	96.00 (2.37)	302.00 (7.49)	4036.00 (100)
2003-04	1464.00 (31.38)	2.00 (0.04)	2593.00 (55.58)	106.00 (2.27)	500.00 (10.73)	4666.00 (100)
2004-05	1890.00 (35.28)	1.00 (0.01)	2966.00 (55.36)	122.00 (2.27)	379.00 (7.08)	5358.00 (100)
2005-06	644.00 (14.20)	102.00 (2.25)	3350.00 (73.84)	135.00 (2.99)	305.00 (6.73)	4536.00 (100)
2006-07	659.00 (16.58)	2.00 (0.05)	2723.00 (68.55)	195.00 (4.91)	394.00 (9.91)	3973.00 (100)
2007-08	348.00 (6.63)	1.00 (0.01)	4374.00 (83.24)	198.00 (3.77)	333.00 (6.35)	5254.00 (100)
2008-09	182.00 (3.15)	1.00 (0.01)	4750.00 (82.13)	257.00 (4.45)	594.00 (10.26)	5784.00 (100)
2009-10	165.00 (2.91)	1.00 (0.02)	4889.00 (86.50)	223.00 (3.95)	374.00 (6.62)	5653.00 (100)
2010-11	169.00 (3.18)	1.00 (0.01)	4452.00 (83.53)	258.00 (4.84)	450.00 (8.44)	5330.00 (100)
2011-12	170.00 (12.16)	3.00 (0.22)	495.00 (35.37)	331.00 (23.66)	400.00 (28.59)	1340.00 (100)
CAGR	**-24.72**	**-6.19**	**-4.30**	**14.56**	**2.12**	**-4.30**

Source: RBI State Finances: A Study of State Budgets, various issues.
Note: Figure in parenthesis is percentto total.

Not only is the revenue raised in the form of dividends and profits of state and other commercial and industrial undertakings has a negligible share in state's own non-tax revenue receipts but it has further declined over the years as is evident from the above table. Most important source of non-tax revenue receipts is revenue raised through general services provided by the state government. General services include receipts from, Police, Jails, Administrative Services, Public Works, Supplies and Disposals, Stationary and Printing, Contribution and Recoveries towards Pension and Retirements etc. Receipts from General Services grew at a negative rate of 4.30 percent per annum. Social services include revenue from education, medical, family welfare, sanitation and water supply, public health, art and culture, housing and urban development, information and publicity, labour and employment, social security and welfare etc.

The revenue from social services increased at a rate of nearly 14.56percent per annum and itspercent share in State's non tax revenue varied between 2 to 5 percentduring2002-03 to 2010-11. Revenue from Economic Services include receipts from general economic services, agriculture and allied services, industries, minerals, water and power development, transportation and communication, multipurpose river projects, flood control projects, etc. It increased by only 2.12 percent annually over the decade under study but its share in non-tax revenue of the State fluctuated between 6 to 8 percent.

It is pertinent to mention here that the receipts from General Services comprise a major portion by way of receipts from Punjab State Lotteries. However, some of the lottery schemes have been discontinued by the government in 2011-12, thereby leading to a drastic reduction in the State's own non-tax revenue. This has resulted in a major change in the proportion of contribution of various components to this head. Also it has greatly impacted the compound annual growth rates for General Services and total non-tax revenue of the State. It may be pointed out that the CAGR of own non-tax revenue in Punjab has grown only at a meagre rate of nearly one percent if we exclude the last year in its computation.

Central Transfers to Punjab

Central transfers are in the form of grants in aid and state's share in the central pool of taxes. Share of taxes in the central pool showed an increasing trend and it has increased from Rs. 649.02 crores in 2002-03 to Rs. 3554.31crores in 2011-12. Its share in total transfers has varied between 59.96 percent in 2004-05 to 35.67 percent in the next year 2005-06.However the average share in central taxes was between 50 to 55 percent of the total transfers to Punjab. Share of central grants in aid has also increased from Rs. 675.60 crores in 2002-03 to Rs. 2440.64 crores in 2011-12. The central transfers to Punjab have grown at a CAGR of nearly 20 percent. The following table shows the pattern of central transfers to Punjab:

Table 2.5: Pattern of Central Transfers

(Rs. Crores)

Year	Share in Central Taxes	Grants from the Centre	Total
2002-03	649.00 (49.00)	676.00 (51.00)	1324.00 (100)
2003-04	754.00 (56.83)	573.00 (43.17)	1327.00 (100)
2004-05	902.00 (59.96)	602.00 (40.04)	1505.00 (100)
2005-06	1227.00 (35.67)	2213.00 (64.33)	3441.00 (100)
2006-07	1566.00 (41.15)	2240.00 (58.85)	3805.00 (100)
2007-08	1975.00 (48.35)	2109.00 (51.65)	4084.00 (100)
2008-09	2084.00 (55.15)	1695.00 (44.85)	3779.00 (100)
2009-10	2144.00 (48.03)	2320.00 (51.97)	4464.00 (100)
2010-11	3051.00 (55.98)	2399.00 (44.02)	5450.00 (100)
2011-12	3554.00 (59.28)	2441.00 (40.72)	5995.00 (100)
CAGR	**20.8**	**18.05**	**19.36**

Source: RBI State Finances:A Study of State Budgets, various issues.
Note: Figure in parenthesis is percentto total.

Trends in Tax-GSDP ratio

It is important to know if the tax revenue of the state is increasing as per the growth rate of the state income. The table and the figure below show that tax-GSDP ratio in Punjab has not undergone a major change in the last 10 years, even though the total tax revenue has grown at a CAGR of nearly 15 percent. Similarly, the ratio of OTR to GSDP has not changed much even when the OTR has grown at a CAGR of nearly 14 percent. It may be mentioned here that the CAGR of GSDP over the study period has also grown at the same rate. The ratio of Central taxes to GSDP in Punjab has almost doubled as the CAGR of central tax devolution to Punjab has been very high at 20 percent.

Table 2.6: Tax-GSDP Ratio

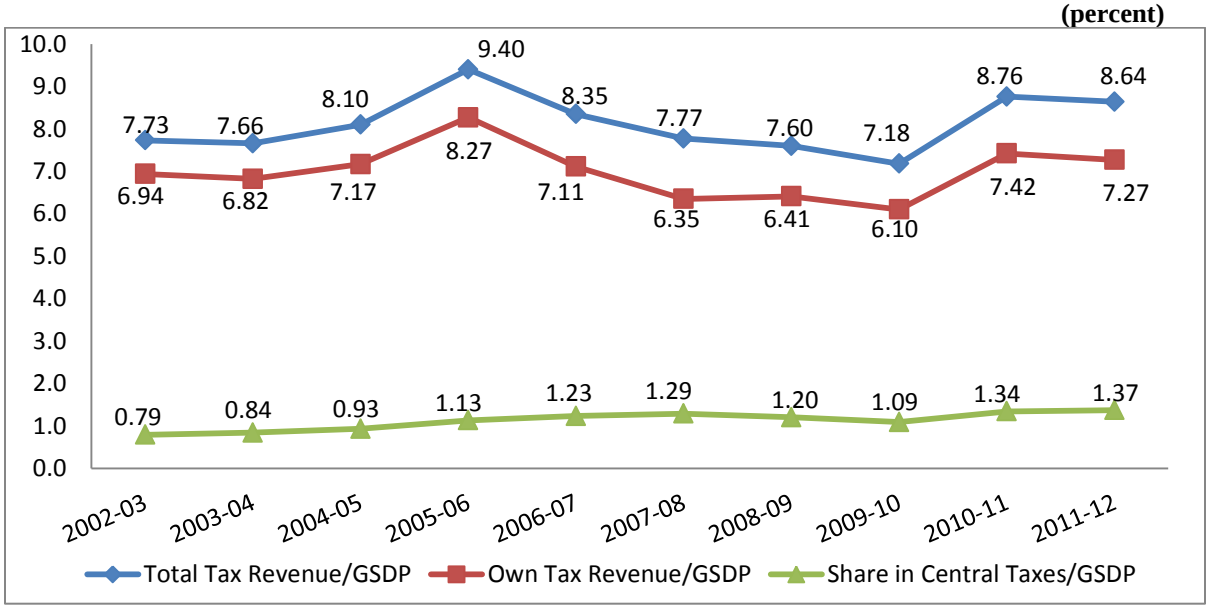
(percent)

Year	Total Tax Revenue/GSDP	Own Tax Revenue/GSDP	Share in Central Taxes/GSDP
2002-03	7.73	6.94	0.79
2003-04	7.66	6.82	0.84
2004-05	8.10	7.17	0.93
2005-06	9.40	8.27	1.13
2006-07	8.35	7.11	1.23
2007-08	7.77	6.35	1.29
2008-09	7.60	6.41	1.20
2009-10	7.18	6.10	1.09
2010-11	8.76	7.42	1.34
2011-12	8.64	7.27	1.37

Source: RBI State Finances: Study of State Budgets, various issues.

Figure 2.2: Tax-GSDP Ratio

(percent)



Revenue Capacity and Its Utilization in Punjab: An Interstate and Inter-temporal Comparison

The above analysis of the sources of revenue for the Government of Punjab gives an overview of the state income. However it is important to know if the state under consideration is utilizing its potential capacity to generate the resources. The present section explores whether Punjab has utilized its revenue capacity effectively or not.The analysis has been carried out to compare the revenue capacity of Punjab within a sample of 18 major states (the special status states have not been included for comparison of capacity). The inter-temporal comparison of the revenue capacity of Punjab has been performed using i) panel data set of 18 major states over a decade 2002-03 to 2011-12; and ii) time series data of Punjab over the same period. Using the panel data set, the capacity revenue of Punjab has been compared in the context of 17 other states, whereas, using time series data, the capacity revenue of Punjab has been compared with its own capacity generated over the study period. The Data Envelopment Analysis (DEA) based frontier methodology has been used to work out the revenue capacity and capacity utilization in the state of Punjab. The model has been given in Appendix –I.

Four inputs namely i) Revenue expenditure-Plan; ii) Revenue expenditure- Non-Plan; iii) Capital expenditure-Plan; and iv) Capital expenditure- Non-Plan have been used for evaluating revenue capacity and its utilization. The said inputs have also been classified into two sub categories namely, fixed and variable inputs. The planned revenue and capital expenditure are classified into fixed inputs category, whereas, the unplanned expenditures have been categorized into variable inputs category. The rationale for the classification is that the planned revenue is given and remains fixed throughout the given period. However, the unplanned one is variable expenditure that can be increased or decreased during the period under evaluation. Two outputs namely, non-tax revenue and own tax revenue have been utilized for revenue capacity evaluation.

For the normalization purpose and remove state specific heterogeneity, all inputs and outputs have been divided by the population of state and figures are obtained in per-capita terms. For neutralizing the effect of inflation, the figures at constant prices have been used instead of the data on current prices. The multi deflation technique has been followed instead of using single deflator for each state. The implicit deflators have been constructed for each state by dividing the NSDP at Factor cost at current prices by the NSDP at factor cost at constant prices. To construct

the implicit deflators, the Per-capita Net State Domestic Product (NSDP) has been taken from various issues of the Handbook of Statistics on Indian Economy; an annual publication of RBI. Using the splicing method, the deflators have been spliced to year 2004-05=100. Thus, all the variables are in per-capita terms at the constant prices of base 2004-05.

Table 6 provides the inter-state measures of capacity utilization(CU) computed using Panel-A of Relation-1 in Appendix-I. The measure represents a score either unity or below unity. A value equal to one represents the optimum utilization of revenue capacity, whereas, a below unit value represents underutilization of revenue capacity by state under evaluation. The table shows that on an average, 65 percent of revenue capacity has been utilized by all General Category (GC) states taken together and 35 percent capacity remains underutilized. Thus, the analysis substantiates the fact that optimum utilization of revenue capacity may yield 35 percent higher revenue for all GC states. However, there are a number of states far below the GC states' average implying that there is ample scope of improving the state finances of those states.

An inter-state analysis reveals that the state of Punjab has been designated at first rank with the highest average revenue capacity utilization of one. Throughout the study period under consideration, Punjab remains the benchmark state in terms of revenue capacity utilization.

Table 2.7: Revenue Capacity Utilization in India-An Inter-state Perspective												
State	**Years**											
	2002-03	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**Average**	**Rank**
ANDHRA PRADESH	0.41	0.51	0.42	0.47	0.47	0.34	0.53	0.44	0.41	0.46	**0.45**	16
BIHAR	0.61	0.34	0.43	0.72	0.77	0.28	0.65	0.5	0.54	0.51	**0.54**	12
CHHATTISGARH	0.47	0.41	0.42	0.33	0.38	0.31	0.49	0.45	0.64	0.57	**0.45**	17
DELHI	0.54	0.45	0.59	0.58	0.7	0.42	0.45	0.35	0.52	0.52	**0.51**	13
GOA	1	0.62	0.45	0.28	0.55	0.45	0.55	0.44	0.87	0.84	**0.61**	9
GUJARAT	0.68	0.65	0.6	0.61	0.59	0.64	0.49	0.55	0.47	0.44	**0.57**	11
HARYANA	0.7	0.85	1	0.74	0.82	0.63	0.62	0.51	0.49	0.73	**0.71**	6
JHARKHAND	0.32	0.45	0.27	0.22	0.26	0.3	0.4	0.48	0.55	0.85	**0.41**	18
KARNATAKA	0.49	0.6	0.57	0.54	0.56	0.56	0.52	0.46	0.35	0.45	**0.51**	14
KERALA	0.69	1	1	1	1	1	1	1	0.87	1	**0.96**	2
MADHYA PRADESH	0.35	0.65	0.47	0.45	0.52	0.4	0.54	0.42	0.5	0.75	**0.51**	15
MAHARASHTRA	1	1	1	0.73	0.59	0.89	0.71	0.63	0.6	0.81	**0.80**	5
ORISSA	0.69	0.67	1	0.9	1	0.64	0.8	0.67	0.73	1	**0.81**	4
PUNJAB	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	***1.00***	1
RAJASTHAN	0.58	0.52	0.53	0.46	0.57	0.53	0.65	0.56	0.7	0.91	**0.60**	10
TAMIL NADU	0.73	0.61	0.84	0.73	0.71	0.74	0.62	0.61	0.53	0.58	**0.67**	7
UTTAR PRADESH	0.74	1	0.79	0.6	0.55	0.54	0.54	0.47	0.56	0.74	**0.65**	8
WEST BENGAL	0.92	1	0.97	0.88	0.92	0.95	1	0.97	1	1	**0.96**	3
Average	**0.66**	**0.69**	**0.69**	**0.62**	**0.66**	**0.59**	**0.64**	**0.58**	**0.63**	**0.73**	**0.65**	

Source: Own calculations

The inter-temporal analysis of the revenue capacity utilization of Punjab using Table 6 reveals that in comparison to its own capacity, on an average, Punjab utilized 93.5 percent and 6.5 percent of capacity remained underutilized. In the decade under evaluation, for two years 2007-08 and 2011-12, the revenue capacity utilization levels of Punjab fell below 90 percent. However, in the years 2003-04, 2005-06 and 2010-11, the state of Punjab observed to be operating at optimum capacity.

Table 2.8: Inter-temporal Analysis of Revenue Capacity Utilization in Punjab

Year	OTE	CU
2002-03	1	0.94
2003-04	1	1
2004-05	0.89	0.92
2005-06	1	1
2006-07	0.98	0.94
2007-08	1	0.89
2008-09	0.88	0.91
2009-10	0.96	0.94
2010-11	1	1
2011-12	1	0.81
Average	**0.971**	**0.935**

The DEA analysis used above shows that there is very little scope for Punjab to increase its revenue capacity and it also shows that it is utilizing it effectively. These results are only indicative and further analysisis required to substantiate the preliminary results, but it is outside the scope of the present study.

To conclude it may be said that Punjab must augment its own tax revenue in order to utilize its capacity even better. However there is a tremendous scope of increasing non-tax resources. It is necessary to bring about certain reforms in the existing pattern of non-tax revenue by charging user fee for public utilities and restructuring the State Level Public Enterprises and other investments where the rate of return is almost negligible.

Chapter-III

Analysis of Public Expenditure in Punjab

Public expenditure is incurred on administration as well as various development activities of the government and grants and loans. It can be classified as revenue expenditure and capital expenditure, which can further be classified as development and non-development expenditure. The utilization of public resources in Punjab will be analysed in the present chapter.

Classification of Revenue Expenditure

The state government's revenue expenditure can be classified as development and non-development expenditure, and, grants-in-aid and contributions. Revenue expenditure includes expenditure on economic and social services which is classified as development expenditure and expenditure on general services which is non-developmental in nature. Grants-in-aid and other contribution by the state are also a part of the revenue expenditure.

Table 3.1: Classification of Revenue Expenditure

(Rs. Crores)

Year	Development Expenditure	Non-Development Expenditure	Grants-in-Aid and Contributions	Total Revenue Expenditure
2002-03	5532.00(37.31)	9072.00(61.20)	221.00(1.49)	14825.00(100)
2003-04	6307.00(40.17)	9351.00(59.55)	44.00(0.28)	15702.00(100)
2004-05	7273.00(42.29)	9850.00(57.27)	75.00(0.43)	17198.00(100)
2005-06	7318.00(40.19)	10516.00(57.75)	374.00(2.05)	18208.00(100)
2006-07	7877.00(42.48)	10339.00(55.75)	329.00(1.77)	18544.00(100)
2007-08	9812.00(42.55)	12892.00(55.90)	357.00(1.55)	23061.00(100)
2008-09	10227.00(41.63)	14032.00(57.11)	310.00(1.26)	24569.00(100)
2009-10	11436.00(41.72)	15525.00(56.65)	447.00(1.63)	27408.00(100)
2010-11	13660.00(41.52)	18598.00(56.53)	640.00(1.94)	32897.00(100)
2011-12	15511.00(46.94)	16788.00(50.80)	747.00(2.26)	33045.00(100)
CAGR	**11.62**	**8.65**	**25.98**	**10.07**

Source: RBI State Finances: A Study of State Budgets, various issues.
Note: Figure in parenthesis is percentto total.

Share of development expenditure has been varying between one third to less than half of the total revenue expenditure in the last 10 years in Punjab, even though the CAGR of development expenditure was 11.62 percent for the same period. Non-development expenditure accounted for nearly 60 percent of the revenue expenditure for most years but its share has been declining in

the recent past and also its rate of growth is less than the development expenditure. Grants-in – aid have been a meagre one to two percent of the total revenue expenditure.

The details of different components of expenditure on social, economic and general services are tabulated in Appendix-II.

It is not the amount of expenditure incurred by the government which is important but how and on what heads is the expenditure incurred is what is more important. Therefore it is important to delve into the quality of expenditure of the GOP.

Quality of Expenditure

The share of public expenditure items, which are considered to be potentially growth augmenting such as education, healthcare, R & D etc.is important from the viewpoint of quality of expenditure. The availability of better social and physical infrastructure in the state generally reflects the quality of its expenditure. The improvement in the quality of expenditure basically involves three aspects, viz., adequacy of the expenditure (i.e. adequate provisions for providing public services), efficiency of expenditure and its effectiveness. The low level of spending on any sector by a particular state may be either due to low fiscal priority attached by the state government or on account of the low fiscal capacity of the state government or due to both working together.

1. Adequacy of Expenditure

Adequacy of public expenditure means whether there are enough provisions for providing public services. The responsibilities to incur expenditure on social sector and economic infrastructure are largely assigned to the state government. For enhancing the levels of human development, the states are required to step up their expenditure on key social services education, health etc. The fiscal priority to a particular sector is considered low, if it is below the respective national average. In Table 2 the fiscal priority of the state government with regard to development expenditure, expenditure on social sector and capital expenditure etc. is shown.

Table 3.2: Fiscal Priority of the State

(percent)

Year	AE/GSDP	DE/AE	SSE/AE	CE/AE	EDU/AE	HEALTH/AE
2002-03	21.08	34.17	17.25	14.49	12.07	3.52
2003-04	22.57	34.20	17.36	22.78	10.23	2.99
2004-05	21.68	37.65	17.86	18.08	10.14	2.90
2005-06	18.83 (17.58)	42.76 (61.39)	19.80 (30.91)	10.97 (13.92)	11.28 (15.02)	3.42 (4.06)
2006-07	20.74	39.43	17.91	29.48	8.88	2.66
2007-08	17.36 (16.85)	44.75 (64.28)	18.82 (32.54)	13.04 (16.14)	10.29 (14.64)	2.87 (3.98)
2008-09	16.54 (17.00)	44.81 (67.09)	23.83 (34.28)	14.65 (16.47)	11.29 (15.41)	2.96 (3.97)
2009-10	15.85 (18.18)	43.05 (66.11)	22.71 (35.76)	12.46 (14.85)	12.21 (16.18)	3.17 (4.29)
2010-11	16.34 (16.68)	42.79 (64.29)	22.53 (36.68)	11.23 (13.25)	11.71 (17.39)	3.32 (4.34)

Source: RBI State Finances: A Study of Budgets and CAG Reports, various issues.
Note: Figure in parenthesis is General Category States' Average for the years it was available.

Public expenditure indicated by the ratio of aggregate expenditure (AE) to GSDP is greater than the General Category States (GCS) since 2005-06 and this trend continued till 2007-08. From 2008-09 this trend reversed and states' ratio has fallen below the average of GCS. Development expenditure (DE) refers to the expenditure on economic and social sector. Increased priority to development will result in better human and physical asset formation which will further increase the growth prospects of the state. In case of Punjab, lower priority was given to the development expenditure, as lower proportion of aggregate expenditure as compared to General Category States is spent under this head.

Since the beginning of the study period ratio of DE in Punjab is much below the General Category States average. In 2005-06, General Category States average was 61.39 percent while that for Punjab was merely 33-34 per cent. From 2005-06 to 2010-11 the ratio remained around 43 percent while that of General Category States remained more than 60 per cent. This showed that Punjab's performance is continuously poor in terms of expenditure on developmental activities.

Similarly, lower priority has been given to the social service expenditure as compared to General Category States. From 2002-03 to 2007-08 the ratio of social service expenditure (SSE) remained less than 20 percent while General Category States average was more than 30 percent.

This showed that the state has been continuously lagging behind in terms of social service expenditure. It is only in 2008-09 that the ratio for Punjab crossed the 20 percent mark in 2010-11 this ratio was 22.53 per cent. Similarly the ratio of capital expenditure (CE) as well as the expenditure on education and health services has remained below the comparable ratios for average of GCS. This analysis shows that Punjab has not paid adequate attention to the delivery of basic and important social services and creation of capital assets in the State over the study period.

Efficiency of Expenditure

In view of the importance of public expenditure on development heads from the point of view of social and economic development, it is important for the government to take appropriate expenditure rationalisation measures and lay emphasis on provision of core public and merit goods.

Table3.3: Development Expenditure

(Rs. Crores)

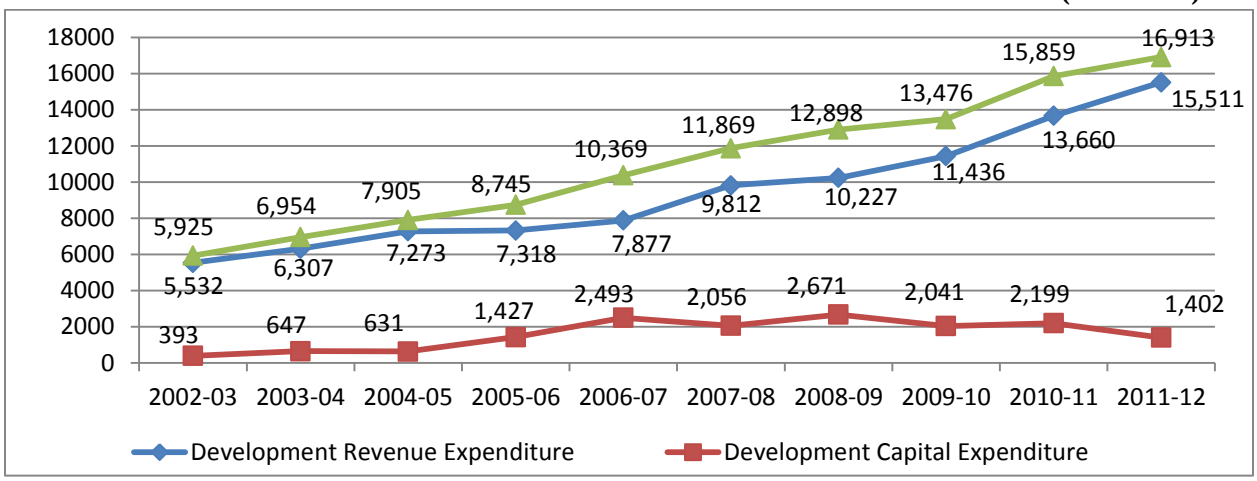
Year	Development Capital Expenditure	Development Revenue Expenditure	Total Development Expenditure
2002-03	393.00 (6.64)	5531.60 (93.36)	5924.91 (100)
2003-04	647.00 (9.30)	6307.00 (90.70)	6954.00 (100)
2004-05	631.00 (7.99)	7273.00 (92.01)	7905.00 (100)
2005-06	1427.00 (16.31)	7318.00 (83.69)	8745.00 (100)
2006-07	2493.00 (24.04)	7877.00 (75.96)	10369.00 (100)
2007-08	2056.00 (17.33)	9812.00 (82.67)	11869.00 (100)
2008-09	2671.00 (20.71)	10227.00 (79.29)	12898.00 (100)
2009-10	2041.00 (15.14)	11436.00 (84.86)	13476.00 (100)
2010-11	2199.00 (13.87)	13660.00 (86.13)	15859.00 (100)
2011-12	1402.00 (8.29)	15511.00 (91.71)	16913.00 (100)
CAGR	**18.17**	**11.62**	**12.29**

Source: RBI State Finances: A Study of State Budgets, various issues.
Note: Figure in parenthesis is percent to total.

Apart from improving the allocation towards development expenditure, the efficiency of expenditure is reflected by the ratio of capital expenditure to total expenditure and proportion of revenue expenditure being spent on operation and maintenance of the existing social and economic services. The higher the ratio of these components to total expenditure, the better would be the quality of expenditure.

Figure 3.1: Trends in Development Expenditure

(Rs. Crores)



Source: RBI State Finances: A Study of Budgets

The above table and the figure clearly bring out the fact that total development expenditure of the state has been continuously increasing since the last one decade. It has almost increased three times during the period 2002-03 to 2011-12. However the proportion of Development Capital Expenditure (DCE) is much lower than the Development Revenue Expenditure (DRE) in total development expenditure. Even though capital expenditure has increased over the years but it has not been a consistent rise and it still is much lower than revenue development expenditure.

This further confirms that Punjab has not created new assets during this period.

Table 4 further looks into the share of total DE to AE and as also the shares of DCE and DRE to total aggregate expenditure of the State.

Table 3.4: Ratio of Development Expenditure to Aggregate Expenditure

(percent)

Year	Total Development Expenditure/ Aggregate Expenditure	Developmental Revenue Expenditure/Aggregate Expenditure	Developmental Capital Expenditure/Aggregate Expenditure
2002-03	34.17	31.91	2.27
2003-04	34.19	31.02	3.18
2004-05	37.65	34.65	3.01
2005-06	42.76	35.78	6.98
2006-07	39.43	29.95	9.48
2007-08	44.75	37.00	7.75
2008-09	44.81	35.53	9.28
2009-10	43.05	36.53	6.52
2010-11	42.79	36.86	5.93
2011-12	51.51	43.07	8.45

Source: RBI State Finances: A Study of Budgets, various issues

As noted earlier, the share of DE to AE has varied between one third to less than half of aggregate expenditure for most of the years under study. The proportion of capital expenditure is extremely low, even though it has improved over the study period. Punjab has not paid adequate attention to create capital assets in the State.

Efficiency of Expenditure in Selected Social & Economic Services

It is important to explore the manner in which expenditure on education, health and family welfare and water supply, sanitation, etc. is incurred in Punjab. The proportion of such expenditure on salaries and wages (S&W) in relation to capital expenditure gives us an idea of the real quality of expenditure on such development heads and social and physical infrastructure.

The table shows that a very small proportion of the total expenditure is spent as the capital expenditure on education and health. This implies that infrastructural development and other types of asset creations in the field of education and health is not given much importance. Further it is evident that the share of salaries and wages in DRE is more than 80 percent since 2002-03. A major part of the expenditure incurred on education and health is going in the form of salaries and wages implying that most of the part is committed expenditure and almost negligible resources are left to be spent for the development of these sectors. This does not mean

that there are more teachers and doctors in the State as it is well know that the government schools and hospitals in Punjab are facing acute manpower crunch.

Table 3.5: Expenditure in Selected Social Services

(percent)

Year	General Education		Health & Family Welfare		Water Supply, Sanitation, HUD	
	Ratio of CE to TE	In RE, the Share of S & W	Ratio of CE to TE	In RE, the Share of S & W	Ratio of CE to TE	In RE, the Share of S & W
2002-03	0.04	78.80	0.02	81.08	7.41	27.32
2003-04	0.02	82.66	0.26	83.28	0.12	27.29
2004-05	0.76	84.93	0.92	89.78	19.52	30.50
2005-06	0.81	81.21	0.42	85.55	60.48	45.84
2006-07	0.76	92.00	1.28	88.83	49.34	35.64
2007-08	1.66	80.79	0.63	88.95	58.22	49.44
2008-09	5.47	76.02	2.82	86.56	76.38	57.05
2009-10	3.50	76.12	1.09	89.31	60.75	56.15
2010-11	3.84	80.57	3.27	88.19	51.82	64.21
2011-12	2.26	81.78	2.98	86.87	31.62	69.58

Source: CAG Reports, various issues

Water Supply, Sanitation and Housing and Urban Development (HUD) is by nature a capital intensive sector. The share of capital expenditure is comparatively high in this sector and since 2004-05 the share of capital expenditure to the total expenditure is significant although it varies substantially from 2002-03. In revenue expenditure the share of salary and wages is continuously increasing and within a period of ten years i.e. from 2002-03 to 2011-12 it has become more than double whereas its share has increased from 27.32 to 69.58 percentwhich is not a good indicator for the development of the sector.

Economic Services

As for the social sector expenditure, the following table depicts the share of salaries and wages in selected economic services. For the growth and development of an economy, the growth in economic services comprising agriculture and allied activities, irrigation and flood control, power and energy and transport is very essential. Most of the economic sector components are capital intensive. Table 6 shows that the ratio of capital expenditure to total expenditure on

Agriculture & Allied Activities is very low and has been declining significantly and by the end of the study period it has become extremely meagre.

Table 3.6: Expenditure in Selected Economic Services

(percent)

Year	Agriculture & Allied Activities		Irrigation & Flood Control		Power & Energy		Transport	
	Ratio of CE to TE	In RE, the Share of S & W	Ratio of CE to TE	In RE, the Share of S & W	Ratio of CE to TE	In RE, the Share of S & W	Ratio of CE to TE	In RE, the Share of S & W
2002-03	-	57.52	49.31	56.43	19.39	0.13	24.13	26.20
2003-04	7.35	58.95	14.25	74.19	21.04	0.03	23.65	33.76
2004-05	4.24	57.36	30.36	83.34	3.22	0.02	23.07	27.72
2005-06	2.10	59.64	33.88	72.02	2.84	0.02	50.93	34.36
2006-07	6.89	63.08	40.83	81.65	1.38	0.03	43.00	23.50
2007-08	0.75	51.23	41.98	87.44	1.52	0.02	71.28	37.24
2008-09	2.78	47.48	46.95	85.01	5.19	0.02	60.85	42.09
2009-10	0.35	56.67	42.47	82.66	0.83	0.02	54.83	34.55
2010-11	1.41	39.43	36.69	75.33	0.00	0.02	53.41	34.96
2011-12	0.11	69.88	23.36	76.20	0.00	0.02	36.36	30.83

Source: CAG Reports, various issues

Declining public expenditure is not a good indicator for a predominantly agricultural economy like Punjab. On the other hand share of salary and wages is very high in development revenue expenditure which implies that most of the expenditure is made to pay the officers and the staff.

Share of capital expenditure in Irrigation & Flood Control sector is considerably high but has declined to less than half during the decade under study. Despite higher capital expenditure the share of salary and wages in the revenue expenditure is also very high and during the last one decade it has varied between 70 to 85 per cent.

For the Power & Energy sector the share of capital expenditure has been negligible except for 2002-03 and 2003-04. This points to the fact that no effort has been directed towards setting up new power generation facilities. The Punjab State Electricity Board was corporatized in 2010, therefore, the capital expenditure for the last 2 years is nil. The benefits of corporatisation claimed by the government include beginning the working of the two new companies, i.e., the Punjab State Transmission Corporation Ltd (TRANSCO) and the Punjab State Power Corporation Ltd (POWERCOM) with a clean balance sheet and enabling the state to purchase

power from anywhere in the country. The S&W component in revenue expenditure on power and energy is very low. This is because the salary of the employees of Punjab State Electricity Board and later the two new companies is charged from a separate head. Transport is another important economic service and the share of capital expenditure to the total expenditure is significant in this sector. The share of salary and wages in the revenue expenditure is not very high for this sector and for most of the years it remained around 35 percent.

Efficiency Analysis of Public Expenditure in Punjab

One of the desired cannons of public expenditure is the cannon of efficiency. The expenditure incurred by the government must be technically and allocatively efficient. The public expenditure is said to be technically efficient if: i) it is not possible to increase one output of state without reducing other output in output oriented sense; and ii) it is not possible to reduce one public input without increasing other input. However, the expenditure is allocatively efficient if the chosen combination of inputs is technically as well as economically efficient i.e., the chosen bundle of public inputs must be cost effective too. Thus, the analysis of technical and allocative efficiency of public expenditure assumes importance in deciding the allocation of funds to Indian states. In a federal setup, a state with higher efficiency must be provided more funds in comparison to those with low efficiency.

There are several methods of measuring the technical and allocative efficiency of expenditure In the present study we use the input-oriented CCR model named after Charnes, Cooper and Rhodes (1978), to get a scalar measure of technical efficiency. The model is given in Appendix –III. Four inputs namely i) Revenue expenditure-Plan ii) Revenue expenditure- non-plan; iii) Capital expenditure-Plan; and iv) Capital expenditure-non-plan have been used for the efficiency evaluations. The data for inputs have been obtained from the data set provided by RBI. The data for output variable Per-capita Net State Domestic Products (NSDP) have also been obtained from the RBI publications. As per macroeconomic theory, Net National Product at factor cost is the true indicator of national income and so the net state domestic product at factor cost will be a good indicator for state income. For purpose of normalization and to remove state specific heterogeneity, all output and inputs have been divided by the population of state and figures are obtained in per-capita terms. It is worth mentioning here that the population of the state has been

obtained by dividing the State domestic product at current prices by per-capita State domestic product; both series are available in data source of RBI. For neutralizing the effect of inflation, the figures at constant prices have been used instead of the data on current prices. The multi deflation technique has been followed instead of using single deflator for each state. The implicit deflators have been constructed for each state by dividing the NSDP at Factor cost at current prices by the NSDP at factor cost at constant prices. Using the splicing methods, the deflators have been spliced to year 2004-05=100. Thus, all the variables are in per-capita terms at the constant prices of base 2004-05.

The execution of CCR model provides the technical efficiency estimates of 28 major states over a period of 10 years. Table 7 provides these estimates along with the rank of each state. The ranking of inefficient sates on the basis of overall technical efficiency (OTE) is an easy task; i.e., a state with high OTE score is provided better rank and vice-versa. However, the ranking of best practice states is difficult as each best-practice state score OTE equals unity. The researchers use different methods for ranking the best-practice decision making units (DMUs). In our case, the frequency count of benchmark states in terms of its occurrence in the reference set of inefficient states has been taken as the yardstick to rank efficient states. Higher the number of times a state occurs in the reference set of inefficient states, better the rank and vice-versa.

Table 7 confirms that public expenditure is technically efficient by the proportion 63.46 percent for all- states; i.e. 36.54 percent lesser expenditure could have been incurred to produce the given level of per-capita income. In terms of ranking the states, the public expenditure is found to be most efficient in two states namely, Delhi and Punjab ranked at 1^{st} and 2^{nd} position. These states have been observed technically efficient with a technical efficiency score equal to unity and thus, observed to be forming the best practice frontier in each of 10 years. Though both the states scored equal in terms of technical efficiency, the ranking is done on the basis of number of times a state appeared in the reference set of inefficient states. Thus, the state of Punjab observed to be second most efficient state after Delhi in minimizing the public expenditure to produce the given level of per capita income of state.

Given that the state of Punjab is technically efficient, the analysis of economic efficiency becomes important to search out the causes of poor fiscal outcomes in Punjab. To carry out the analysis of economic efficiency a well-defined set of factor prices is required. In our analysis, the implicit deflators have been taken as the indicator of prices for revenue expenditure, whereas, the

average prime lending rate of banks has been used as proxy variable for prices of capital expenditure.

Table-8 provides the components of economic efficiency obtained by estimating model (2) in Appendix-III for 28 states over the period of 10 years. The analysis reveals that the level of economic inefficiency for all-states taken together is to the tune of 64.99 percent (i.e. 1-0.3501=0.6499). Thus, the public expenditure in Indian states is economically inefficient by all standards. Given that the economic efficiency score can be bifurcated into two mutually exclusive non-additive components namely, allocative and technical efficiencies, the analysis helps to identify the causes of observed inefficiency. The analysis of Table-8 reveals that 45.77 percentage points of 64.99 percent economic inefficiency has been contributed by allocative inefficiency and the remaining portion is subject to technical inefficiency. Hence, the Indian states failed to select the most economical combination of public expenses.

Table 3.7: Ranking the States on the basis of Overall Technical Efficiency in Public Expenditure

States	Years																		Average	
	2002-03		2003-04		2004-05		2005-06		2006-07		2007-08		2008-09		2009-10		2010-11		2011-12			
	OTE	Rank	OTE	Rank	OTE	Rank	OTE	Rank	OTE	Rank	OTE	Rank	OTE	Rank	OTE	Rank	OTE	Rank	OTE	Rank	OTE	Rank
ANDHRA PRADESH	0.7940	9	0.7686	12	0.8900	6	0.5810	12	0.5329	13	0.7139	11	0.6723	12	0.6750	12	0.8323	9	1.0000	6	0.7460	9
ARUNACHAL PRADESH	0.3616	24	0.1839	26	0.1897	26	0.1824	26	0.1541	26	0.2291	25	0.1281	27	0.1456	26	0.2778	23	0.2377	22	0.2090	27
ASSAM	0.9188	6	0.8113	9	0.5172	20	0.6721	10	0.5797	11	0.6092	14	0.5942	16	0.5092	19	0.5829	17	0.4250	18	0.6220	16
BIHAR	0.5810	18	0.8036	10	0.7786	11	0.5955	11	0.5004	14	0.6424	13	0.5034	20	0.5198	18	0.6741	15	1.0000	6	0.6599	13
CHHATTISGARH	0.7194	14	0.6037	18	0.5861	17	0.5296	16	0.4380	20	0.5644	16	0.6422	14	0.5750	14	0.8407	8	0.7339	11	0.6233	15
DELHI	1.0000	2	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	2	1.0000	1	1.0000	1	1.0000	4	1.0000	5	1.0000	1
GOA	0.4952	19	0.5672	19	0.5617	19	0.4625	19	0.4709	17	0.5632	17	0.6369	15	0.5685	15	0.7170	12	0.6517	14	0.5695	20
GUJARAT	0.7663	10	0.8304	8	0.7182	13	0.7219	9	0.6694	9	0.8528	6	0.7700	8	0.9152	7	0.9730	6	1.0000	1	0.8217	7
HARYANA	1.0000	1	1.0000	3	1.0000	1	0.9162	6	0.7628	6	0.7698	8	0.8623	7	0.8852	8	1.0000	1	1.0000	3	0.9196	6
HIMACHAL PRADESH	0.4598	21	0.4326	22	0.8282	8	0.4313	21	0.3839	21	0.7236	10	0.4726	21	0.4112	22	0.4412	21	1.0000	4	0.5584	21
JAMMU & KASHMIR	0.3276	25	0.4465	20	0.6611	14	0.3305	22	0.5529	12	1.0000	5	1.0000	5	1.0000	5	0.5513	19	0.8743	8	0.6744	12
JHARKHAND	0.7236	13	0.8364	7	0.7381	12	0.4702	18	0.3689	22	0.5100	19	0.5363	18	0.4743	21	0.6829	14	0.5884	15	0.5929	17
KARNATAKA	0.7470	12	0.6668	14	0.7961	9	0.5726	13	0.4781	16	0.8304	7	0.6948	11	0.6108	13	0.8559	7	1.0000	7	0.7253	11
KERALA	0.8837	7	1.0000	6	1.0000	3	1.0000	2	1.0000	2	1.0000	5	1.0000	4	0.9898	6	0.9841	5	1.0000	7	0.9858	5
MADHYA PRADESH	0.7012	15	0.6337	16	0.5652	18	0.5263	17	0.4914	15	0.5173	18	0.5906	17	0.5598	16	0.6638	16	0.5870	16	0.5836	18
MAHARASHTRA	1.0000	4	1.0000	4	0.9957	4	1.0000	3	0.9817	4	1.0000	1	1.0000	2	1.0000	2	1.0000	2	1.0000	2	0.9977	3
MANIPUR	0.3067	26	0.3088	24	0.2271	25	0.1885	25	0.1888	25	0.2379	24	0.2420	25	0.2076	24	0.2419	25	0.1922	24	0.2342	25
MEGHALAYA	0.4641	20	0.4366	21	0.4218	21	0.4325	20	0.4402	19	0.4384	21	0.4415	22	0.4781	20	0.4776	20	0.4894	17	0.4520	22
MIZORAM	0.2727	27	0.1751	27	0.3135	24	0.1333	27	0.1400	27	0.1794	26	0.2299	26	0.1996	25	0.2303	27	0.2230	23	0.2097	26
NAGALAND	0.3771	23	0.2949	25	0.3195	23	0.2495	24	0.2159	24	0.2805	23	0.2891	24	0.2808	23	0.2901	22	0.3284	19	0.2926	24
ORISSA	0.6240	16	0.7150	13	0.8809	7	0.8052	8	0.7567	7	0.6813	12	0.7178	10	0.7364	10	0.7068	13	0.6715	12	0.7296	10
PUNJAB	1.0000	5	1.0000	5	1.0000	2	1.0000	5	1.0000	3	1.0000	3	1.0000	3	1.0000	3	1.0000	3	1.0000	5	1.0000	2
RAJASTHAN	0.6233	17	0.6140	17	0.5863	16	0.5517	15	0.5961	10	0.5893	15	0.6479	13	0.6795	11	0.7927	10	0.7852	10	0.6466	14
SIKKIM	0.0904	28	0.1340	28	0.0852	27	0.1022	28	0.1050	28	0.1397	27	0.1158	28	0.1437	27	0.2711	24	0.2474	21	0.1435	28
TAMIL NADU	0.8369	8	0.7977	11	0.7881	10	0.8377	7	0.7567	8	0.7603	9	0.7410	9	0.8702	9	0.7838	11	0.8018	9	0.7974	8
TRIPURA	0.4230	22	0.4028	23	0.3639	22	0.3156	23	0.3173	23	0.3519	22	0.3587	23	1.0000	5	0.2312	26	0.3015	20	0.4066	23
UTTAR PRADESH	0.7657	11	0.6402	15	0.6008	15	0.5698	14	0.4554	18	0.5082	20	0.5067	19	0.5202	17	0.5678	18	0.6706	13	0.5805	19
WEST BENGAL	1.0000	3	1.0000	2	0.9950	5	1.0000	4	0.9228	5	1.0000	4	0.9479	6	1.0000	4	1.0000	3	1.0000	7	0.9866	4
All-India	**0.6523**		**0.6466**		**0.6574**		**0.5778**		**0.545**		**0.6319**		**0.6194**		**0.6413**		**0.6668**		**0.7075**		**0.6346**	

Notes: i) OTE represents overall technical Efficiency; and ii) the figures of All-India are arithmetic mean of 28 states under evaluation.

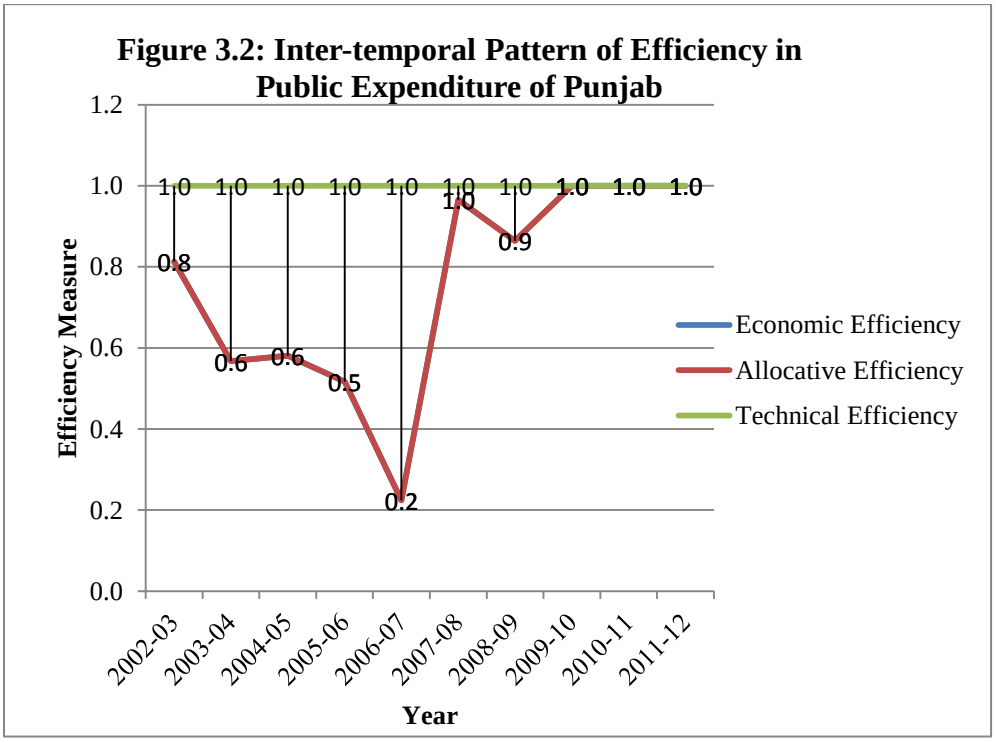
Sources: Authors' Calculations

Table 3.8: Components of Economic Efficiency in Public Expenditure of Indian States						
States	**Overall Technical Efficiency**		**Allocative Efficiency**		**Economic Efficiency**	
	Score	**Rank**	**Score**	**Rank**	**Score**	**Rank**
ANDHRA PRADESH	0.7460	9	0.5027	20	0.3626	12
ARUNACHAL PRADESH	0.2090	27	0.3745	27	0.0735	28
ASSAM	0.6220	16	0.4525	24	0.2933	18
BIHAR	0.6599	13	0.4861	22	0.3210	15
CHHATTISGARH	0.6233	15	0.4330	26	0.2615	20
DELHI	1.0000	1	0.7513	1	0.7513	1
GOA	0.5695	20	0.6230	5	0.3525	13
GUJARAT	0.8217	7	0.5636	11	0.4579	7
HARYANA	0.9196	6	0.6047	7	0.5594	5
HIMACHAL PRADESH	0.5584	21	0.5514	14	0.3081	16
JAMMU & KASHMIR	0.6744	12	0.4362	25	0.2601	21
JHARKHAND	0.5929	17	0.5017	21	0.2840	19
KARNATAKA	0.7253	11	0.5329	17	0.3817	9
KERALA	0.9858	5	0.5777	9	0.5699	4
MADHYA PRADESH	0.5836	18	0.5214	18	0.3026	17
MAHARASHTRA	0.9977	3	0.6563	3	0.6558	3
MANIPUR	0.2342	25	0.5384	16	0.1291	25
MEGHALAYA	0.4520	22	0.3678	28	0.1657	24
MIZORAM	0.2097	26	0.4527	23	0.0911	26
NAGALAND	0.2926	24	0.6131	6	0.1785	23
ORISSA	0.7296	10	0.5089	19	0.3710	11
PUNJAB	*1.0000*	*2*	*0.6846*	*2*	*0.6846*	*2*
RAJASTHAN	0.6466	14	0.5881	8	0.3775	10
SIKKIM	0.1435	28	0.6270	4	0.0823	27
TAMIL NADU	0.7974	8	0.5630	12	0.4476	8
TRIPURA	0.4066	23	0.5747	10	0.2150	22
UTTAR PRADESH	0.5805	19	0.5562	13	0.3307	14
WEST BENGAL	0.9866	4	0.5409	15	0.5355	6
All States' Average	**0.6346**		**0.5423**		**0.3501**	

The analysis of the components of economic efficiency of Punjab reveals that though Punjab is technically efficient in public spending yet the level of economic efficiency is very low. The

observed 31.54 (i.e., 1-0.6846) percent level of economic inefficiency is because of the selection of economically inefficient combination of inputs, which points to the fact that public expenditure in Punjab is not incurred in a manner which minimizes cost.

However, the inter-temporal analysis of Punjab using Table 9 reveals that the level of economic inefficiency was the highest in the year 2006-07 when the economic efficiency had fallen to the lowest level of 22.4 percent. Figure-1 also confirms that the decline in economic efficiency had been observed from 2002-03 to 2006-07. However, after the year 2006-07 the economic efficiency of Punjab started improving and attained a level of unity in the year 2009-10; a level maintained by the state during the recent three years 2009-10, 2010-11 and 2011-12 of the study.



Note:Given Technical Efficiency equals unity, the line representing Allocative Efficiency also represents Economic Efficiency.

Table 3.9: Economic and Allocative Efficiency in Public Expenditure

States	Years																			
	2002-03		2003-04		2004-05		2005-06		2006-07		2007-08		2008-09		2009-10		2010-11		2011-12	
	AE	EE	AE	EE	AE	EE	AE	EE	AE	EE	AE	EE	AE	EE	AE	EE	AE	EE	AE	EE
ANDHRA PRADESH	0.599	0.476	0.531	0.408	0.653	0.581	0.522	0.303	0.684	0.365	0.660	0.471	0.632	0.425	0.675	0.456	0.419	0.349	0.155	0.155
ARUNACHAL PRADESH	0.264	0.095	0.422	0.078	0.635	0.120	0.442	0.081	0.433	0.067	0.349	0.080	0.481	0.062	0.488	0.071	0.256	0.071	0.350	0.083
ASSAM	0.632	0.581	0.773	0.627	0.734	0.380	0.560	0.376	0.333	0.193	0.664	0.405	0.290	0.172	0.269	0.137	0.305	0.178	0.417	0.177
BIHAR	0.743	0.432	0.779	0.626	0.782	0.609	0.361	0.215	0.450	0.225	0.589	0.378	0.538	0.271	0.452	0.235	0.347	0.234	0.306	0.306
CHHATTISGARH	0.571	0.411	0.553	0.334	0.614	0.360	0.475	0.252	0.498	0.218	0.667	0.376	0.503	0.323	0.416	0.239	0.200	0.168	0.266	0.195
DELHI	0.511	0.511	0.828	0.828	0.857	0.857	1.000	1.000	1.000	1.000	0.782	0.782	1.000	1.000	0.919	0.919	0.611	0.611	0.756	0.756
GOA	0.854	0.423	0.691	0.392	0.861	0.484	0.578	0.267	0.538	0.253	0.875	0.493	0.667	0.425	0.700	0.398	0.519	0.372	0.570	0.371
GUJARAT	0.851	0.652	0.749	0.622	0.690	0.496	0.550	0.397	0.548	0.367	0.849	0.724	0.590	0.454	0.447	0.409	0.367	0.357	0.559	0.559
HARYANA	0.851	0.851	0.802	0.802	1.000	1.000	0.321	0.294	0.330	0.252	0.945	0.727	0.728	0.628	0.660	0.584	0.492	0.492	0.523	0.523
HIMACHAL PRADESH	0.545	0.251	0.788	0.341	0.645	0.534	0.539	0.232	0.555	0.213	0.585	0.423	0.509	0.241	0.599	0.246	0.701	0.309	0.599	0.599
JAMMU & KASHMIR	0.655	0.215	0.718	0.321	0.441	0.292	0.634	0.210	0.415	0.229	0.235	0.235	0.275	0.275	0.241	0.241	0.596	0.329	0.588	0.514
JHARKHAND	0.368	0.266	0.527	0.441	0.579	0.427	0.731	0.344	0.792	0.292	0.646	0.329	0.753	0.404	0.542	0.257	0.236	0.161	0.345	0.203
KARNATAKA	0.670	0.500	0.719	0.479	0.761	0.606	0.584	0.334	0.545	0.261	0.705	0.585	0.631	0.438	0.521	0.318	0.334	0.286	0.392	0.392
KERALA	0.614	0.543	0.592	0.592	0.591	0.591	0.488	0.488	0.497	0.497	0.905	0.905	0.642	0.642	0.533	0.528	0.659	0.649	0.834	0.834
MADHYA PRADESH	0.544	0.381	0.773	0.490	0.713	0.403	0.591	0.311	0.495	0.243	0.731	0.378	0.572	0.338	0.494	0.277	0.332	0.220	0.490	0.288
MAHARASHTRA	1.000	1.000	1.000	1.000	0.840	0.836	0.660	0.660	0.029	0.028	1.000	1.000	0.762	0.762	0.563	0.563	0.639	0.639	0.726	0.726
MANIPUR	0.779	0.239	0.840	0.259	0.829	0.188	0.716	0.135	0.507	0.096	0.611	0.145	0.337	0.082	0.406	0.084	0.393	0.095	0.504	0.097
MEGHALAYA	0.584	0.271	0.342	0.149	0.331	0.140	0.303	0.131	0.419	0.184	0.656	0.288	0.495	0.219	0.416	0.199	0.251	0.120	0.249	0.122
MIZORAM	0.424	0.116	0.648	0.113	0.418	0.131	0.598	0.080	0.563	0.079	0.630	0.113	0.439	0.101	0.563	0.112	0.256	0.059	0.441	0.098
NAGALAND	0.617	0.233	0.661	0.195	0.777	0.248	0.687	0.171	0.715	0.154	0.812	0.228	0.696	0.201	0.659	0.185	0.491	0.142	0.629	0.207
ORISSA	0.689	0.430	0.764	0.546	0.759	0.669	0.472	0.380	0.381	0.288	0.768	0.523	0.487	0.350	0.349	0.257	0.400	0.283	0.529	0.355
PUNJAB	0.813	0.813	0.567	0.567	0.581	0.581	0.517	0.517	0.224	0.224	0.965	0.965	0.864	0.864	1.000	1.000	1.000	1.000	1.000	1.000
RAJASTHAN	0.757	0.472 s	0.704	0.432	0.715	0.419	0.543	0.300	0.523	0.312	0.935	0.551	0.582	0.377	0.533	0.362	0.501	0.397	0.676	0.531
SIKKIM	0.716	0.065	0.733	0.098	0.862	0.073	0.759	0.078	0.702	0.074	0.687	0.096	0.860	0.100	0.756	0.109	0.351	0.095	0.471	0.117
TAMIL NADU	0.847	0.709	0.682	0.544	0.764	0.602	0.467	0.391	0.422	0.319	0.889	0.676	0.602	0.446	0.394	0.343	0.509	0.399	0.617	0.495
TRIPURA	0.592	0.250	0.739	0.298	0.797	0.290	0.564	0.178	0.418	0.133	0.815	0.287	0.493	0.177	0.335	0.335	0.801	0.185	0.768	0.232
UTTAR PRADESH	0.812	0.622	0.633	0.405	0.934	0.561	0.407	0.232	0.295	0.134	0.923	0.469	0.451	0.229	0.515	0.268	0.509	0.289	0.639	0.429
WEST BENGAL	0.977	0.977	0.640	0.640	0.680	0.677	0.467	0.467	0.351	0.324	0.801	0.801	0.563	0.534	0.495	0.495	0.458	0.458	0.518	0.518
All-India	**0.674**	**0.457**	**0.686**	**0.451**	**0.709**	**0.47**	**0.555**	**0.315**	**0.488**	**0.251**	**0.739**	**0.48**	**0.587**	**0.376**	**0.534**	**0.344**	**0.462**	**0.32**	**0.533**	**0.389**

Notes: i) OTE represents overall technical Efficiency; and ii) the figures of All-India are arithmetic mean of 28 states under evaluation.

Sources: Authors' Calculations

Therefore, the analysis confirms that the state of Punjab remained technically efficient during the study period under evaluation whereas, a high economic inefficiency has been observed due to high allocative inefficiency during the first seven years of the study. However, in the recent three years, the state has also been observed to be allocatively efficient along with being technically efficient. This analysis requires further exploration, which is beyond the scope of this study, even though it gives expected initial results.

Chapter-IV

Public Debt in Punjab

A growing trend worldwide is towards decentralised delivery of government services. Consequently, the expenditure obligations of sub-national tiers of governments have risen without commensurate growth in their own and devolved sources of revenue from the central government, thereby necessitating recourse to debt.

The analysis of sub-national public debt developments has been growing in importance, because of the increasing share of sub-national finance in the overall financing needs of the general government sector in a number of countries, and given the rising trend towards fiscal decentralization all over the world (Canuto and Liu, 2010). Furthermore, sub-national governments have less incentive than the central governments to be concerned with macroeconomic impact of their policies because they do not bear the full cost of their actions (Vulovic, 2010). Over the last two decades there has been a considerable pressure on the governments, across nations, to reform the deteriorating fiscal situation as a priority and to contain public debt at sustainable level.

The Government of India as also the sub-national governments have been under fiscal stress for over two decades. The debts have been mounting and fiscal deficit widening. The present chapter will look into the debt profile of Punjab.

Debt Situation of Punjab

The debt situation of Punjab is analysed in three different ways:

I. A simple analysis of the fiscal indicators pertaining to various debt components
II. Efficiency of Public Debt
III. Debt Sustainability Analysis

Financing of deficits resulted in increased borrowings from the Central Government and other sources and the issuance of guarantees by the states for the borrowing of state-owned public enterprises. Borrowing channels for states are multiple and the process complex; some channels

are controlled and restricted by the centre and others are more autonomous (Rangarajan and Prasad, 2012).Punjab has been dependent on borrowed funds to a great extent because of the demands on the development process, a decade long civil strife during the 1980s resulting in huge expenditure on para-military forces and an increase in the salaries, wages and pensions over a period of time.

The debt and other liabilities have been defined in several ways. The present study uses the definition as given by the Reserve Bank of India. Outstanding liabilities/Debt of the GOP have been tabulated below:

Table 4.1: Outstanding Liabilities of the State

(Rs. Crores)

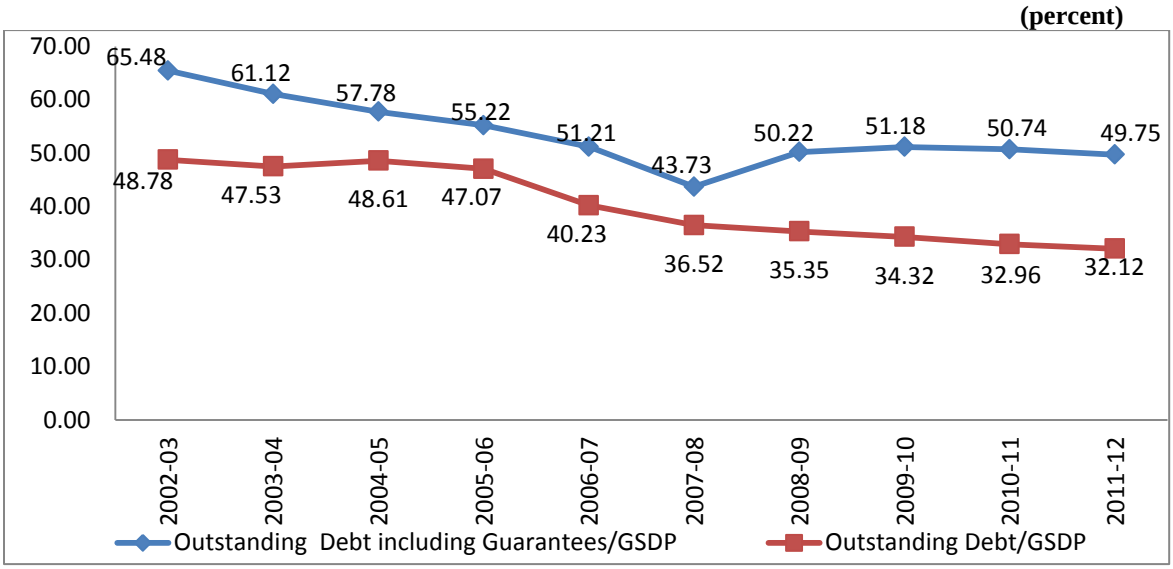
Year	Total Outstanding Debt	Guarantees	Outstanding Debt including Guarantees	Gross State Domestic Product (GSDP)	Outstanding Debt including Guarantees/GSDP (Percent)	Outstanding Debt/GSDP (Percent)	Total Outstanding Debt/Revenue Receipts (Percent)
2002-03	40125.00 (74.50)	13734.00 (25.50)	53859.00 (100)	82249.00	65.48	48.78	362.43
2003-04	42819.00 (77.77)	12242.00 (22.23)	55061.00 (100)	90089.00	61.12	47.53	352.74
2004-05	47071.00 (84.12)	8884.00 (15.88)	55955.00 (100)	96839.00	57.78	48.61	340.91
2005-06	51140.00 (85.25)	8851.00 (14.75)	59991.00 (100)	108637.00	55.22	47.07	301.42
2006-07	51009.00 (78.56)	13919.00 (21.44)	64928.00 (100)	126791.00	51.21	40.23	303.71
2007-08	55794.00 (83.51)	11014.00 (16.49)	66808.00 (100)	152772.00	43.73	36.52	290.03
2008-09	61462.00 (70.38)	25868.00 (29.62)	87330.00 (100)	174039.00	50.22	35.35	296.73
2009-10	67780.00 (67.06)	33295.00 (32.94)	101075.00 (100)	197500.00	51.18	34.32	305.91
2010-11	74780.00 (64.96)	40332.00 (35.04)	115112.00 (100)	226867.00	50.74	32.96	270.86
2011-12	83250.00 (64.55)	45714.00 (35.45)	128964.00 (100)	259223.00	49.75	32.12	317.33
CAGR	**8.11**	**19.00**	**10.96**	**14.22**			

Source: RBI State Finances: A Study of State Budgets,Statistical Abstracts of Punjab, CAG Reports, various issues
Note: Figures in parenthesis are percent to total.

The magnitude of total outstanding liabilities/debt increased in absolute terms from Rs.40125.00 crores in 2002-03 to Rs. 83250.00 crores by the end of 2011-12. It shows that during a period of 10 years the outstanding debt has doubled and increased at a compound annual rate of growth (CAGR) of 8.11 percent. The guarantees of the State government have grown at a rate of 19

percent per annum thereby further increasing the liability of the government. Debt to GSDP ratio declined over a period of 10 years from 48.78 in 2002-03 to 32.12 in 2011-12 on account of an impressive growth in GSDP of Punjab at 14.22 percent per annum during this period. However, if debt including the guarantees is taken as a ratio of GSDP, the situation is not very encouraging even though it has declined from 65.48 to 49.75 over the last one decade.

Figure 4.1: Outstanding Debt to GSDP



Source: RBI State Finances: A Study of Budgets, Statistical Abstracts of Punjab, various issues.

Ratio of debt to GSDP, which is still above 32 percent, shows that the state is excessively dependent on the debt sources to finance its expenditure needs. After 2006-07 this ratio declined continuously even though the debt increased substantially in absolute terms. Most of the increase in debt can be attributed to an increasein committed expenditure of the GOPas a result of interest liability and the pay revision on the recommendations of the Fifth and Sixth Central Pay Commission awards. Implementation of the awards raised the fiscal deficits of the state dramatically and so the debt. Increased debt leads to higher payments for servicing the debt apart from the principle in the form of interest payments and most of the revenue generated by the state is spent on debt servicing.

This is clearly visible from the following table that interest payments constitute a major portion of the revenue receipts (RR) and revenue expenditure (RE) of the State.

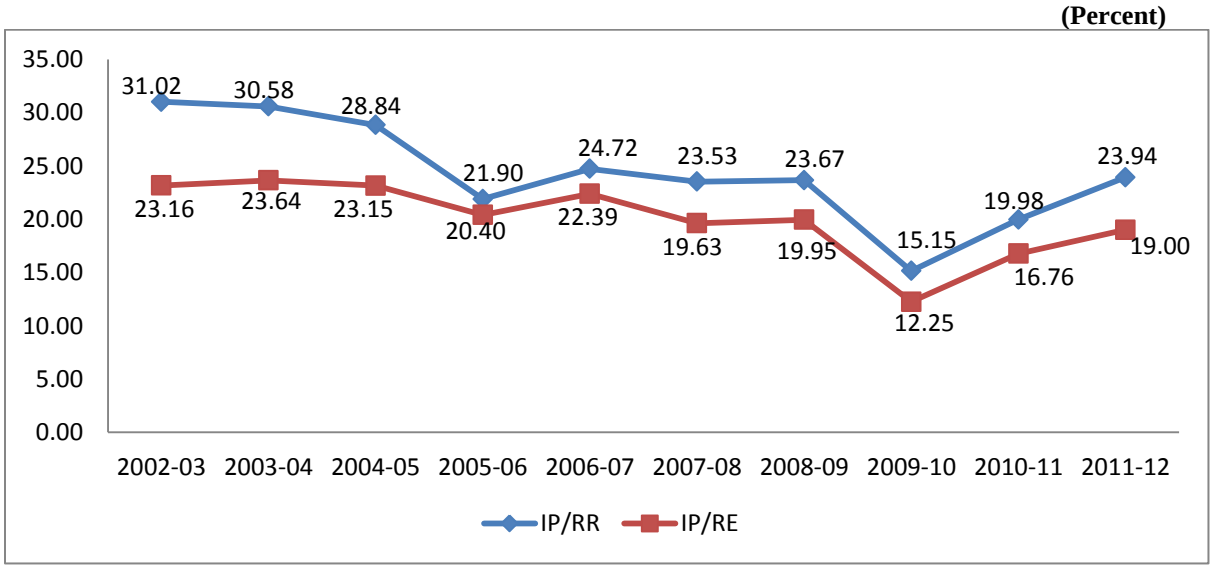
Table 4.2:Interest Burden of the State

(Rs. Crores)

Year	Total Revenue Receipts	Total Revenue Expenditure	Interest Payments	IP/RR (percent)	IP/RE (percent)
2002-03	11071.00	14825.00	3434.00	31.02	23.16
2003-04	12139.00	15702.00	3712.00	30.58	23.64
2004-05	13807.00	17198.00	3982.00	28.84	23.15
2005-06	16966.00	18208.00	3715.00	21.90	20.40
2006-07	16795.00	18544.00	4152.00	24.72	22.39
2007-08	19238.00	23061.00	4527.00	23.53	19.63
2008-09	20713.00	24569.00	4902.00	23.67	19.95
2009-10	22157.00	27408.00	3357.00	15.15	12.25
2010-11	27608.00	32897.00	5515.00	19.98	16.76
2011-12	26236.00	33045.00	6280.00	23.94	19.00
CAGR	**10.62**	**10.07**	**5.12**		

Source: RBI State Finances: A Study of State Budgets, various issues.

Fig. 4.2: Interest Burden of the State Government



Source: RBI State Finances: A Study ofBudgets, various issues

Ratio of interest payments to revenue receipts clearly shows that from 2002-03 to 2004-05 around 30 percentof the revenue receipts were spent on servicing the debt which later declined but still nearly one fourth of the revenue receipts are spent on interest payments. Interest payment to revenue expenditure ratio has also varied between 23 to nearly 20 , which reflects

that the State is spending a high proportion of its revenue expenditure on interest payment. In their study Rangarajan and Prasad (2012) categorized the states as High Debt Stressed whose Debt/GSDP ratio lies between 30-50 and ratio of interest payment to revenue receipt is between 15- 25 . Accordingly, it is clear that Punjab can be categorised as a Debt Stressed state and the fiscal situation of the state needed some concrete action.

Utilization of Borrowings for Repayments

Government of Punjab has not transferred any funds to the Consolidated Sinking Fund of the State. In the absence of these funds the government has no option but to resort to new borrowings for the repayment of the borrowings of the earlier years. Thus most part of the borrowed funds are utilized for the repayment of the earlier borrowings and only a small proportion is left for investment in capital/development projects of the government. Table 3 gives a brief view of this situation which indicates that in the fresh government borrowings, during the last five years, the share of debt repayment is continuously increasing and share of capital expenditure is declining.

Table 4.3: Utilization of Borrowings for Debt Repayments

(Rs. Crores)

Year	Borrowings	Repayments during the Year
2007-08	6051.00	2108.00 (34.83)
2008-09	6432.00	2289.00 (35.58)
2009-10	10108.00	5308.00 (52.52)
2010-11	10934.00	5953.00 (54.44)
2011-12	14871.00	8947.00 (60.17)

Source: CAG Reports, various issues.
Note: Figure in parenthesis is percent to total.

The analysis of the borrowed funds of the State shows that the share of repayment in the fresh loans has increased substantially from 34.83 percent in 2007-08 it has increased to 60.17 percent by the year 2011-12. This indicates the inability of the State government to repay the loans from its own sources and its increasing dependence on the borrowed funds, showing a situation which if not corrected soon will lead the economy to a serious debt trap.

Composition of the Debt

Conventionally, loans from the centre were the principal source of funding for the state. In keeping with the trend of financial sector liberalization and the deteriorating fiscal situation of the central government, centre's loan intermediation role has been reduced since 1999–2000.

Table 4.4: Composition of Total Outstanding Debt

(Rs. Crores)

Year	Internal Debt	Loan & Advances from Centre	Provident Fund etc.	Reserve Funds	Deposit & Advances	Contingency Fund	Total Outstanding Debt
2002-03	18628.00 (46.42)	13635.00 (33.98)	6306.00 (15.72)	461.00 (1.15)	1069.00 (2.66)	25.00 (0.06)	40125.00 (100)
2003-04	24937.00 (58.24)	9377.00 (21.90)	6767.00 (15.80)	679.00 (1.59)	1033.00 (2.41)	25.00 (0.06)	42819.00 (100)
2004-05	30109.00 (63.97)	7398.00 (15.72)	7186.00 (15.27)	1106.00 (2.35)	1247.00 (2.65)	25.00 (0.05)	47071.00 (100)
2005-06	33839.00 (66.17)	7221.00 (14.12)	7575.00 (14.81)	1297.00 (2.54)	1182.00 (2.31)	25.00 (0.05)	51140.00 (100)
2006-07	37139.00 (72.81)	3213.00 (6.30)	7977.00 (15.64)	1538.00 (3.02)	1116.00 (2.19)	25.00 (0.05)	51009.00 (100)
2007-08	41005.00 (73.49)	3283.00 (5.88)	8613.00 (15.44)	1722.00 (3.09)	1146.00 (2.05)	25.00 (0.04)	55794.00 (100)
2008-09	45058.00 (73.31)	3334.00 (5.42)	9354.00 (15.22)	2077.00 (3.38)	1614.00 (2.63)	25.00 (0.04)	61462.00 (100)
2009-10	49980.00 (73.74)	3290.00 (4.85)	10180.00 (15.02)	2290.00 (3.38)	2010.00 (2.97)	30.00 (0.04)	67780.00 (100)
2010-11	54920.00 (73.44)	3300.00 (4.41)	11360.00 (15.19)	2300.00 (3.08)	2880.00 (3.85)	30.00 (0.04)	74780.00 (100)
2011-12	61080.00 (73.37)	3430.00 (4.12)	12760.00 (15.33)	2700.00 (3.24)	2880.00 (3.90)	30.00 (0.04)	83250.00 (100)

Source: RBI State Finances: A Study of State Budgets, various issues.
Note: Figure in parenthesis is percent to total.

The composition of the total outstanding debt showed that Central loan and advances accounted for one third of the debt of Punjab in 2002-03 but reduced considerably and it came down to only 4.12percent by the end of 2011-12. The reason is that Central Government set up National Small Saving Fund (NSSF) in 1999, which has become a part of the internal debt of the state government. On the other hand, state government also resorted to market loans which are cheaper than the central loans. Provident funds are also a major component of the outstanding

debt of theGOP. Provident Funds are mainly social security funds for the employees of the government in the organised sector of the economy and their share floated around 15 percent of the total debt of Punjab. Reserve funds constitute a small portion of the total debt and its share has increased continuously from 2002-03 to 2011-12. Deposits and Advances of the various departments of the State government also increased from 2.66 percent in 2002-03 to 3.90 percent in 2011-12.

The analysis of the total outstanding debt of the GOP shows that during the period of 10 years from 2002-03 to 2011-12 the internal debt has emerged as the single largest source of debt and accounts for more than 73 of the total debt. Share of reserve funds and contingency funds registered a small increase while the ratio of provident funds in total liabilities remained the same.

Composition of Internal Liabilities

In recent years, internal debt has emerged as the most important source of financing for the Government of Punjab. It comprises state development loans (SDLs or market loans), National Small Savings Fund (NSSF), Power Bonds, Ways and Means Advances (WMA) from Reserve Bank of India and loans from banks and financial institutions like SBI, NABARD, LIC, GIC, NCDC etc. Internal debt of the government is secured under the Consolidated Fund of the State.
The composition of outstanding liabilities of the State Government showed a sharp decline in the share of loans from the Centre and upsurge in the shares of loans from NSSF and market loans. The market loans were raised by the governments, both Central and State, from the market on fixed coupons and prices till 1992 but from January 1999 the auction system has been initiated for the state governments.

Table 4.5: Composition of Internal Debt

(Rs.Crores)

Year	SDL	Power Bonds	NSSF	WMA from RBI	Loans from BANKS & FIs	Total Internal Debt
2002-03	4054.00	-	8064.00	186.00	6324.00	18628.00

	(21.76)		(43.29)	(1.00)	(33.95)	(100)
2003-04	6059.00 (24.30)	637.00 (2.55)	11152.00 (44.72)	455.00 (1.82)	6634.00 (26.60)	24937.00 (100)
2004-05	7719.00 (25.64)	637.00 (2.12)	14793.00 (49.13)	283.00 (0.94)	6676.00 (22.17)	30109.00 (100)
2005-06	8697.00 (25.70)	637.00 (1.88)	18195.00 (53.77)	00.00 (0.00)	6310.00 (18.65)	33839.00 (100)
2006-07	9435.00 (25.40)	574.00 (1.55)	21185.00 (57.04)	00.00 (0.00)	5946.00 (16.01)	37139.00 (100)
2007-08	13228.00 (32.26)	510.00 (1.24)	21642.00 (52.78)	00.00 (0.00)	5625.00 (13.72)	41005.00 (100)
2008-09	17874.00 (39.67)	478.00 (1.06)	21429.00 (47.56)	00.00 (0.00)	5277.00 (11.71)	45058.00 (100)
2009-10	22230.00 (44.48)	410.00 (0.82)	22430.00 (44.88)	00.00 (0.00)	4900.00 (9.80)	49980.00 (100)
2010-11	26760.00 (48.73)	320.00 (0.58)	23130.00 (42.12)	370.00 (0.67)	4340.00 (7.90)	54920.00 (100)
2011-12	34500.00 (56.48)	250.00 (0.41)	22200.00 (36.35)	370.00 (0.61)	3750.00 (6.14)	61080.00 (100)

Source: RBI State Finances: A Study of State Budgets, various issues.

Note: Figure in parenthesis is percent to total.

The Central Government has set up the NSSF, which is akin to a Special Purpose Vehicle (SPV) providing an autonomous source of finance for the governments. It mobilises small savings through post offices and banks and lends against special non-tradable securities issued by the states and the centre as per the proportion fixed by the central government.

Like other state governments, for Punjab also this has emerged as a major source of borrowing apart from the market loans. Prior to 1999-2000, State's share in the small savings was included under 'loans from the Centre'. Under the revised accounting procedure, the same are treated as receipts against special securities issued to National Small Savings Fund and are to be included under `Internal Debt'. Share of NSSF in internal debt of Punjab had once increased to 57.04 percent in 2006-07 but started declining thereafter and by the end of 2011-12 it constituted 36.35 percent of total internal debt. Data show that share of market loans (SDLs) increased continuously and within a period of ten years it increased more than two and half times and constituted 56.48 percent of the total internal debt. Market loans together with NSSF loans accounted for more than 90 percent of internal debt and around 2/3rd share of total outstanding debt. The state government from 2003-04 also started issuing Power Bonds to Central Public

Sector Undertakings under the One-Time Settlement Scheme for dues of the State Electricity Boards which also constitutes a small portion of internal debt.

Contingent Liabilities

As states have limited resources to augment their revenues, state governments have adopted an innovative method of financing capital expenditures with the help of off-budget projects. States have been undertaking investments under the Public-Private Partnership (PPP) route through special purpose vehicles (SPVs). Also, state public sector undertakings (PSUs) like electricity and road transport sectors borrow directly from banking and financial institutions, backed by explicit and implicit guarantees extended by the state governments.

Table 4.6: Outstanding Guarantees of the State

(Rs. Crores)

Year	Outstanding Guarantees	#Guarantees /Revenue Receipts (RR) (Percent)	Guarantees/ GSDP (Percent)	Outstanding Debt including Guarantees/ GSDP (Percent)
2002-03	13734.00	153.82	16.70	65.48
2003-04	12242.00	110.58	13.59	61.12
2004-05	8884.00	73.19	9.17	57.78
2005-06	8851.00	64.10	8.15	55.22
2006-07	13919.00	82.04	10.98	51.21
2007-08	11014.00	65.58	7.21	43.73
2008-09	25868.00	134.47	14.86	50.22
2009-10	33295.00	160.75	16.86	51.18
2010-11	40332.00*	182.03	17.78	50.74
2011-12	45714.00*	165.58	17.64	49.75

*This figure does not include interest. #Guarantees as to previous year's RR

Source: RBI State Finances: A Study of Budgets, various issues

Thus, apart from the confirmed liabilities, there are also contingent liabilities of the state governments that arise on account of guarantees issued to facilitate the borrowings of PSUs/SPVs. Although contingent liabilities do not form a part of the debt burden of the states, in the event of default by the borrowing entity, the states will be required to meet the debt service obligations. It implies that fiscal risk of the state government guarantees may turn out to be very

high in case these enterprises fail to generate adequate own revenues to meet their repayment obligations (RBI, 2013).

Table 4. 6 shows that the magnitude of contingent liabilities of Punjab was quite high since 2002-03. There has been a steep rise in the off-budget liabilities arising on account of guarantees extended by the State government. Although the situation improved after the implementation of Punjab Fiscal Responsibility and Budget Management Act (PFRBMA) in 2003 but since 2008-09 the situation has again deteriorating and reached an alarming situation by the end of 2010-11. Outstanding guarantees doubled from 7.21 percentof GSDP in 2007-08 to 14.86 percent in the next year and 17.64 percent in 2011-12. FRBMA, 2003 of Punjab and its later amendments demand that guarantees of the state government should not exceed 80 percent of Revenue Receipts of the previous year. The state government complied with this provision and reduced the ratio of Guarantees to Revenue Receipts to 65.58 by 2007-08. Later macroeconomic slowdown started affecting the performance of the State and within a period of three years ratio of guarantees to revenue receipts became 182.03 by 2010-11 and was 165.58 in 2011-12.This is twice the limit prescribed by FRBMA of the State.

Efficiency of Debt

A state may be designated as efficient state, if it minimizes the public debt to incur the given level of public expenditure. Thus, to analyse the status of public debt of Punjab in terms of efficiency, the DEA methodology used in the last chapter has been repeated with a new combination of inputs and outputs. Two models CCR and BCC have been used to compute overall and managerial(pure) technical efficiencies in debt management (models are given in Appendix-III). The four inputs of first stage (i.e., last chapter) have been used as outputs of second stage and a new single input total liability of state (i.e., total debt) has been used to estimate a new DEA frontier. In such analysis, the state minimizing the total debt to incur the given level of public expenditure will be deemed to be technically efficient state. Otherwise, the state even though appearing as best practice state in first stage, will lose the status of best practice in the light of being technically inefficient at second stage because of raising/using comparatively high debt to incur the given level of public expenditure.

Table 4.7: Summary of Technical Efficiency in Debt Management Over the Period 2002/03 to 2011-12									
State	**Overall Technical Efficiency**		**Pure/Managerial Technical Efficiency**		**Scale Efficiency**		**Frequency of *Returns-to-scale***		
	Score	**Rank**	**Score**	**Rank**	**Score**	**Rank**	**IRS**	**CRS**	**DRS**
ANDHRA PRADESH	0.5168	14	0.6510	17	0.7972	13	8	1	1
ARUNACHAL PRADESH	0.9846	1	1.0000	1	0.9846	1	0	9	1
ASSAM	0.7583	5	0.9793	3	0.7709	15	8	2	0
BIHAR	0.4371	19	0.9985	2	0.4381	28	10	0	0
CHHATTISGARH	0.8605	3	1.0000	1	0.8605	12	5	5	0
DELHI	0.7184	8	0.7918	7	0.8986	9	7	1	2
GOA	0.4389	18	0.7555	10	0.5819	27	10	0	0
GUJARAT	0.3269	27	0.3533	26	0.9225	5	7	0	3
HARYANA	0.5144	15	0.7034	12	0.7117	21	9	1	0
HIMACHAL PRADESH	0.3418	26	0.3760	25	0.9016	8	8	0	2
JAMMU & KASHMIR	0.5669	12	0.6070	19	0.9281	4	7	0	3
JHARKHAND	0.6932	9	0.8108	6	0.8684	11	9	1	0
KARNATAKA	0.5216	13	0.6782	14	0.7709	16	10	0	0
KERALA	0.3422	25	0.4626	23	0.7305	19	10	0	0
MADHYA PRADESH	0.4537	17	0.7414	11	0.6256	24	10	0	0
MAHARASHTRA	0.4003	21	0.5325	21	0.7287	20	9	1	0
MANIPUR	0.7479	6	0.8116	5	0.9095	6	6	3	1
MEGHALAYA	0.8057	4	0.9044	4	0.8914	10	4	3	3
MIZORAM	0.5763	11	0.7765	9	0.7882	14	3	1	6
NAGALAND	0.6517	10	0.6956	13	0.9359	3	9	1	0
ORISSA	0.3918	22	0.6094	18	0.6396	23	10	0	0
PUNJAB	0.3598	23	0.4661	22	0.7318	18	9	0	1
RAJASTHAN	0.3440	24	0.5536	20	0.6202	25	10	0	0
SIKKIM	0.9406	2	1.0000	1	0.9406	2	0	8	2
TAMIL NADU	0.5077	16	0.6625	16	0.7688	17	10	0	0
TRIPURA	0.7289	7	0.7858	8	0.9086	7	7	2	1
UTTAR PRADESH	0.4091	20	0.6768	15	0.5918	26	10	0	0
WEST BENGAL	0.2804	28	0.4318	24	0.6485	22	10	0	0
All India	**0.5578**	**---**	**0.7077**	**---**	**0.7820**	**---**	**8**	**1**	**1**

Using the method of DEA, the technical efficiency in debt management has been computed. In our definition, the state is efficient if it minimizes the debt to incur the given level of public expenditure. Table 7 provides the components of technical efficiency in minimizing the debt to incur given level of public expenditure. It is evident from the table that there exists a high level

of technical inefficiency to the tune of 44.22 (1-0.5578) in the management of state liabilities for all- states. The bifurcation of overall technical inefficiency into its two mutually exclusive and non-additive components Pure technical and scale inefficiencies reveals that the earlier component is the major source (i.e. Pure Technical Inefficiency (PTIE) = 29.33) whereas, the latter accounts for a small proportion of overall inefficiency. In simple terms 29.33 percentage points of 44.22 overall technical inefficiency (OTIE) have been explained by PTIE. It is worth mentioning here that the PTIE is the measure of managerial underperformance and the scale inefficiency is the measure of inefficiency caused because of incurring expenditure at sub-optimal and super-optimal levels. This implies that in case the state is borrowing much more than what is required to incur the given level (present) of expenditure, then the state is said to be operating at sub-optimum scale of production and vice-versa.

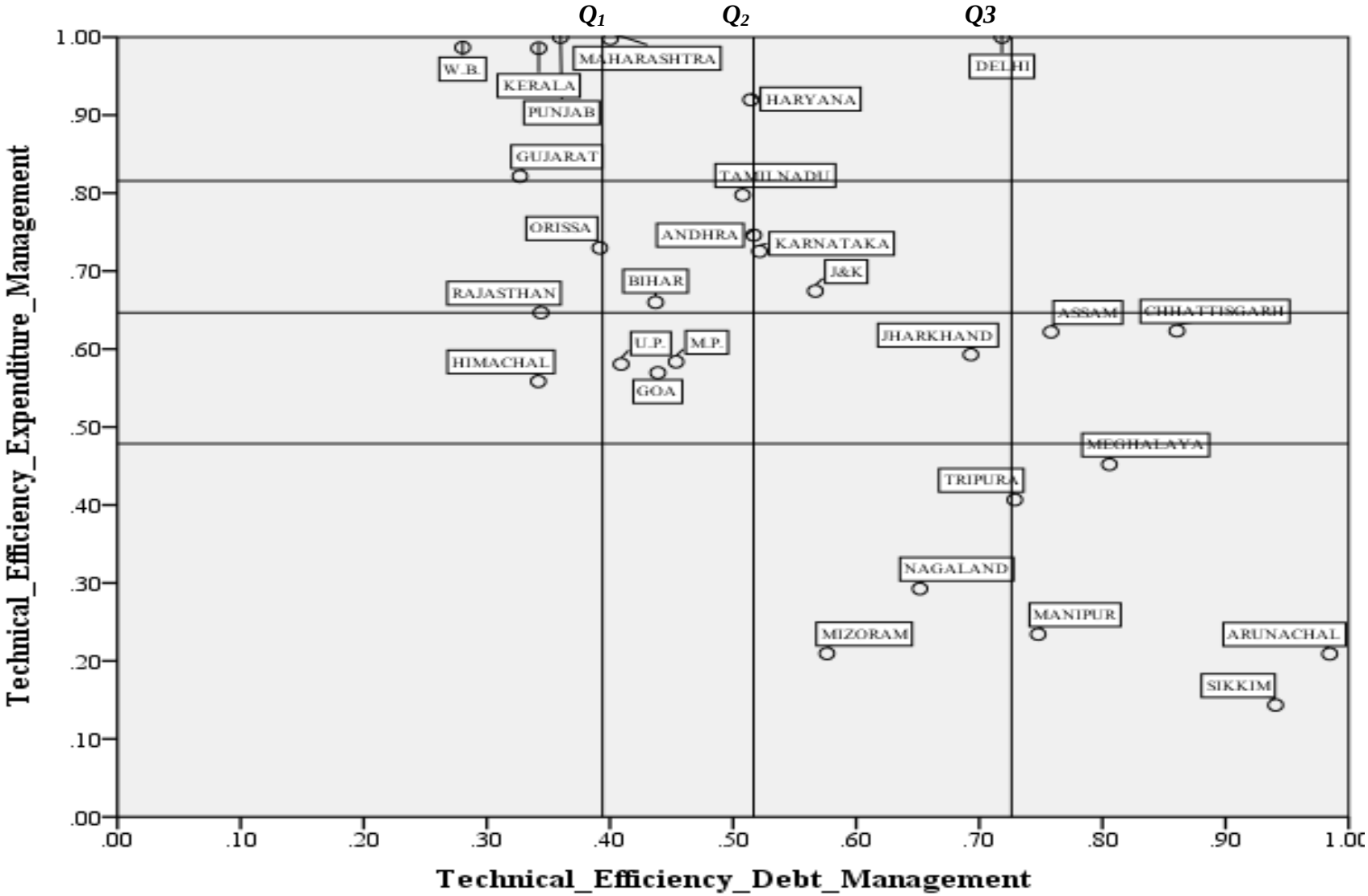
The analysis of components of technical efficiency therefore, reveals that improper management of debt is the major source of overall technical inefficiency and scale inefficiency is relatively lesser source of it. To interpret the cause of scale inefficiency, the nature of returns-to scale needs to be evaluated. The perusal of frequency of each type of returns-to-scale reflects that most of the states on an average have observed IRS 8 time out of 10 years data. Thus, the scale inefficiency observed is due to excessive debt. In simple words, given the level of debt the states are spending less and thus, expected to incur more expenditure to remove scale inefficiency. To conclude we may say that the states must resort to lesser borrowings in order to incur a given level of expenditure.

Therefore, it means that the quantum of debt is not that much of a problem as its inefficient management.

However, the analysis of OTE of debt management in Punjab reveals that the state has been ranked at 23rd place. Thus, Punjab is among the laggard states of the sample. Continuing the discussion over the technical efficiency status of Punjab, the state has been observed with an OTE score to the tune of 35.98 . Thus an enormous level of inefficiency in the state's finances has been observed to the tune of 64.02. The analysis of the sources of observed OTIE represents that with PTE score of 46.61 , 53.39 percentage points of 64.02 OTE have been attributed to managerial inefficiency. The remaining portion of OTIE has been contributed by scale inefficiency..

The analysis therefore, proves that a benchmark state of Punjab that minimizes the use of public expenditure to produce given level of per capita income becomes laggard state in minimizing debt to incur the observed level of public expenditure. Figure 3 offers comparison of technical efficiency in expenditure management and technical efficiency in debt management. The analysis confirms that the state of Punjab has been placed in the quadrant with the high technical efficiency (more than 3rd OTE quartile) in managing public expenditure and less than first quartile technical efficiency score in debt management. In simple words, the outcome of the study reveals an alarming situation for the state of Punjab along with all those states observed in the quadrant below median (2nd Quartile) debt management technical efficiency score. The classification of each quadrant has been given in the said figure.

Figure 4.3: Comparing Performance of Indian States in Expenditure and Debt Management



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Debt Sustainability in Punjab

Public debt is considered to be sustainable if the rate of growth of income is greater than rate of growth of public debt. There are some alternative indicators of fiscal sustainability too. All of these indicators have been tested for Punjab to address the issue of debt sustainability over the decade under evaluation.

Table 4.8: Fiscal Sustainability - An Indicator Analysis

Sr. No.	Indicators	Symbolic Representation	2000-01 to 2004-05	2005-06 to 2010-11
1	2	3	4	5
1	Rate of nominal growth of GDP (Y) should be more than rate of growth of debt (D)	Y D Y-D> 0	6.46 10.59 -4.13 (NS)	14.70 7.52 7.18 (S)
2	Real output growth (y) should be higher than real interest rate (r)	Y r y-r>0	3.55 4.31 -0.76 (NS)	7.26 0.84 6.42 (S)
3(a)	Primary balance (*PB*) should be in surplus	*PB*/ *GDP* > 0	1.37 (S)	0.26 (S)
3 (b)	Primary Revenue Balance (PRB) should be in surplus and adequate to meet interest payments (IP)	PRB / GDP > 0	0.07 (S)	-0.73 (S)
		PRB/IP>100	1.82 (S)	-18.17 (NS)
4	Interest Burden defined by Interest Payments (IP) to GDP ratio should decline over time	IP / GDP↓↓	3.90	2.76
			(S)	
5	Interest Payments as a proportion of Revenue Expenditure should decline overtime	IP / RE ↓↓	22.99	18.56
			(S)	
6	Interest Payment as a proportion of Revenue Receipt should fall over time	IP / RR↓↓	30.20	21.49
			(S)	

Note: (i) Real interest rate (r) is measured as average interest rate *minus* difference between nominal growth of GDP (Y) and real output growth (y)

(ii) (S) denotes sustainable and (NS) is not sustainable

These indicators have been mentioned as follows: i) Rate of Nominal growth of GDP (Y) should be greater than rate of growth of debt (D); ii) Real output growth (y) should be higher than real interest rate; iii) Primary balance should be in surplus; iv) Interest burden defined by interest payments to GSDP ratio should decline over time; v) Interest payments as a proportion of revenue expenditure should decline overtime; and vi) Interest payments as a proportion of revenue receipts should fall over time. Table 8 provides indicator analysis of fiscal sustainability for the state of Punjab for two time periods, i.e., 2001-02 to 2004-05 and 2005-06 to 2010-11.The results of the table substantiate that majority of the indicators are favourable for debt sustainability in Punjab. Except the primary revenue balance (PRB), remaining criteria are satisfied during second sub period 2005-06 to 2010-11 i.e., the post FRBMA period.

However, during first phase of the analysis, the rate of growth of debt is observed to be higher than the rate of growth of nominal state domestic product. Moreover, in the same phase, the rate of growth of real rate of interest has also been observed to be higher than the rate of growth of real output. Thus, in the pre-FRBMA period, the debt of Punjab was unsustainable, whereas, during second sub-period it is observed to be sustainable.

The indicator analysis used to study the debt sustainability of Punjab presents a mixed picture and brings to fore the fact that over the last 10 years the State debt is becoming sustainable in terms of most of the indicators. However, the primary revenue balance to GDP and interest payment ratios are not favourable. This corroborates the earlier findings that Punjab is a debt-stressed state and must give a serious thought to manage its debt in a manner that it does not impinge upon the dev elopement activity of the State.

Chapter-V

Fiscal Imbalances and Consolidation in Punjab

To analyse the fiscal performance of an economy three key indicators are needed to be analysed, i.e., Fiscal Deficit (FD), Revenue Deficit (RD) and Primary Deficit (PD). The deficits in the government accounts represent the gap between its receipts and expenditure. The nature of deficits is an indicator of the prudence of fiscal management of the government. Further, the ways in which the deficit is financed and the resources applied are important pointers to its fiscal health. Table below provides the picture of the fiscal imbalances in Punjab.

Table 5.1: Fiscal Imbalances of the State

(Rs. Crores)

Year	Gross Fiscal Deficit	Revenue Deficit	Primary Deficit
2002-03	4401.00 (5.35)	3754.00 (4.56)	967.00 (1.18)
2003-04	4880.00 (5.42)	3563.00 (3.95)	1168.00 (1.30)
2004-05	4036.00 (4.17)	3391.00 (3.50)	54.00 (0.06)
2005-06	2656.00 (2.44)	1242.00 (1.14)	-1060.00 (-0.98)
2006-07	4384.00 (3.46)	1749.00 (1.38)	232.00 (0.18)
2007-08	4604.00 (3.01)	3823.00 (2.50)	77.00 (0.05)
2008-09	6690.00 (3.84)	3856.00 (2.22)	1789.00 (1.03)
2009-10	6170.00 (3.12)	5250.00 (2.66)	1160.00 (0.59)
2010-11	7140.00 (3.15)	5290.00 (2.33)	1625.00 (0.72)
2011-12	8491.00 (3.28)	6811.00 (2.63)	2211.00 (0.85)

Source: RBI State Finances: A Study of State Budgets, various issues.
Note: Figure in parenthesis is percent of GSDP.

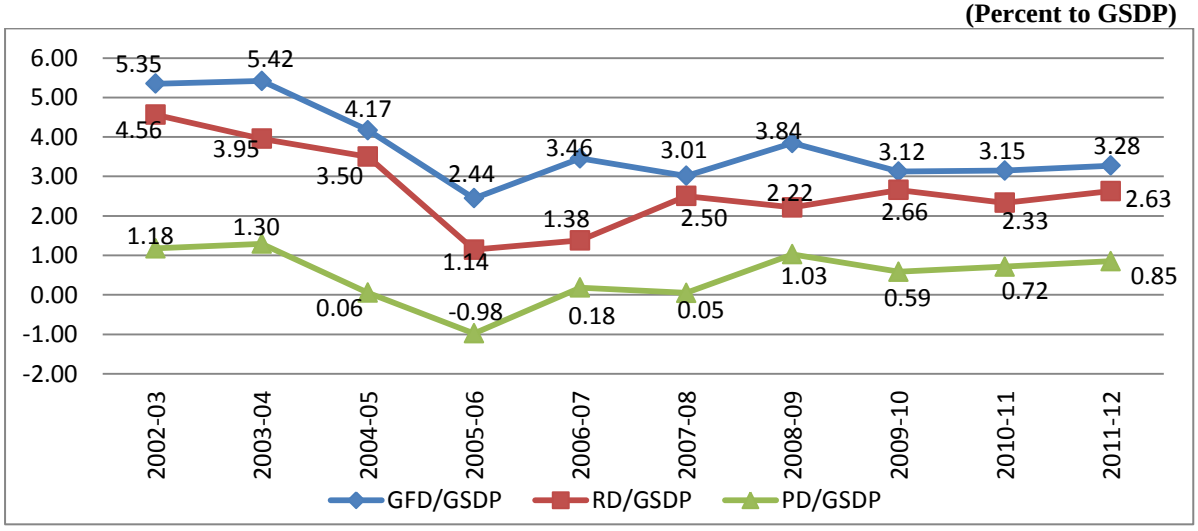
Fiscal deficit, which is the difference between aggregate disbursements net of debt repayments and recovery of loans and revenue receipts and non-debt capital receipts, is the most important indicator of the overall fiscal imbalance of the economy. Fiscal deficit in Punjab increased from Rs. 4401 crore in 2002-03 to Rs. 8491crore in 2011-12 in absolute

terms, even though it had reduced to Rs. 2656 crore in 2005-06 but has been continuously increasing since then. However in terms of percentage to GSDP it has declined from 5.35 percent in 2002-03 to 3.28 percent in 2011-12.

Revenue Deficit which indicates the excess of revenue expenditure over revenue receipts declined continuously from 2002-03 to 2005-06. However, during this period the State had also improved its revenue deficit to GSDP ratio and it reduced from 4.56 percentin 2002-03 to 1.14 percent in 2005-06 but the state never achieved the target of zero percentrevenuedeficit as per FRBMA, 2003. Since 2006-07 revenue deficit of the State has been increasing continuously. Its share as percentto GSDP has also increased from 1.14 percent in 2005-06 to 2.63 percentin 2011-12.

Figure5.1: Fiscal Imbalances of Punjab

(Percent to GSDP)



Source: RBI State Finances: A Study of Budgets, Statistical Abstracts of Punjab, various issues.

Primary deficit which indicates the excess of primary expenditure (total expenditure net of interest payments) over the non-debt receipts fluctuated significantly over the study period. In 2003-04 it was Rs. 1168 croresand in 2005-06 the State had a primary surplus of Rs.1060 crores . However this situation of primary surplus was soon replaced with deficit in 2006-07 and continued thereafter. This fluctuation is also visible in the figure which shows that primary deficit to GSDP ratio reduced to -0.98 percentin 2005-06 from 1.30 percentin 2003-04, however it again started rising and by the end of 2011-12 it became 0.85 percentto GSDP.

Committed Expenditure

Committed liabilities of the governments are that part of the non-plan expenditure which government has to pay without an option of avoidance and government can-not shirk from its obligation to incur this expenditure. Such expenditure includes the pension liabilities, interest payments and expenditure incurred on administrative services. This sum of expenditure is non-developmental in nature and due to its rigid and inevitable nature it drains a major share of government revenues. If the share of committed expenditure is large it implies that most of the government resources are drained towards these non-plan and non-developmental commitments with lesser amount left to be spent on other activities. In the table the burden of the committed expenditure is measured in three ways.

Table 5.2: Committed Expenditure

Year	Interest Payments (crores)	Pension (crores)	Administ-rative Services (crores)	Total Committed Expenditure (crores)	Total Committed Expenditure/ Revenue Expenditure (per cent)	Total Committed Expenditure/ Revenue Receipts (per cent)	Total Committed Expenditure/ States' Own Revenues (per cent)
2002-03	3434.00	1356.00	1419.00	6209.00	41.88	56.08	63.70
2003-04	3712.00	1389.00	1526.00	6627.00	42.20	54.59	61.29
2004-05	3982.00	1514.00	1412.00	6908.00	40.17	50.03	56.15
2005-06	3715.00	1656.00	1690.00	7061.00	38.78	41.62	52.21
2006-07	4152.00	1905.00	1837.00	7894.00	42.57	47.00	60.77
2007-08	4527.00	2433.00	2062.00	9022.00	39.12	46.90	59.54
2008-09	4902.00	2829.00	2338.00	10069.00	40.98	48.61	59.46
2009-10	3357.00	5010.00	2651.00	11018.00	40.20	49.73	62.28
2010-11	5515.00	5309.00	3281.00	14105.00	42.87	51.09	63.66
2011-12	6280.00	5657.00	3923.00	15860.00	48.00	60.46	78.36

Source: RBI State Finances: A Study of Budgets

The table shows that share of committed expenditure in total revenue expenditure is very large and it remained around 40 percentof the total revenue expenditure but in 2011-12 the share increased to 48 percent. This implies that most of the expenditure on revenue account is devoted to these committed liabilities and only a small proportion is left for other developmental activities. Ratio of total committed expenditure to revenue receipts shows that it consumes more than half of the total revenue receipts of the State and increasing its dependence on the borrowed funds to finance the current expenditure requirements of the state. However, from 2002-03 to 2005-06 this ratio of committed expenditure to revenue receipts declined and it reached 41.62 percentin 2005-06 but since 2007-08 this ratio has been increasing continuously and by the end of 2011-12 it reached a very high level of 60.46

percent. This indicates increasing reliance on borrowed funds to finance developmental and non-developmental activities.

Ratio of committed expenditure to own revenues of the State implies that how much portion of State's own revenues (excluding central transfers) are consumed by these three components of committed expenditure. The table shows that this ratio floated around 60 percentsince 2002-03 and a major portion of State's own revenues are spent to finance the committed expenditure which in turn increased the reliance of the State on central transfers and borrowed funds ultimately culminating in increased interest payments. Ratio of committed expenditure to State's own revenuesexhibited a continuously increasing trend since 2008-09 and it reached an alarming level in 2011-12 and this ratio increased to 78.36 percentby the end of the financial year 2011-12.

Subsidies constitute an important component of public expenditure. The following table gives the extent of subsidies extended by the GOP.

Table 5.3: Expenditure on Subsidies

Year	Subsidy (crores)	Subsidy/ GSDP (percent)	Subsidy/RR (percent)	Subsidy/RE (percent)
2002-03	767.00	0.93	6.93	5.17
2003-04	1359.00	1.51	11.2	8.65
2004-05	2183.00	2.25	15.81	12.69
2005-06	1574.00	1.45	9.28	8.64
2006-07	1553.00	1.22	9.25	8.37
2007-08	3021.00	1.98	15.7	13.1
2008-09	2806.00	1.61	13.55	11.42
2009-10	2919.00	1.48	13.17	10.65
2010-11	3480.00	1.53	12.6	10.58
2011-12	3215.00	1.24	12.26	9.73

Source: RBI State Finances: A Study of Budgets, CAG Reports, various issues.

The subsidies are given to the power sector, welfare of SCs, irrigation, etc. These have grown at a CAGR of 15.14percent. Theproportion of subsidies to revenue receipts and revenue expenditure have fluctuated over the years and have accounted for a substantial amount of receipts and expenditure of the GOP.

Quality of Deficit/Surplus

The ratio of RD to FD and the decomposition of Primary deficit into primary revenue deficit and capital expenditure (including loans and advances) would indicate the quality of deficit in the State's finances.

Since fiscal deficit represents the aggregate of all the borrowings, the revenue deficit as a percentage of fiscal deficit would indicate the extent to which the borrowings of the government are being used to finance revenue expenditure. Thus, higher the ratio the worse-off is the state because that would indicate that the debt burden is increasing without adding to the repayment capacity of the State. The ratio of revenue deficit to fiscal deficit showed a great progress in the first half of the decade and it reduced to 39.90 percentin 2006-07 from 85.30 in 2002-03. This impressive progress soon disappeared and the ratio again reached a very high level in 2007-08 and touched 83.04 percentmark. During the last three years from 2009-10 to 2011-12 this ratio fluctuated between 74 to 85 per cent. In 2011-12 this ratio stood at 80.21 percentwhich shows that most of the borrowings were used to finance the current expenditures only. The State government should reduce this ratio substantially, or better still bring it down to zero,so that the borrowings of the state can be more effectively used to finance the capital projects instead of diverting the borrowed funds to the current expenditure needs.

Table 5.4: Quality of Deficits

(percent)

Year	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
RD/GFD	85.30	73.01	84.02	46.76	39.90	83.04	57.64	85.09	74.09	80.21
PD/GFD	21.97	23.93	1.34	(-) 39.91	5.29	1.67	26.74	18.80	22.76	26.04

Source: RBI State Finances: A Study of State Budgets, various issues.

Primary deficit represents net borrowings available after discharging interest liability, which results from the current action of the government (interest payments are on account of past actions of the government).Primary deficit is sustainable only when the rate of growth in the economy is more than the interest rate on the borrowings. Table 2 shows that the ratio of primary deficit to fiscal deficit decreased substantially from 21.97 percentin 2002-03 to 1.34 percentin 2004-05 and there was a primary surplus in 2005-06. However this situation could not be sustained and was replaced by primary deficits again and

since 2007-08 this ratio has been increasing and it stood at 26.04 percentin 2011-12. This increasing trend affects the State's capacity to spend on development projects and asset creation.

Debt Management of the State

In India sub-national debt is managed by the central government, Finance Commission of India and Reserve Bank of India apart from respective state governments.

The Finance Commission has made significant efforts to improve the fiscal health of state governments and to bring the debt to sustainable level. Debt sustainability and debt relief issues have been considered since the time of the Second Finance Commission but from the Ninth Finance Commission onwards the issue has gained more importance, when itbecame mandatory for the Commission to review the debt position of the states as a whole and suggest corrective measures. Reports of various Finance Commissions have suggested measures to improve the sub-national finances like debt consolidation and rescheduling at lower interest rates, rescheduling of loans without lowering of interest rates, moratorium on interest payments and repayments, debt write off, debt relief linked to fiscal performance etc. To ease debt burden of states, the Central government implemented various measures in the early 2000s. The central government formulated a Debt Swap Scheme (DSS) in 2002-03 to lessen the burden of interest payments of the states. Another measure was introduced in the form of Debt Consolidation and Relief Facility by the Twelfth Finance Commission. Punjab has benefitted from both of these reform measures and it helped to mitigate the debt burden of the state.

Debt Swapped under Debt Swap Scheme (DSS)

GOI formulated a Debt Swap Scheme realising the mounting burden of interest payments on the states, and to supplement their efforts towards fiscal management. The scheme was in operation from 2002-03 to 2004-05. The scheme capitalized on the current low interest regime to enable states to prepay expensive loans contracted from GOI with low coupon bearing small savings and open market loans.

Under the Debt Swap Scheme (DSS) for States offered by the Government of India, loans from the Centre bearing coupon rates in excess of 13 percent were swapped against small savings proceeds and open market borrowings (OMB).

Table 5.5: Debt Swapped under Debt Swap Scheme

(Rs. Crores)

Year	AOMB	SSL	TOTAL
2002-03	717.00	275.00	992.00
2003-04	1440.00	1013.00	2453.00
2004-05	1280.00	634.00	1914.00

AOMB: Additional Open Market Borrowings. SSL: Small Savings Loans
Source: RBI State Finances: A Study of State Budgets, various issues.

The scheme was in operation for a period of 3 years i.e. from 2002-03 to 2004-05 and Punjab has benefitted by swapping Rs. 5359 crores of loans during this period to lower interest rate loans from open market and small saving funds. This scheme did not help to reduce the stock of debt rather it merely changed the composition of debt by swapping high interest loans for lower interest loans thus reducing the interest burden of the state government.

Debt Consolidation and Relief Facility (DCRF)

Twelfth Finance Commission recommended Debt Consolidation and Relief Facility (DCRF) which included debt consolidation and debt write-off. This facility was available for only those state governments which had enacted Fiscal Responsibility and Budget Management Act.

As Punjab had enacted its FRBMA in 2003, it benefitted from this facility. The facility of Debt Consolidation was provided for consolidating central loans issued to state governments by Ministry of Finance until March 31, 2004 and outstanding as on March 31, 2005 into fresh loans for 20 years to be repaid in 20 equal instalments carrying a lower interest rate of 7.5 percent. Repayments due from states during the period 2005-06 to 2009-10 on these loans were eligible for write-off. The quantum of debt write-off was linked to the absolute amount by which the revenue deficit was reduced in each successive year.

Table 5.6: Debt and Interest Relief under DCRF for Punjab

(Rs. Crore)

Year	Debt Relief by Central Government	Interest Relief
2005-06	64.00	131.00
2006-07	68.00	134.00
2007-08	86.00	125.00
2008-09	153.00	110.00
2009-10	-	99.00
Total	371.00	599.00

Source: RBI State Finances: A Study of State Budgets, various issues,

The debt write-off scheme was also linked to absolute reduction of revenue deficit with a set of conditionalities. During a period of five years total relief for Punjab amounted to Rs. 970crores which includes both debt and interest relief.

The state government of Punjab also set up Consolidated Sinking Fund and Guarantee Redemption Fund but no amount has been transferred to these funds as yet.

Fiscal Responsibility Legislations

With increasing trend of decentralization all over the world sub-national governments (SNGs) have gained more powers regarding raising revenues, disbursement of resources and the capacity to incur debt. This autonomy in many cases has resulted in an unsustainable fiscal situation, the burden of which ultimately falls on the central government eventually affecting the national fiscal health. As Liu and Webb (2011) observed, "When SNGs follow unsustainable fiscal policy, it can jeopardize the services they manage (but for which the central government may have ultimate political responsibility), the safety of the financial system, the country's international creditworthiness, and overall macroeconomic stability. Too often the central government then gets dragged in to provide bailouts, which can disrupt its own fiscal sustainability and reward the populist fiscal tactics of the recipient SNGs." Furthermore, sub-national governments have less incentive than the central governments to be concerned with macroeconomic impact of their policies because they do not bear the full cost of their actions **(**Vulovic, 2010).

In a globalized world and with the introduction of New Economic Policy in India, states have been given more responsibility in the development of basic infrastructure, providing better

environment for investors apart from providing good quality basic necessities for the well-being of the residents. This has increased the sub-national expenditure manifold which in some cases has resulted in huge debt accumulation and weak fiscal situation. National government and institutions, all over the world, have tried various methods to prevent such irresponsible behaviour of sub-national governments. Adopting the target based fiscal rules in the form of Fiscal Responsibility Legislations (FRLs) is one of the effective solutions to avoid this problem.

Under such a situation, introduction of fiscal rules in the form of Acts in India both at national and sub-national level has given a new momentum to the process of fiscal consolidation. Government of India had enacted the FRBMA in 2003 after which all the state governments followed suit and enacted FRLs at sub-national level. Punjab was one of the leading states who had implemented the FRL at sub-national level in the form of Punjab Fiscal Responsibility and Budget Management Act, 2003.

Punjab Fiscal Responsibility and Budget Management Act (PFRBMA), 2003

The Act stated that the Punjab Fiscal Responsibility and Budget Management Act, 2003 (PFRBMA, 2003) is, "An Act to provide for the responsibility of the State Government to ensure inter-generational equity in fiscal management and long-term financial stability by achieving sufficient revenue surplus, containing fiscal deficit and prudential debt management consistent with fiscal sustainability through limits on the State Government borrowings, debt and deficits, greater transparency in fiscal operations of the State Government and conducting fiscal policy in a medium-term framework and for matters connected therewith or incidental thereto".

The PFRBMA, 2003 has been amended twice, first in 2005 and again in 2011. The second amendment was made to bring the fiscal indicators in line with the fiscal roadmap of the Thirteenth Finance Commission which stated that, "we recommend that the states' enactment/amendment of their FRLs incorporating the above targets should be conditionality for release of all state-specific grants." Keeping these recommendations in view, PFRBM Act, 2003amended the targets for the deficit indicators as well as for debt levels and state guarantees.

Table 5.7: PFRBM Act and its Amendments

PFRBM Act and Amendments → / Parameters ↓	PFRBMA, 2003	PFRBM (Amendment) Act, 2005	PFRBM (Amendment) Act, 2011	
Fiscal Deficit	containing the rate of growth of fiscal deficit to two percent per annum in nominal terms until the fiscal deficit is brought down tothreepercentof GSDP	To reduce the fiscal deficit from 2005-06 to bring it down to 3% by the year 2008-09.	To reduce the fiscal deficit	
			2010-11	3.5%
			2011-12	3.5 %
			2012-13	3.5 %
			2013-14	3.0 %
			2014-15 &onwards	3.0 %
Revenue Deficit	reduction in revenue deficit as percentage of total revenue receipts, by at leastfive percentage points, from the previous year	To reduce the revenue deficit from 2005-06 to bring it down to 0%of GSDP by the year 2008-09 and surplus thereafter	To reduce the revenue deficit	
			2011-12	1.8 %
			2012-13	1.2 %
			2013-14	0.6 %
			2014-15	0 %
			2014-15 onwards	(+)
Debt	Cap the ratio of debt to GSDP at 40 percentto be achieved by 2006-07.	To bring the ratio of debt **including contingent liabilities**toGSDP down to 28 percentwithin a period of five years from 2005-06 to 2009-10.	To bring down its debt as percentof GSDP by	
			2010-11	42.5 %
			2011-12	41.8 %
			2012-13	41.0 %
			2013-14	39.8 %
			2014-15	38.7 %
Outstanding Guarantees	Cap outstanding guarantees on long term debt to 80 percentof revenue receipts of the previous year	Unchanged	Unchanged	

Compliance of the PFRBMA

Implementation of the PFRBM Act, 2003 was considered as a deterrent to the imprudent fiscal behaviour of the state government which would bring books of the State in balance.The original PFRBM Act, 2003 provisioned that the ratio of revenue deficit to revenue receipts should be reduced by five percentage points compared to previous year and containing the rate

of growth of fiscal deficit to two percentper annum in nominal terms until the fiscal deficit is brought down to three percentof GSDP.

Table 5.8: FRBMACompliance Status of the State(2003-04 to 2005-06)

Year	RD/RR (reduce 5 %)		FD (Reduce 2% in nominal terms)		Debt/GSDP		Guarantees/RR*	
	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
2003-04	↓ by 5%	29.35	**4313**	4880	40%	47.53	80%	110.58%
2004-05	↓ by 5%	24.56	**4227**	4036	40%	48.61	80%	73.19%
2005-06	↓ by 5%	7.32	4143	2656	40%	47.07	80%	64.10%

The table shows that the State had achieved the target of revenue deficit and it declined from 29.35 percentto 24.56 percentin 2004-05 and further 7.32 percentin 2005-06. Fiscal deficit also reduced during this period but the reduction in 2004-05 was less than 2 percentas mandated by the Act and the target was not achieved in 2004-05, however State government succeeded in achieving it in 2005-06. Target of debt/GSDP ratio was to be reduced to 40 percentbut the State failed to achieve this target. The guarantees were capped to 80 percentto the previous years' revenue receipts and State government achieved this target successfully.

Table 5.9:FRBMACompliance Status of the State(2005-06 to 2011-12)

First Amendment of PFRBMA,2003 in 2005								
YEAR	GFD/GSDP		RD/GSDP		OL/GSDP		Guarantees/RR*	
	Target	Actuals	Target	Actuals	Target	Actuals	Target	Actuals
2005-06	**3.5**	2.44	↓	1.14	↓	55.22	**80**	64.10
2006-07	**3.5**	3.46	↓	1.38	↓	51.21	**80**	82.04
2007-08	**3.5**	3.01	↓	2.50	↓	43.73	**80**	65.58
2008-09	**3.0**	3.84	**0**	2.22	↓	50.22	**80**	134.47
2009-10	**3.0**	3.12	**Surplus**	2.66	**28**	51.18	**80**	160.75
Second Amendment of PFRBMA,2003 in 2011								
2010-11	**3.5**	3.15	**2.9**	2.33	**41.8**	32.96	**80**	182.03
2011-12	**3.5**	3.28	**1.8**	2.63	**41.0**	32.12	**80**	165.58

In exercise of the powers conferred by Section 7 of the Act, as amended, the State Government framed the Punjab Fiscal Responsibility and Budget Management Rules in

December 2006 with a sole target "to reduce the fiscaldeficit from the financial year 2005-06 so as to bring it down to three percentof GSDP by the year 2009-10".

The target of fiscal deficit was achieved for the period 2005-06 to 2007-08 but later fiscal deficit started rising again and targets of 2008-10 period were not achieved. After the second amendment of the Act, targets were revised for the State fiscal deficit and it remained within the limit in 2010-11 and 2011-12 which indicates that State government complied with the targets of the Act.

Revenue deficits do not present a very encouraging picture. The PFRBM (Amendment) Act, 2005 provisioned that revenue deficit should decline continuously from 2005-06 and it should be in surplus by the end of the year 2008-09. The State failed to comply with these targets completely and revenue deficit never reduced for the period 2005-10 period. In fact RD continued to increase during this period. Second amendment of the Act in 2011 prescribed a limit of 2.9 percent for 2010-11 and state was able to achieve this target but it again failed in 2011-12 to keep the revenue deficit within the prescribed limit of 1.80 percent. It was 2.63 percent in 2011-12, much higher than it was mandated by PFRBMA as amended in 2011.

PFRBM (Amendment) Act, 2005 prescribed that outstanding debt including guarantees should decline over time and by the end of 2009-10 it should be 28 percentof GSDP. State government never achieved this figure during 2005-10 period, except for 2007-08 it remained more than 50 percent to GSDP. This showed that State had absolutely failed to achieve the debt targets of the Act. Second amendment of 2011 did not clearly prescribe whether debt included contingent liabilities or not and it fixed the target of 41.8 percentand 41.0 percentfor the years 2010-11 and 2011-12 respectively. If the contingent liabilities of the state are excluded then the debt/GSDP ratio remained around 32 percent and the targets have been met.

The cap on long term guarantees was fixed at 80 percentof the revenue receipts of the previous year and it remained unchanged in both the amendments. The State complied with these targets until 2007-08 but after that guarantees showed a very steep rise and guarantees as percent to revenue receipts doubled in 2008-09 to 134.47 percentfrom 65.58 percentin 2007-08. This ratio increased continuously and in 2010-11 it reached 182.03 per cent. However in 2011-12 this ratio declined to 165.58 percentbut it is still more than double the limit of 80 percent prescribed by the Act.

The analysis of fiscal imbalances of Punjab state shows that the fiscal performance of the State is not up to the mark and except the fiscal deficit targets the State had failed to achieve the targets recommended in its FRL. State had achieved the debt targets in last two years but

the share of contingent liabilities has been excluded from the total debt. If contingent liabilities are included in the total outstanding debt the picture changed completely and debt including contingent liabilities stood at 50.74 percentand 49.75 percentfor the years 2010-11 and 2011-12 respectively.

Chapter-VI

State Level Public Enterprises in Punjab

As on 31 March 2012, the state of Punjab had 53 public sector units comprising 27 working public companies, 4 statutory corporations and 22 non- working public companies, which are engaged in different functional areas including industrial and manufacturing activities, commercial and trading operations, public utility services, promotional and development tasks and industrial financing. In 2003-04 the number non-working companies was 38 which has been reduced to 17 in 2007-08 but again it started increasing and by the end of 2011-12 there were 22 non-working SLPEs. In the last twelve years, the total number of SLPEs has not changed however, the composition in terms of working and non- working companies differs which can be seen in the following table.

Table 6.1: State Level Public Enterprises in Punjab

Year	Working Public Companies 1	Non-Working Companies 2	Statutory Corporations 3	Total Working SLPEs 4 (1+3)	Total SLPEs 5 (1+2+3)
2002-03	22	28	5	27	55
2003-04	21	38	5	26	64
2004-05	24	28	5	29	57
2005-06	22	30	5	27	57
2006-07	22	19	5	27	46
2007-08	24	17	5	29	46
2008-09	28	17	5	33	50
2009-10	26	19	5	31	50
2010-11	27	22	4	31	53
2011-12	27	22	4	31	53

Source: CAG Reports, various issues.

Investment in Working SLPEs

There has not been much change in the total investment in working SLPEs during the last one decade. The stagnant growth is evident from the table on investment in working SLPEs in Punjab. The equity of these enterprises has grown at a CAGR of 2.1 percent per annum and for long term loans it increased at 1.81 percent. The share of equity in these organizations has been nearly one fourth of the total investment and the loans account for a major share of about three fourth investment. The proportion of amount attributed to share application is negligible

Table 6.2: Investment in Working SLPEs

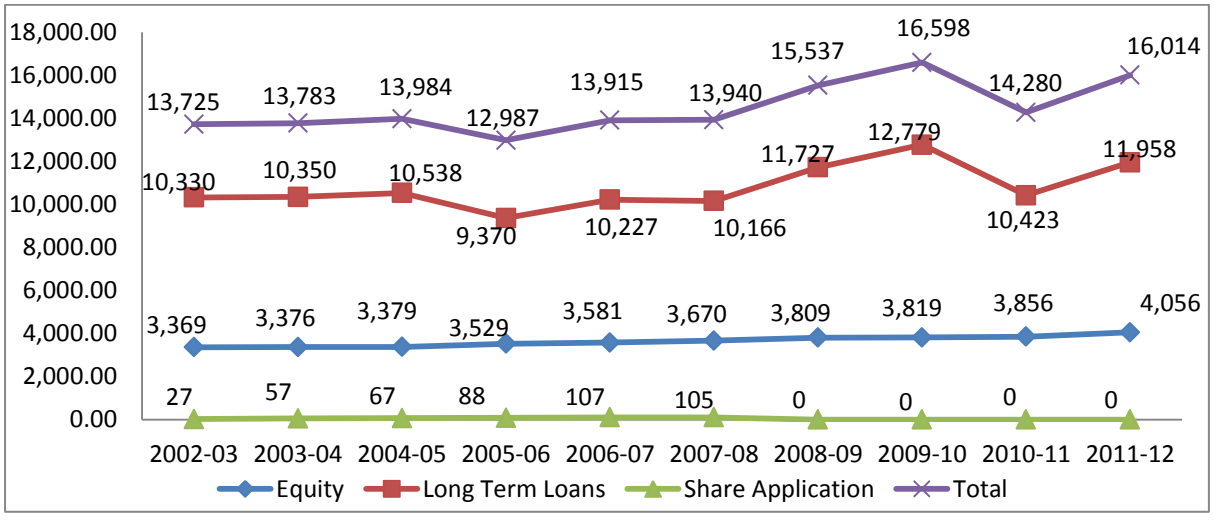
(Rs. Crores)

Year	Equity	Long Term Loans	Share Application	Total Investment
2002-03	3,369.00 (24.54)	10,330.00 (75.26)	27.00 (0.19)	13,725.00 (100)
2003-04	3,376.00 (24.49)	10,350.00 (75.09)	57.00 (0.41)	13,783.00 (100)
2004-05	3,379.00 (27.17)	10,538.00 (75.36)	67.00 (0.48)	13,984.00 (100)
2005-06	3,529.00 (27.18)	9,370.00 (72.15)	88.00 (0.67)	12,987.00 (100)
2006-07	3,581.00 (25.73)	10,227.00 (73.50)	107.00 (0.77)	13,915.00 (100)
2007-08	3,670.00 (26.33)	10,166.00 (72.92)	105.00 (0.75)	13,940.00 (100)
2008-09	3,809.00 (24.52)	11,727.00 (75.48)	0.00 (0.00)	15,537.00 (100)
2009-10	3,819.00 (23.01)	12,779.00 (76.99)	0.00 (0.00)	16,598.00 (100)
2010-11	3,856.00 (27.01)	10,423.00 (72.99)	0.00 (0.00)	14,280.00 (100)
2011-12	4,056.00 (25.33)	11,958.00 (74.67)	0.00 (0.00)	16,014.00 (100)
CAGR	**2.1**	**1.81**	**29.43**	**1.80**

Source: CAG Reports, various issues.
Note: Figure in parenthesis is percent to total.

Figure6.1: Composition of Total Investment

(Rs. Crores)



Source: CAG Reports, various issues.

It is evident from the figure that total investments as well as the equity are almost stagnant and there was a small increase in investment in 2008-09, 2009-10 and in 2011-12 only. It is

also clearly visible that share of equity, long term loans and share applications remained almost constant and varied marginally during last one decade.

The details regarding budgetary outgo, grants/subsidies, guarantees issued, conversion of loans into equity by the State government to working government companies and statutory corporations are given in Table 3.

Table 6.3: Working SLPEs (Government Companies and Statutory Corporations)

(Rs. Crores)

Year	Equity Capital	Loans	Grants/Subsidies		Total Budgetary Outgo	Guarantees
			Project/Programme /Schemes	Other Subsidy		
2002-03	7.00	0.00	1,007.00	5.85	1,020.00	5,387.00
2003-04	8.00	0.00	1,737.00	0.00	1,745.00	8,193.00
2004-05	11.00	0.00	2,316.00	0.00	2,327.00	8,781.00
2005-06	170.00	0.00	1,469.00	0.00	1,639.00	10,922.00
2006-07	21.00	0.00	1,498.00	0.00	1,519.00	10,876.00
2007-08	30.00	3.36	2,918.00	0.00	2,952.00	12,718.00
2008-09	32.00	0.00	2,689.00	0.00	2,721.00	20,555.00
2009-10	11.00	0.00	3,307.00	0.00	3,318.00	25,016.00
2010-11	33.00	0.00	3,657.00	0.00	3,690.00	21,340.00
2011-12	2.00	0.00	3,310.00	0.00	3,311.00	26,124.00

Source: CAG Reports, various issues.

Table 6.3 shows that total budgetary outgo to the working SLPEs has increased thrice since 2002-03 and total amount increased from Rs. 1019.82 croresin 2002-03 to Rs.3311.22 croresin 2011-12. A major share of the total budgetary outgo was in the form of grants and subsidies to these SLPEs and share of equity capital and other components contributed a very small share. The most significant feature of the table is the amount of guarantees issued by the state government against the debt of the SLPEs and their rapid growth over the last ten years. During the period 2002-03 to 2011-12, the total amount of guarantees for SLPEs increased by nearly five times from Rs. 5386.57 crores in 2002-03 to 26123.95 crores in 2011-12 with a very high CAGR of 16.53 percent. In case of default by the SLPEs guarantees lead to an increase in the outstanding debt of the State.

Performance of Working SLPEs (Government Companies and Statutory Corporations):

Investment in working SLPEs is not giving adequate and desirable returns. Table 4 shows that except the year 2004-05, total net profit of all the working SLPEs is negative. However

the turnover of the working SLPEs has increased from Rs. 13550.53 crore in 2002-03 to Rs. 29841.00 crores in 2011-12 but its share as percent to GSDP has declined from 15.09 percent to 12.02 percent during the same period. This is perhaps because of the faster growth of GSDP.

Table 6.4: Performance of Working SLPEs

(Rs. Crores)

Year	Net Profit	Turnover	Turnover as percent of GSDP	Return on Capital Employed (percent)	Debt	Debt/Turnover Ratio
2002-03	-	-	-	-	-	-
2003-04	-896.00	13,551.00	15.00	5.00	10,369.00	1.00
2004-05	75.00	14,647.00	15.00	9.00	10,557.00	1.00
2005-06	-3,834.00	14,762.00	13.00	-	9,389.00	1.00
2006-07	-111.00	17,246.00	14.00	8.00	10,250.00	1.00
2007-08	-1,860.00	17,553.00	13.00	-	10,523.00	1.00
2008-09	-1,591.00	19,139.00	12.00	1.00	11,757.00	1.00
2009-10	-1,203.00	22,399.00	12.00	5.00	12,815.00	1.00
2010-11	-1,498.00	24,431.00	11.00	5.00	10,460.00	1.00
2011-12	-1,510.00	29,841.00	12.00	5.00	11,993.00	1.00

Source: CAG Reports, various issues.

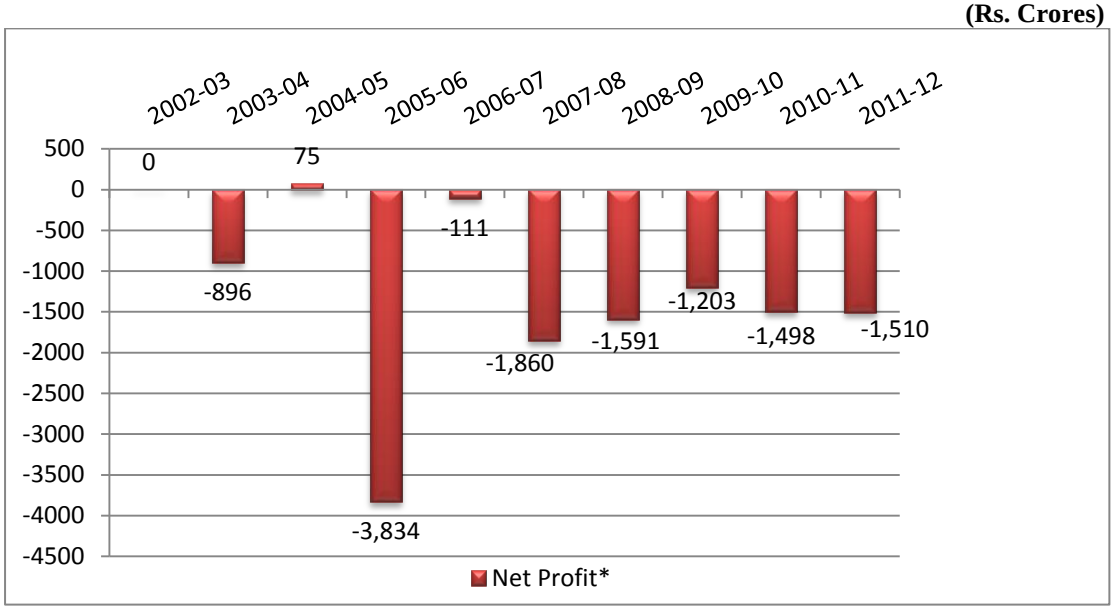
Return on capital employed by working SLPEs is also not very encouraging. Except for the years 2004-05, 2006-07 and 2011-12, returns remained less than 5 percent on the capital employed by the working SLPEs . Return on capital was negative for the years 2005-06 and 2007-08. Because of these low returns theaccumulated losses increased from Rs. 5,976.19 crores in 2006-07 to Rs. 12,492.46 crores in 2011-12.(Table 9).

SLPEs have shown an improvement in terms of debt/turnover ratio. This ratio stood at a very high level of 77 percent in 2002-03 and it registered a continuous decline till 2006-07, then increased marginally and started declining again. From 57 percent in 2009-10, debt –turnover steeply declined to 40 percent by the end of 2011-12.

The Government of Punjab had formulated a policy in April, 1999 under which all SLPEs are required to pay a minimum return of four percenton the funds invested by the State government. As per their latest finalised accounts, 14 SLPEs earned an aggregate profit of Rs. 58.67 crore of which four SLPEs declared a dividend of Rs. 3.30 crore at the rate ranging from four percent to 50 percent. The remaining 10 SLPEs did not declare dividend despite earning profits of Rs. 28.48 crore.

Figure 2: Net Profits of Working SLPEs

(Rs. Crores)



Source: CAG Reports, various issues.

The SLPEs in Punjab have been incurring losses as depicted in the above figure. The losses have however, decreased from Rs. 3,833.99 crores in 2005-2006 to Rs. 1,510.16 crores in 2011-12. In 2005-06, working SLPEs' heavy losses are mainly due to writing off excess Rural Electrification subsidy (Rs. 3242.00 crores) by Punjab State Electricity Board, which was booked in earlier years. However the losses declined thereafter but later during the period of 2006-12 the working SLPEs incurred losses every year. The losses increased from Rs.111.26 crore in 2006-07 to Rs. 1,510.16 crore in 2011- 12. During the year 2011-12, out of 31 working SLPEs, 14 SLPEs earned profit of Rs. 58.67 crore and 12 SLPEs incurred loss of Rs. 1,568.83 crore as per their latest finalised accounts. Three working SLPEs prepared their accounts on 'no profit no loss' basis; and two working SLPEs have not started commercial activities.The losses of working SLPEs are mainly attributable to deficiencies in financial management, planning, implementation of project, running their operations and monitoring.

Non-Working SLPEs

Non-working Government Companies are those which are under the process of liquidation/closure/ merger, etc. There were 22 non-working SLPEs (all companies) as on 31 March 2012. Of these, eightSLPEs were under liquidation/winding up process. The numbers of non-working companies at the end of each year during the past five years are given below:

Table 6.5: Number of Non-Working Companies

Particulars	2007-08	2008-09	2009-10	2010-11	2011-12
No. of non-working Companies	17	17	19	22	22

Although the share of investment in all these non-working companies is very low but State government has not completed the process of closure of these non- functional SLPEs which are all government companies and no statutory corporation. Table 6 gives the composition of total investment in the non-working SLPEs from 2002-03 to 2011-12.

Table 6.6: Investment in Non-Working SLPEs

(Rs. Crores)

Year	Equity	Long Term Loans	Share Application	Total Investment
2002-03	20.00 (47.02)	16.00 (37.78)	6.00 (15.20)	42.00 (100.00)
2003-04	21.00 (51.68)	19.00 (44.92)	1.00 (3.40)	41.00 (100.00)
2004-05	20.00 (49.60)	19.00 (46.84)	1.00 (3.56)	40.00 (100.00)
2005-06	28.00 (47.17)	19.00 (31.28)	13.00 (21.54)	60.00 (100.00)
2006-07	70.00 (74.30)	23.00 (24.25)	1.00 (1.45)	94.00 (100.00)
2007-08	20.00 (48.70)	20.00 (47.94)	1.00 (3.36)	41.00 (100.00)
2008-09	21.00 (41.56)	30.00 (58.44)	0.00 (0.00)	51.00 (100.00)
2009-10	24.00 (40.29)	36.00 (59.71)	0.00 (0.00)	60.00 (100.00)
2010-11	25.00 (40.68)	37.00 (59.32)	0.00 (0.00)	62.00 (100.00)
2011-12	25.00 (41.61)	35.00 (58.39)	0.00 (0.00)	60.00 (100.00)

Source: CAG Reports, various issues.
Note: Figure in parenthesis is percent to total.

Total investment is very low in all the non-working SLPEs and share of equity and long term loans are the major constituent of the total investment. Share of equities remained between 40 to 50 percent except for the year 2006-07 when the share increased to 74.30 percent. Share and application also constituted a major part of the total investments in 2002-03 and 2005-06

but its share has been discontinued since 2008-09. The portion of share applications was substituted by an increase in the long term loans and its share has increased from 47.94 percent in 2007-08 to 58.39 percent in 2011-12.

The non-working SLPEs are required to be closed down as per the recommendations of the Disinvestment Commission of Punjab. During 2011-12, 12 non-working SLPEs incurred an expenditure of Rs. 0.65 crore towards salary/establishment expenditure etc. This expenditure was financed through other resources viz. borrowings from common pool fund of SLPEs under liquidation, interest on investments, etc.

Table 6.7: Stages of Closure in Respect of the Non-Working SLPEs

Sl. No.	Particulars	Number
1	Total No. of non-working SLPEs	**22**
2	Of (1) above, the number under	
(a)	Liquidation by Court (liquidator appointed)	**3**
(b)	Voluntary winding up (liquidator appointed)	**5**
(c)	Closure, i.e. closing orders/ instructions issued but liquidation process not yet started.	**7**

Source: CAG Report, 2011-12.

During the year 2011-12, no company was finally wound up. The companies which have taken the route of winding up by Court order are under liquidation for a period ranging from 3 to 29 years. The process of voluntary winding up under the Companies Act is much faster and needs to be pursued vigorously.

Performance of Power Sector

The Punjab State Electricity Board (PSEB) was constituted as an integrated power utility board under the Electricity (Supply) Act, 1948. As per Memorandum of Understanding (MoU) signed by Government of Punjab, the Punjab State Electricity Board (PSEB) was to be unbundled under the provisions of the Electricity Act, 2003. The PSEB was a vertically integrated agency up to 15 April, 2010 and was responsible for generation, transmission and distribution of electricity. As part of the power sector reforms, the erstwhile Board was unbundled on 16 April, 2010 and two companies viz. Punjab State Power Corporation

Limited (PSPCL) and Punjab State Transmission Corporation Limited (PSTCL) were formed.

The Punjab State Power Corporation Limited (PSPCL) is entrusted with the functions of generation, distribution, wheeling and retail supply of electricity in the state. The other successor entity, the Punjab State Transmission Corporation Limited (PSTCL) is assigned with the functions of transmission of electricity in the state, including functions of State Load Dispatch Centre (SLDC). Punjab has not done complete unbundling of the generation, transmission and distribution functions.

Share of Power Sector in Total Investment

Power sector of Punjab receives the major share of the total investments made to the State Public Sector Enterprises (SLPEs).

Table 6.8: Sector-Wise Investment in SLPEs(Equity & Loans)

(percent)

Year	Power	Industries	Agriculture	Finance	Transport	Others
2002-03	84.25	5.25	4.43	3.40	1.46	1.21
2003-04	85.68	4.21	4.35	3.14	1.38	1.24
2004-05	85.68	4.66	4.32	2.76	1.39	1.19
2005-06	84.15	5.32	5.02	2.73	1.79	0.99
2006-07	85.20	5.11	4.24	2.43	2.11	0.91
2007-08	84.39	5.09	4.91	2.28	2.18	1.15
2008-09	85.95	-	4.42	6.62	-	3.01
2009-10	86.92	-	4.19	6.11	-	2.78
2010-11	83.23	-	5.10	7.33	-	4.34
2011-12	83.48	-	4.58	6.55	-	5.39

Source: CAG Reports, various issues.

As more than 80 percent of the total investment goes to the power sector, bad performance and poor return on the investments of power sector has been affecting the overall performance of the SLPEs.

Table 6.9: Performance of Power Sector

(Rs. Crore)

Year	Net Profit(+)/Loss(-) to Power Sector	Accumulated Losses of Power Sector	Total Accumulated Losses of SLPEs	Accumulated Losses Share of Power to Total Accumulated Losses (Percent)
2004-05	-175.00	533.00	1953.00	27.31
2005-06	-3834.00	4367.00	5867.00	74.44
2006-07	-1289.00	4354.00	5976.00	72.86
2007-08	-1626.00	5981.00	7664.00	78.03
2008-09	-1390.00	7370.00	9329.00	79.00
2009-10	-1041.00	8411.00	10636.00	79.08
2010-11	-1288.00	9652.00	12192.00	79.16
2011-12	-1290.00	9643.00	12492.00	77.19

Source: CAG Reports, various issues.

Power sector has been incurring heavy losses every year and its performance has been affecting the overall performance of the SLPEs. In 2004-05 net loss to power sector was Rs. 174 crores which increased to Rs. 3833.58 crores in 2005-06. The major reason for this sudden rise was that keeping in view the sanction of the Government of Punjab, Rural Electrification (RE) subsidy was to be restricted to interest on Government loan. As such, the excess RE subsidy over and above the interest on Government loan for the period 1.4.98 to 31.03.2002 i.e., Rs. 3,242.00 crores was written off during the year 2004-05 as approved by the Board.

However the net loss to the power sector declined next year and came down to Rs. 1289.40 crores in 2006-07 but in the subsequent year net loss again increased to Rs. 1626.38 crore. By the end of the year 2011-12 net loss of the power sector (after unbundling) stood at Rs. 1290.37 crores. During this period of 2003-04 to 2011-12 accumulated losses of the power sector have continuously increased and in 2011-12 it increased to Rs. 9642.54 crores from Rs.533.45 crores in 2004-05. Share of accumulated losses of power sector to the total accumulated losses of SLPEs indicated a very steep rise in 2005-06 and the share increased from 27.31 percent in 2004-05 to 77.19 percent in 2011-12 and continued to be very high during the study period.

Subsidies given by the Punjab government are mainly devoted to the power sector only. Table 10 clearly shows that share of power sector in subsidies is the most dominant and from 2002-03 to 2011-12 it remained more than 90 percent and for 7 years it remained more than 95 percent and even close to 100 percent for two years.

Table 6.10: Total Subsidies and Share of Power Sector

(Rs. Crores)

Year	Total Subsidy	Subsidy to Power Sector
2002-03	767.00 (100)	750.00 (97.78)
2003-04	1359.00 (100)	1349.00 (99.26)
2004-05	2183.00 (100)	2170.00 (99.40)
2005-06	1574.00 (100)	1551.00 (98.54)
2006-07	1553.00 (100)	1424.00 (91.69)
2007-08	3021.00 (100)	2848.00 (94.27)
2008-09	2806.00 (100)	2602.00 (92.73)
2009-10	2919.00 (100)	2874.00 (98.46)
2010-11*	3480.00 (100)	3375.00 (96.98)
2010-12*	3215.00 (100)	3200.00 (99.53)

Source: CAG Reports, various issues.

Note: Figure in parenthesis is percent to total. *After Unbundling.

In view of the above analysis it can be stated that power sector is performing much below the expectations. The power sector performance after unbundling can be monitored only after a few years, as it is too early to comment on it. The trend of continuous net losses and increasing burden of subsidies to power sector has put pressure on state finances thus affecting the overall fiscal performance. However, it is pertinent to mention here that the issue of free power to tube-wells in Punjab requires a rigorous analysis as there are several aspects to it. On the one hand , the State power sector is incurring huge losses due to free farm power, on the other hand it has been observed that this is not the only reason for power sector losses in Punjab. Most power companies in the states are suffering huge losses which are due to inefficient functioning and over-staffing of these organizations; which is true for Punjab also. This requires an in-depth study of the working of power sector in Punjab. The issue of power subsidies is also debatable with one view emerging that if the cost of power is added to the cost of production of foodgrains in Punjab, it is likely to raise food prices. Therefore the analysis of power sector in the State is complicated and beyond the scope of this study. An independent study is required only for the power sector in the State to identify the losses and ways to address these issues.

Chapter-VII

Local Government Finances

Local bodies have a very important role to play in the growth and development of a state as these are the institutions which actually deliver the basic services to the citizens. Local bodies in India have been in existence since the British rule, however, the Seventy Third and Seventy Fourth Amendments of the Constitution of India empowered the Panchayati Raj Institutions (PRIs) – rural local bodies and urban local bodies respectively in the country and institutionalised their funding needs also. Accordingly the sub-national governments were supposed to set up State Finance Commissions (SFCs). There were a number of legislations meant to govern the rural and urban local bodies before and after the partition of India in Punjab. Following the Seventy Third Constitutional Amendment, the Government of Punjab passed an enactment in the state legislature, called The Punjab Panchayati Raj Act, 1994, and replaced all the previous Acts. This new Act has established a three-tier Panchayati Raj system, i.e. Gram Panchayat at Village level, PanchayatSamiti at intermediate (Block) level and ZilaParishad at District level. Under this system there are elected bodies at the village, block and district levels, in keeping with the provisions of the Constitution (Seventy-third Amendment) Act, 1992 for greater participation of the people and more efficacy of rural development and Panchayati Raj system.

The Urban Local Bodies (ULBs) in Punjab were governed by the Punjab Municipal Act (PMA), 1911 and the Punjab Municipal Corporation Act (PMCA), 1976. These were amended in 1994 through the Punjab Municipal (Amendment) Act, 1994 and the Punjab Municipal Corporation (Amendment) Act, 1994.The Acts were enacted to bring in conformity with the provisions of the Constitution (Seventy fourth Amendment) Act, 1992.

The system of local governance has been changed since 1994 and presently the classification of local bodies in State of Punjab is as follows:

Table7.1: Classification of Local Bodies in Punjab

Category of local body	**Panchayati Raj Institutions (PRIs)**			**Urban Local Bodies (ULBs)**		
Name of the local body	ZilaParishads	PanchayatSamities	Gram Panchayats	Municipal Corporations	Municipal Council	Nagar Panchayats
Number of Local Bodies	20	141	12775	5	102	33

Source: CAG Report, 2012

The elections to local bodies are regularly held in Punjab, which shows the democratic functioning of these institutions.

Financial Assistance to Local Bodies

The Constitution of India and various state laws have given the local bodies an important role to play in the development process at the grass root level. For this, local bodies have been equipped with some powers to raise revenues apart from the grants by the state and central government. Central Finance Commission (CFC) and State Finance Commission (SFC) recommend the respective state governments for the devolution of funds to the local bodies.

In Punjab, the First State Finance Commission was constituted on 22 April 1994, by a legislative action of the Punjab state government under "The Punjab Finance Commission for Panchayats and Municipalities Act, 1994" to review the financial position of Panchayats and Municipalities and to make recommendations for a period of five years from 1996-97 to 2000-01. The Second SFC was set up in September 2000. It was required to make its recommendations covering a period of five years from the year 2001-02 to the year 2005-06. The SSFC of Punjab recommended very detailed fiscal devolution framework covering both vertical and horizontal aspects of devolution. The Third SFC was constituted on September 2004. Its recommendations covered the period from 2006-07 to 2010-11. The State Finance Commissions made very elaborate recommendations for devolution of funds from the state to PRIs and ULBs.

Table 7.2 shows the pattern of grants provided by the State Government of Punjab to the local bodies.

Table7.2: Financial Assistance to Local Bodies

(Rs. Crores)

Year	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
MCs	17.00	-	-	74.00	70.00	29.00	2.00	19.00	155.00	72.00
ZP & PRIs	-	-	-	-	162.00	145.00	73.00	117.00	87.00	131.00

Source: CAG Reports, various issues.

Table clearly shows that State government did not pay much attention to provide grants to the local bodies until 2006-07. From 2002-03 to 2005-06 grants to local bodies were almost neglected and it was only since 2006-07 that grants have been continuously flowing to the local bodies. As per the statement made by the Finance Minister in his budget speech for the year 2006-07, the Third State Finance Commission (TSFC) in its interim report

recommended for transfer of funds to the tune of Rs 496 crore to the Panchayati Raj Institutions and Urban Local Bodies during 2006-07. These funds will be over and above the grants of Rs 99 crore recommended by the Twelfth Finance Commission(TFC). It was further stated that the recommendations of Third State Finance Commission will be accepted by the Government and therefore a total sum of Rs 595 crore were to flow to the Rural and Urban Local Bodies in 2006-07. However, actual assistance of Rs 232 crore only was provided to these bodies during 2006-07.

When compared with the BE, the assistance to Municipal Corporations and Municipalities decreased by Rs 244.45 crore (99.22 per cent). Assistance to ZilaParishads and Panchayati Raj Institutions (PRIs) also decreased from Rs 162.15 crore in 2006-07 to Rs 145.11 crore in 2007-08 and further decreased to Rs 73.34 crore in 2008-09. In 2010-11, in case of grants to be given to zilaparishads and other panchayati raj institutions the decrease in the actual release vis-à-vis the BE was Rs. 370.26 crore(80.97 per cent).

Further in 2011-12, in case of ZilaParishads and other PRIs, decrease in the actual release vis-à-vis the Budget Estimates was Rs. 507.41 crore. The major reason behind this decreasing trend is the non-release of any grant to PRIs against the recommendations of third State Finance Commission.

The Government of Punjab has fulfilled its Constitutional obligation of appointing SFCs every five years and District Planning Boards (DPBs) in the State. Accordingly, three SFCs have submitted their reports. But, it has been observed that the GOP has not fulfilled its duty towards PRIs and ULBs with respect to devolution of funds as recommended by the SFCs and the DPBs are completely non-functional. PRIs have been assigned 29 functions including the delivery of basic services, like water, sanitation, roads, agricultural development, etc. under the Constitution butonly 6 functions have been transferred to them without transferring any functionaries to the same. In case of ULBs, the picture is not any different; for local functions in urban areas like water supply , sewerage, urban planning and development – parallel SLPEs like Punjab Water Supply and Sewerage Board, Punjab Urban Development Authority , Greater Mohali Area Development Authority, etc. are also responsible for delivery and management of services. Consequently there is huge overlapping of functions.Many new planned urban localities have not been transferred to ULBs, so there is no accountability of service delivery in those areas.

Also there is a lot of interference by the State government in the functioning of local bodies in Punjab. Financial control of the State over the municipalities does not leave any scope for fiscal autonomy.The rates of municipal taxes are fixed by the state government and

development grants and transfers are decided by the government. Populist measure by the government and the elected representatives at the local level, further, do not let the user charges or taxes be imposed effectively as recommended by the SFCs. Therefore, the local bodies in Punjab are fund-starved, lack autonomy and are subject to political interference.

Centrally Sponsored Schemes (CSS)

The local bodies in Punjab are responsible for the implementation of various centrally sponsored and state funded schemes for poverty alleviation, employment generation, water supply, sanitation, socio-economic empowerment of women and other marginalised sections of the society, etc. It has been observed that besides local bodies, there are some government departments also involved in their implementation. There is no single agency in Punjab monitoring the funding for such schemes by the GOI. Data regarding the flow of funds and their utilization for major flagship programmes like Mahatma Gandhi National Rural Employment Guarantee Scheme, Jawaharlal Nehru National Urban Renewal Mission, National Rural Health Mission, etc., is not readily available as the funds go directly to the State implementing agencies. The State government claims that it has no control over these funds. Therefore, in order to maintain close scrutiny over the funds and their utilization for CSS , there is a need for a nodal agency in Punjab.

Findings and Recommendations

The majority of population of Punjab is still, directly or indirectly, dependent on agriculture for their livelihood even though a larger part of state income originates in the tertiary sector. Punjab has undergone structural transformation over the years and has faced severe development challenges because of its land locked location as well as sharing a live border with Pakistan. The State has also been at the forefront in protecting the borders during the wars of 1965 and 1971 with Pakistan. Being a pioneer in Green Revolution during the mid-1960s and 1970s, the State created agri-infrastructure as per the requirements of that time and emerged as the food bowl of the country. Punjab also became the state with the highest per capita income in the country and remained so until the beginning of the present century. However, a decade long civil strife in Punjab during the 1980s and the beginning of 1990s led to heavy indebtedness on account of expenditure on security which in turn resulted in a major economic downslide and burgeoning public debt for the State. Even though the deterioration of state finances has been a national problem for the last two decades, its enormity in Punjab has been very great. Consequently, public investment in the State has suffered a lot in all the critical sectors like agriculture, education, health, power, etc. The State is home to the largest Scheduled Caste population in the country, nearly 31 percent of the total population, which places a huge responsibility on the government for social welfare activities in the State.

The fiscal profile of the Government of Punjab will be summarized in the following paragraphs for the perusal of the Fourteenth Finance Commission before they make recommendation for the devolution of funds to the states for the period 2015-2020.

I. The own tax revenue (OTR) of the State as well as central transfers to Punjab have increased over the last ten years. The contribution of land revenue to the state fisc is negligible. The maximum tax revenue is generated by way of sales tax/VAT. The non-tax revenue in Punjab has shown a negative rate of growth. State's investment in public entities gives meagre return and has declined over the period under consideration. The pattern of central transfers to Punjab has also undergone a change. The proportion of taxes in total transfers from the centre has increased whereas the share of grants has come down. Tax revenue to GSDP ratio in Punjab has been between 7-8 percent and has changed only marginally over the years.

Even though the revenue of the State has not shown any dramatic increase over the study period, the analysis of revenue capacity of the State shows that Punjab has remained at

number one as compared to other states. It has also been utilizing its revenue capacity to the extent of 93.5 percent on an average during the period, only 6.5 percent of its revenue capacity remains unutilized. This exercise requires further analysis, which is beyond the scope of this study.

II. The expenditure of the GOP has expectedly increased over the period under study, but the quality of expenditure leaves a lot to be desired. Lower priority has been given to development expenditure, as lower proportion of aggregate expenditure as compared to General Category States is spent under this head. Similarly, lower priority has been given to the social service expenditure as compared to General Category States. The ratio of capital expenditure (CE) as well as the expenditure on education and health services has remained below the comparable ratios for average of GCS. This analysis shows that Punjab has not paid adequate attention to the delivery of basic social services and creation of capital assets in the State over the study period. The proportion of Development Capital Expenditure (DCE) is much lower than the Development Revenue Expenditure (DRE) in total development expenditure.

Further, the ratio of capital expenditure on health and education is extremely low and a very large chunk of expense on these services is incurred on salaries and wages of the staff and employees. The capital expenditure on power sector has also been highly inadequate, which brings to fore the reality that the State is not making any substantial effort in creating development oriented assets but is merely spending on salaries and wages in different sectors of the economy.

Efficiency Analysis of public expenditure in Punjab, which is preliminary in nature and needs further exploration, shows that expenditure in the State is technically efficient but economic efficiency of expenditure is very low. Punjab is not allocating public expenditure in the most efficient manner. This corroborates the earlier results of quality of expenditure in the State, even though the signs of improvement are visible in the last three years of study.

III. The debt position of GOP is far from satisfactory, even though there has been a decline in the proportion of outstanding debt to GSDP, yet it has remained very high. Total outstanding debt to revenue receipts ratio is alarming. Most of the increase in debt can be attributed to an increase in committed expenditure of the GOP as a result of interest liability and the pay revision on the recommendations of the Fifth and Sixth Central Pay Commission awards. Implementation of the awards raised the fiscal deficit of the State dramatically and so the debt. Increased debt leads to higher payments for servicing the debt apart from the

principal in the form of interest payments and most of the revenue generated by the State is spent on debt servicing.

IV. The magnitude of contingent liabilities of Punjab has been very high since 2002-03. There has been a steep rise in the off-budget liabilities arising on account of guarantees extended by the State government. Interest payments are a very high ratio of both revenue receipts and expenditure. The above results show that Punjab is a debt stressed state. The State is resorting to new borrowings in order to repay the previous loans.

Further analysis of technical efficiency of debt shows that the quantum of debt is not that much of a problem as its inefficient management. The analysis reveals that a benchmark state of Punjab that minimizes the use of public expenditure to produce given level of per capita income becomes laggard state in minimizing debt to incur the observed level of public expenditure. Debt sustainability of Punjab has been studied with the help of indicator analysis which shows mixed results. It shows that that over the last 10 years State debt is becoming sustainable in terms of most of the indicators. However, the primary revenue balance to GDP and interest payment ratios are not yet favourable.

V. Fiscal Deficit and Revenue Deficit of Punjab have declined over the last decade , however, RD as percent of FD improved for a short while but has increased again. This shows that most of the borrowings are used to finance the current expenditure whereas the borrowings should be utilized for capital projects. Further a high primary deficit also undermines the capacity of the State for asset creation.

Keeping in view the high Public Debt of the states and mounting interest burden, the Government of India provided some relief under certain schemes to the states. Punjab got this relief under Debt Swap Scheme. The scheme was in operation for a period of 3 years i.e. from 2002-03 to 2004-05 and Punjab has benefitted by swapping Rs. 5359 crores of loans during this period to lower interest rate loans from open market and small saving funds. This scheme did not help to reduce the stock of debt rather it merely changed the composition of debt by swapping high interest loans for lower interest loans thus reducing the interest burden of the state government. Punjab also benefited from Debt Consolidation and Relief Facility (DCRF) of the GOI to the tune of Rs. 970 crores.

Punjab was one of the first states to enact a fiscal responsibility legislation – Punjab Fiscal Responsibility and Budget Management Act, 2003. The Act has been amended twice since then. The compliance status of the Act shows a mixed picture. In the immediate period after the enactment some reduction in RD and FD has been observed, however the compliance

regarding the debt reduction could not be achieved. After the Amendments to the Act, the compliance status has not been very encouraging. The liabilities of the GOP have been very high and far from the targets prescribed in the FRBMA.

VI. The investment in State Level Public Enterprises (SLPEs) in Punjab has almost stagnated over the period under study, even though the loans form a major chunk of this investment. However the amount of guarantees issued by the State government against the debt of the SLPEs has grown rapidly. During the period 2002-03 to 2011-12, the total amount of guarantees for SLPEs increased by nearly five times fromRs. 5386.57 crores in 2002-03 to 26123.95 crores in 2011-12 with a very high CAGR of 16.53 percent. In case of default by the SLPEs guarantees put a direct effect on the expenditure of the state. The return on investment in SLPEs is extremely low/negligible. Return on capital was negative for the years 2005-06 and 2007-08. Because of these low returns the accumulated losses increased from Rs. 5,976.19 crore in 2006-07 to Rs. 12,492.46 crore in 2011-12. The progress on disinvestment/closure of identified SLPEs has been tardy despite the recommendations of the State Disinvestment Commissions and such organizations continue to be a drain on the State resources.

Power sector accounts for more than 80 percentof investment in the public enterprises in Punjab. This sector has been running in to huge losses on account of inefficiency.It accounts for more than three-fourths of accumulated losses of the state public enterprises. Power sector accounts for a major proportion (more than 95 percent) of subsidies given by the GOP.

VII. Every sub-national government is obliged to transfer funds to urban local bodies (ULBs) and Panchayati Raj institutions (PRIs) on the recommendations of the State Finance Commissions. Punjab has fulfilled its constitutional obligation of constituting State Finance Commissions from time to time, but the transfer of resources from the state to the local bodies leaves a lot to be desired. The data on the flow of funds and their utilization for Centrally Sponsored Schemes to Punjab is not readily available.

The overall fiscal situation in Punjab presents a mixed picture and brings out a fact that some fiscal consolidation had taken place in the period immediately after the enactment of FRBMA, 2003. However, it could not be sustained and fiscal imbalances are once again visible in the state finances in the recent past. This brings to fore an urgent need for fiscal reforms in the State, especially to fulfil the development needs of the State and arrest its deterioration in the overall ranking in the country. Intensive capital investment is required in

Punjab for strengthening its physical and social infrastructure. The State must revive its agricultural sector and make concerted efforts towards building a strong base for manufacturing as well as tertiary sector development. All this requires huge investment by the State government, but **the fiscal position of the GOP is not conducive for any development capital expenditure at the moment because of its high level of committed expenditure and contingent liabilities. The State requires massive public funding in order to attract private investment for rejuvenation of the state economy**. The Government of Punjab has to focus on improving the quality of public expenditure and public service delivery.

It is outside the scope of the present study to suggest ways and means to the Government of Punjab for achieving fiscal consolidation in the State, but there is certainly an opportunity for the Fourteenth Finance Commission to pay attention to some of the legitimate financial requirements of the State. However, this is not to suggest that the State should only rely on the Finance Commission or the Government of India for funding to set its house in order. There is no denying the fact that the major effort towards development has to be undertaken by the State in terms of fiscal consolidation, expenditure restructuring, revenue augmentation, power sector reforms, improving the quality of service delivery by strengthening local bodies and initiating major governance reforms. However, a one-time fiscal package for the State may help it to overcome many problems and arrest the derailment of growth and development in the State.

Punjab is a unique state with a high growth rate, low poverty ratio but extremely weak fiscal health. In view of certain special circumstances prevailing in Punjab over the last two-three decades, the following facts are listed for the consideration of the FFC:

I. Punjab is still predominantly an agricultural state and the rate of growth of agricultural development has declined over the last two decades, not only in Punjab but in the country as a whole. There are several environmental problems faced by the State because of the excessive use of chemical inputs during the Green Revolution phase. The problems of water logging, soil salinity, declining water table, water and air pollution as well as related health issues like cancer are afflicting the State. Further the National Food Security Act, 2013 necessitates maintenance of self sufficiency in food grains in India. Punjab, being the food bowl of the country, cannot afford agricultural deceleration or stagnation. There is a huge deficit of R&D in agriculture in Punjab because of lack of funds to promote this activity, which was once being carried out effectively by the

PanjabAgricultural University, Ludhiana, besides other national organizations. In case Punjab goes in for crop diversification, the State needs more funding for fresh R&D for soil and crop management.

II. The pace of growth of the state economy as also the three sectors has slowed down and is below the all-India average as is evident from table 1.1.There is a dire need for rejuvenating the process of economic growth and development in the State. All the three sectors need a push for which public investment is necessary to create social and economic overhead capital, the absence of which will not attract any private investment. A debt –stressed state cannot do it, so availability of resources for the State is imperative.

III. Punjab's power sector is afflicted by huge losses which are partly due to free power to the farm sector tube-wells, from which the rest of the country benefits in the form of lower cost of production of foodgrains , i.e., rice and wheat. The Minimum Support Price (MSP) of wheat and rice which the Central government pays for the procurement of wheat and rice to the farmers of Punjab is low on account of low input cost which is calculated without including the cost of power. In fact, it is the Punjab farmer who is penalised for free power indirectly in the form of lower MSP, whereas the rest of the nation gets the benefit of power subsidy. If the state is compelled to withdraw this subsidy in order to manage its finances then the Central government will have to pay this entire amount in the form of higher MSP with respect to wheat and rice as the cost of production of these crops will go up proportionately. Therefore it will be in the fitness of things that the rest of India atleast shares this power subsidy on farm tube-wells , if it cannot pay the full amount of it.

IV. Punjab is afflicted by unemployment and skill-deficit and the youth are getting increasingly engaged in drug-addiction and alcoholism. It is imperative to create employment opportunities as well as employability of the Punjab youth. No doubt this requires a concerted effort on part of the state government to encourage the simultaneous growth of all sectors of the economy in order to create employment opportunities but once again one of the stumbling blocks is the lack of funds.

V. A lot of funding comes to the states in the form of Centrally Sponsored Schemes (CSS). In certain cases the states are expected to bring about certain institutional reforms but in others the devolution of funds is tied to a matching grant by the state under consideration. A debt-ridden state like Punjab is not in a position to

take the benefit of such CSS and a lot of funds, which could have been available to the State, are no longer available for social and economic development in the State.

Punjab has nearly 31 percent scheduled caste (SC) population, the highest in the country. This necessitates higher welfare expenditure. The focus of GOI is on inclusive growth and welfare of the marginalized. Therefore, Punjab needs to be given some additional funding for the welfare of the marginalized sections of the society in view of a large SC population in the State.

VI. India is fast urbanizing and Punjab is one of the highly urbanized states as compared to the national average. The growing urbanization places huge demands on basic services like water, sanitation, power, health, education, etc. Also the density of population in Punjab is much higher than the national average which further necessitates more public services and civic amenities. A debt-stressed state cannot meet the demands of the growing urban population, hence, a decline in the quality of service delivery in the State.

VII. In view of the decade long civil strife in Punjab, the State was forced to maintain para-military forces and spend unusually high amount on security in the State. The GOP had to incur debt ofRs. 5800 crores for internal security during that period. Even though a substantial amount (Rs. 5029 crores) of that debt was waived off in 2007, an amount of Rs. 2694 crores including the principal and the interest which the GOP had paid off was not compensated. A popular government came to power in the early 1990s but started its governance process with a huge debt burden where some of its resources were committed for debt servicing even before it could restart the development process in the State which had been halted during the period of terrorism in Punjab.

VIII. The industrial development in Punjab was progressing fairly well in the period prior to the civil strife, but the State witnessed not only lack of future investments but a flight of capital from the State. After political stability was attained in Punjab, the neighbouring Himachal Pradesh(HP) is competing away investment from the State on account of special incentives offered by HP to the investors as a Special Category State. Punjab cannot afford to offer any more sops to any sector in view of its precarious financial situation.

IX. The debt situation in the State is extremely serious and cannot be easily reversed even with the best intentions of the government for fiscal restructuring. The ratio

of outstanding debt to revenue receipts is more than 300 to 350 percent in most of the years under study. The State is also utilizing most of its current borrowings (nearly 60 percent in 2011-12) for repayment of earlier debt, which points towards a huge debt-trap. Further the outstanding debt of Punjab including guarantees is declining but is still nearly 50 percent as a proportion of GSDP. Also the ratio of guarantees to revenue receipts is extremely high and far out-strips the revenue receipts. Total outstanding debt of Punjab in 2011-12 was Rs. 83250 crores, which is enormous and is definitely going to undermine the ability of the State to discharge its developmental obligations.

X. The share of Punjab in central taxes and grants as recommended by successive Finance Commissions has declined from 5.3 percent in case of undivided Punjab as recommended by First FC to 4.5 percent (Third FC) and to 2.2 percent (Fourth FC) for Punjab after carving out of Haryana. Thereafter the share declined successively to reach 1.3 percent as per the recommendations of Eleventh FC. It, however, increased marginally as recommended by the Twelfth and Thirteenth FCs. Also the criterion adopted for sharing of taxes based on growth performance of the states has been discriminatory towards better performing states like Punjab. Higher the GSDP of a state, higher is its contribution towards shareable taxes, therefore the devolution criterion must take the contribution of a state into consideration while recommending the shares. The percentage of SC population in a state must also be considered along with total population as the criterion for devolution of funds to the states.

The evaluation of state finances of Punjab clearly brings out that the revenue generation capacity of the State is limited and the quality of expenditure incurred by the State is not desirable in the developmental interest of Punjab. It also points to the fact that Punjab is a highly debt-stressed state and is borrowing mainly to repay its earlier debt, thereby undermining the capacity of the State to create new assets or improve the quality of service delivery in the State. The committed expenditure of the State is colossal and the populist policies of the government have created severe fiscal imbalances. Consequently, from the point of view of sound financial management, such fiscal profligacy must not be ignored and encouraged further. The onus of all this rests with the successive governments of Punjab over the last two decades and the GOP is mainly responsible for fiscal consolidation and arrest further downslide of the economy. There are many tough decisions that the State needs to

take in order to turn around the economy. This report is not making any suggestions for the Government of Punjab to improve its performance, even though a separate report may be submitted to them for the purpose.

However, the factors mentioned above also have some merit and must be considered by the FFC while making recommendation for the devolution of funds to Punjab. Many states in the past have been given special grants, packages in view of several economic, political, social and locational reasons. For almost two decades Punjab has been attributing its inability to carry out development in the State as also rejuvenate the economy to lack of adequate finances and its critical indebtedness. The FC must not club Punjab with Kerala and West Bengal or other poor performers and for once **enable Punjab to build capacity and revive its economy by giving a generous fiscal package to the State.**

Traditionally the people of Punjab are hard working and development oriented. Given a substantial dose of public investment, not only is agricultural revival possible , it is also necessary to encourage the growth of secondary and tertiary sectors as there is huge potential for the same in Punjab. Given the fact that some green shoots are appearing in state finances in the form of declining deficits in the last three years of the study ,it is imperative to nurture them towards growth.

The Fourteenth Finance Commission is requested to take note of the facts mentioned above and recommend a substantial revival package for the State in order to enable it to clear most of its debt at the earliest. The State may start the period 2015-2020 with a clean balance sheet and give the Government of Punjab five years to perform and manage their fiscal position in a manner which helps them revive the economy of the State. This may be done with giving the State some tough but achievable targets for the five year period like achieving revenue surplus/ balance, tolerable levels of fiscal deficit and debt, maintaining primary surplus, capping guarantees and limiting other contingent liabilities which are expected in the wake of Public Private Partnerships and Special Purpose Vehicles to foster growth. The disclosure of extra-budgetary resources and their utilization as well as off-budget liabilities must be made mandatory for all states. **If Punjab is given an opportunity for a fresh start, the GOP will not have any reason to lament about the discrimination towards the State and cannot continue to cover up its poor fiscal management due toheavy indebtedness.**

Punjab needs to be bailed out of the present situation for the very fact that the earlier Finance Commissions gave lesser resources to the faster growing states and more to the laggard states, even when the slow growth of some of the states was not due to any reasons beyond their control but only mismanagement of state finances. Now that Punjab is a highly debt-

stressed state and its growth has slowed down, there is no reason why it should not be given a special financial support for revival of the state economy. **The State helped India achieve food self-sufficiency and has fed the nation for a long time as also paid a very heavy price for sharing a live border with Pakistan in the form of internal instability in the State. It surely deserves a one timeadequate financial support from the Central Government to turn around its finances.** In case Punjab is not able to carry out and maintain fiscal discipline despite a huge reliefpackage during 2015-20, the future Finance Commissions can take a serious note of the situation and further restrict or tie the devolution of funds to the State to its desirable fiscal performance.

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Appendix- I

The DEA approach derives a deterministic production frontier describing the most technically efficient combination of outputs, given the state of technology, fixed and variable inputs. Färe (1984) introduced his methodology as a means of measuring the technological-economic concept of capacity and CU for a decision making unit (DMU), and further developed by Färe*etal*. (1989). The DEA approach calculates capacity output, given the variable factors are unbounded and fixed factors, and state of technology constraint output. Capacity output corresponds to the output that could be produced, given full and efficient utilization of variable inputs and given the constraints imposed by the capacity base i.e., the fixed factors, the state of technology, environmental conditions and resource stock. In practice, because the data reflect both technological and economic decisions made by firm, the variable inputs correspond to full and efficient utilization under normal operating conditions.

The mathematical model to compute capacity measure, proposed by the Färe*et al.* (1994) can be defined as follows:

Model-1

Panel A: LP for Longitudinal Framework

$$\underset{\{\phi_i,\lambda,\mu\}}{\text{Maximize}}\ \phi_i^{0,t}$$

Subject to:
$$\phi_i^{0,t} y_i^{0,t} \le \lambda' Y^t,$$
$$x_{im}^{0,t} \ge \lambda' X_m^t, \quad m \in F_X$$
$$\mu_{\text{in}} x_{in}^{0,t} = \lambda' X_n^t, \quad n \in V_X$$
$$\lambda, \mu_i \ge 0.$$

PanelB: LP for Time Series Framework

$$\underset{\{\phi_t,\lambda,\mu\}}{\text{Maximize}}\ \phi_t^{0,i}$$

Subject to:
$$\phi_t^{0,i} y_t^{0,i} \le \lambda' Y^i,$$
$$x_{tm}^{0,i} \ge \lambda' X_m^i, \quad m \in F_X$$
$$\mu_{\text{tn}} x_{tn}^{0,i} = \lambda' X_n^i, \quad n \in V_X$$
$$\lambda, \mu_t \ge 0.$$

In above LPP formulation, Panel A represents LP formulation used for longitudinal data analysis. Here $\phi_i^{0,t}$ is capacity measure of (DMU) state *0* under evaluation at time period *t*.However, in Panel B, ϕ_t^i = capacity measure at time *t* for i^{th}DMU (State).Assume there are *m*fixedinputs, *n* variable inputs and *k* outputs, then x_{tm},x_{tn} and y_{tk} denotes, respectively, the fixed input, variable inputs and output for the t^{th}year. Thus, x_{tm} is a $(m\times 1)$ column vector,x_{tn} is a $(n\times 1)$ column vector and y_{tk} is a $(k\times 1)$ column vector. Moreover, $X_m = (x_1, x_2, ..., x_m)$ is the $(m\times T)$ matrix of fixed inputs, $X_n = (x_1, x_2, ..., x_T)$ is the $(n\times T)$ matrix of variable inputs and $Y = (y_1, y_2, ..., y_T)$ is the $k\times T$ output matrix. Further, λ is vector of intensity variable of

order $T \times 1$ and μ_{tn} represents input utilization rate of variable input *n*attime*t*and defined as the ratio of the optimal use of each input to its actual usage. However, capacity utilization (CU) generally refers to the proportion of potential capacity that is used, and is typically measured as the ratio of actual output to capacity output (Kirkley and Squires, 1999). This ratio generally cannot exceed unity. Färe*et al.* (1989) proposed that CU be measured as the ratio of output oriented technical efficiency to the capacity measure i.e.,

$$\left(CU_{DEA}\right)_i^o = \frac{\theta_i^o}{\phi_i^o} \quad \text{for Panel-A} \quad \left(CU_{DEA}\right)_t^i = \frac{\theta_t^i}{\phi_t^i} \quad \text{for Panel-B} \qquad \text{Re}\,lation\text{-}1$$

Where, θ_i^o and θ_t^i represents technical efficiency score for the i^{th} DMU (State) at time *t* under panel and time series framework, respectively. The θ_i^o and θ_t^i can be defined from the following model which is popularly known as output-oriented CCR model.

Model-2

Panel A: LP for Panel-data Framework

$$\underset{\{\phi_o,\lambda\}}{\text{Maximize}}\ \theta_i^{o,t}$$

$$\text{Subject to: } \theta_i^{o,t} y_i^{o,t} \le \lambda' Y,$$

$$x_i^{o,t} \ge \lambda' X,$$

$$\lambda \ge 0.$$

Panel B: LP for Time Series Framework

$$\underset{\{\phi_o,\lambda\}}{\text{Maximize}}\ \theta_t^{o,i}$$

$$\text{Subject to: } \theta_t^{o,i} y_t^{o,i} \le \lambda' Y,$$

$$x_t^{o,i} \ge \lambda' X,$$

$$\lambda \ge 0.$$

In above model, the output constraint is same as given in Model-1, whereas, the handling of input constraints differs to some extent. In Model-2, each input acquires same treatment and no differences exist between fixed and variable inputs. Thus, $X = \left(x_1, x_2, ..., x_T\right)$ becomes a matrix of order $\left[\left(m+n\right)\times T\right]$. It is evident from Model-2 that capacity utilization and technical efficiency are related with each other. We made use of *Relation-1*to compute the levels of revenue capacity utilization in the 18 major states of India.

Appendix-II

Table II.1 Revenue Expenditure on Social Services

(Rs. Crores)

Year	Education, Sports, Art and Culture	Medical and Public Health & family welfare	Water Supply, Sanitation and Urban Development	Welfare of Scheduled Castes, Scheduled Tribes and Other Backward Classes	Labour and Labour Welfare	Social Security and Welfare	Relief on account of Natural Calamities	Others	Social Services
2002-03	2092.00 (64.93)	610.00 (18.94)	241.00 (7.48)	49.00 (1.54)	54.00 (1.66)	143.00 (4.44)	11.00 (0.34)	21.00 (0.66)	3222.00 (100)
2003-04	2080.00 (61.77)	608.00 (18.07)	275.00 (8.18)	21.00 (0.62)	59.00 (1.76)	169.00 (5.03)	135.00 (4.02)	18.00 (0.54)	3368.00 (100)
2004-05	21131.00 (59.77)	604.00 (17.08)	289.00 (8.18)	26.00 (0.74)	54.00 (1.53)	138.00 (3.89)	291.00 (8.24)	21.00 (0.58)	3536.00 (100)
2005-06	2289.00 (63.51)	696.00 (19.31)	207.00 (5.75)	83.00 (2.30)	58.00 (1.62)	173.00 (4.81)	73.00 (2.03)	24.00 (0.67)	3604.00 (100)
2006-07	2318.00 (56.49)	689.00 (16.79)	346.00 (8.44)	79.00 (1.93)	62.00 (1.52)	430.00 (10.49)	150.00 (3.65)	28.00 (0.69)	4104.00 (100)
2007-08	2674.00 (61.70)	756.00 (17.46)	307.00 (7.09)	58.00 (1.34)	68.00(1.57)	190.00 (4.38)	249.00 (5.75)	31.00 (0.72)	4334.00 (100)
2008-09	3065.00 (55.91)	829.00 (15.12)	283.00 (5.15)	162.00 (2.95)	74.00 (1.36)	701.00 (12.79)	331.00 (6.03)	37.00 (0.68)	5483.00 (100)
2009-10	3645.00 (58.63)	981.00 (15.77)	318.00 (5.12)	113.00 (1.82)	91.00 (1.46)	844.00 (13.57)	192.00 (3.08)	34.00 (0.54)	6217.00 (100)
2010-11	4086.00 (56.28)	1190.00 (16.39)	322.00 (4.43)	240.00 (3.30)	109.00 (1.51)	977.00 (13.45)	219.00 (3.02)	118.00 (1.63)	7261.00 (100)
2011-12	6155.00 (54.05)	1692.00 (14.86)	477.00 (4.18)	645.00 (5.66)	161.00 (1.42)	1341.00 (11.77)	690.00 (6.06)	59.00 (2.00)	11387.00 (100)
CAGR	**11.63**	**10.85**	**5.34**	**34.72**	**11.29**	**31.26**	**30.21**	**26.11**	**13.54**

Source: RBI State Finances: A Study of Budgets
Note: Figure in parenthesis is percent to total

Table II.2 Revenue Expenditureon Economic Services

(Rs. crores)

Year	Agriculture and Allied Activities	Rural Development	Irrigation and Flood Control	Power	Industry and Mineral	Transport and Communications	General Economic Services	Others	Total Economic Services
2002-03	430.00 (18.63)	39.00 (1.70)	359.00 (15.55)	752.00 (32.55)	23.00(0.98)	482.00 (20.87)	224.00(9.68)	1.00 (0.04)	2310.00 (100)
2003-04	434.00 (14.76)	56.00 (1.92)	491.00 (16.71)	1351.00 (45.97)	21.00 (0.73)	358.00 (12.19)	226.00 (7,69)	1.00 (0.04)	2939.00 (100)
2004-05	472.00 (12.62)	27.00 (0.72)	471.00 (12.60)	2172.00 (58.12)	22.00 (0.59)	444.00 (11.86)	129.00 (3.45)	1.00 (0.04)	3738.00 (100)
2005-06	487.00 (13.12)	48.00(1.28)	594.00 (16.00)	1551.00 (41.76)	71.00 (1.91)	351.00 (9.44)	609.00 (16.40)	3.00 (0.08)	3714.00 (100)
2006-07	474.00 (12.56)	66.00 (1.76)	519.00 (13.77)	1427.00 (37.82)	138.00 (3.66)	552.00(14.62)	595.00 (15.78)	1.00 (0.03)	3773.00 (100)
2007-08	662.00 (12.09)	66.00 (1.20)	568.00 (10.36)	2851.00 (52.03)	128.00 (2.34)	364.00 (6.64)	826.00 (15.08)	15.00 (0.27)	5479.00 (100)
2008-09	749.00 (15.78)	74.00 (1.57)	613.00 (12.93)	2602.00 (54.84)	133.00 (2.80)	326.00 (6.88)	245.00 (5.15)	3.00 (0.05)	4744.00 (100)
2009-10	736.00 (14.11)	102.00 (1.96)	769.00 (14.73)	2874.00 (55.07)	35.00 (0.66)	460.00 (8.81)	240.00 (4.60)	3.00 (0.05)	5219.00(100)
2010-11	1206.00 (18.85)	117.00 (1.83)	921.00 (14.39)	3376.00 (52.75)	103.00 (1.61)	509.00 (7.95)	163.00 (2.55)	4.00 (0.06)	6399.00 (100)
2011-12	1146.00 (16.33)	194.00 (2.77)	1165.00 (16.60)	3208.00 (45.71)	100.00 (1.42)	580.00 (8.27)	613.00 (8.73)	12.00 (0.18)	7019.00 (100.00)
CAGR	**12.75**	**18.18**	**11.29**	**15.03**	**18.77**	**2.22**	**4.6**	**37.2**	**11.63**

Source: RBI State Finances: A Study of Budgets
Note: Figure in parenthesis is percent to total

Table II.3 Revenue Expenditure onGeneral services (Non-Developmental Expenditure)

(Rs. crores)

Year	Organs of State	Fiscal Services	Interest Payments and Servicing of Debt	Administrative Services	Pensions	Miscellaneous General Services	Non-Developmental Expenditure
2002-03	133.00 (1.47)	171.00 (1.89)	3434.00 (37.85)	1419.00 (15.64)	1356.00 (14.94)	2559.00 (28.21)	9072.00 (100)
2003-04	144.00 (1.54)	187.00 (2.00)	3712.00 (39.70)	1526.00 (16.32)	1389.00 (14.85)	2392.00 (25.58)	9351.00 (100)
2004-05	136.00 (1.38)	183.00 (1.86)	3982.00 (40.42)	1412.00 (14.34)	15134.00 (15.37)	2624.00 (26.64)	9850.00 (100)
2005-06	137.00 (1.30)	219.00 (2.08)	3715.00 (35.33)	1690.00 (16.07)	1656.00 (15.74)	3099.00 (29.47)	10516.00 (100)
2006-07	168.00 (1.63)	230.00 (2.22)	4152.00 (40.16)	1837.00 (17.76)	1905.00 (18.43)	2046.00 (19.79)	10339.00 (100)
2007-08	185.00 (1.44)	217.00 (1.68)	4527.00 (35.11)	2062.00 (15.99)	2433.00 (18.87)	3469.00 (26.91)	12892.00 (100)
2008-09	232.00 (1.65)	208.00 (1.49)	4902.00 (34.93)	2339.00 (16.67)	2830.00 (20.17)	3521.00 (25.09)	14032.00 (100)
2009-10	274.00 (1.77)	235.00 (1.52)	5011.00 (32.98)	2652.00(17.08)	3357.00 (21.63)	3995.00 (25.73)	15525.00 (100)
2010-11	336.00 (1.81)	355.00 (1.91)	5515.00 (29.65)	3281.00 (17.64)	5309.00 (28.55)	3801.00 (20.44)	18598.00 (100)
2011-12	561.00 (3.41)	450.00(2.74)	6271.00 (38.16)	4281.00 (26.05)	4803.00 (29.23)	68.00 (0.42)	16434.00 (100.00)
CAGR	15.72	8.98	6.4	12.52	17.47	-14.79	8.5

Source: RBI State Finances: A Study of Budgets
Note: Figure in parenthesis is percent to total

Appendix-III

To illustrate input-oriented CCR model, consider a set of decision making units (DMUs), $j = 1,2,...,n$, utilizing quantities of inputs $X \in R_+^m$ to produce quantities of outputs $Y \in R_+^s$. We can denote x_{ij} the amount of the ith input used by the jth (Decision Making Unit

(DMU)[1] and y_{rj} the amount of the rth output produced by the jth DMU. Assuming constant returns to scale (CRS), strong disposability of inputs and outputs and convexity of the production possibility set, the technical efficiency score of the DMU k (h_k) can be obtained by solving following model (Charnes*et al.*, 1978):

$$
\begin{aligned}
&\min \quad \theta_k - \varepsilon\left(\sum_{r=1}^{s} s_r^+ + \sum_{i=1}^{m} s_i^-\right) \\
&\text{subject to:} \\
&\qquad \sum_{j=1}^{n} \lambda_j x_{ij} + s_i^- = \theta_k\, x_{ik} \qquad i = 1,2,...,m; \\
&\qquad \sum_{j=1}^{n} \lambda_j y_{rj} - s_r^+ = y_{rk} \qquad r = 1,2,...,s; \\
&\qquad \theta_k \text{ free}, \ \lambda_j \geq 0, \qquad j = 1,2,...,n. \\
&\qquad s_r^+, s_i^- \geq 0 \\
&\qquad 0 < \varepsilon \leq 1
\end{aligned}
\Bigg\} (1)
$$

The presence of the non-Archimedean ε in the objective function of this model effectively allows the minimization over θ_k to preempt the optimization involving the slacks, s_i^- and s_r^+. Therefore this model gives us technical efficiency of public expenditure in 28 Indian states. Underlying the CCR method is the assumption of constant returns-to-scale (CRS).

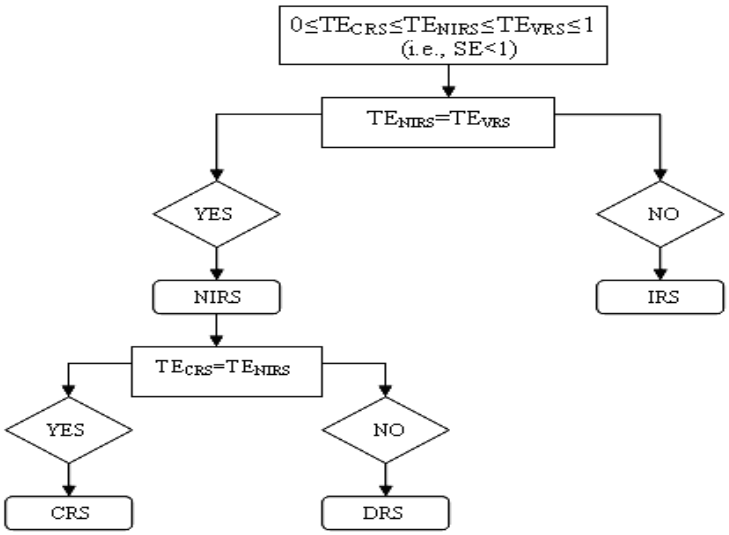
The CRS assumption is only appropriate when DMUs are operating at an optimal scale. Imperfect competition, constraints on finance, etc., may cause a DMU to be not operating at optimal scale [Coelli, Rao and Battesse (1999)]. The BCC model modifies the CCR model by allowing variable returns-to-scale (VRS). This is done by simply adding the convexity constraint $\sum_{j=1}^{n} \lambda_j = 1$ [2] into problem (1). The solution obtained via solving BCC model is denoted by TE_{VRS}. Clearly, $TE_{CRS} \leq TE_{VRS}$. Note that the BCC method measures purely the technical efficiency whereas CCR method measures both pure technical efficiency and scale efficiency. By using TE_{CRS} and TE_{VRS} measures, we derive a measure of scale efficiency i.e., $SE = TE_{CRS} / TE_{VRS}$. However scale inefficiency can be due to the existence of

[1] In our case the state under efficiency evaluation is known as DMU.

[2] The convexity constraint $\sum_{j=1}^{n} \lambda_j = 1$, essentially ensures that an inefficient DMU is only "benchmark" against DMUs of a similar size.

either sub-optimal scale size (i.e., increasing returns-to-scale (IRS)) or supra-optimal scale size (i.e., decreasing returns-to-scale (DRS)). The nature of scale inefficiencies for a particular DMU can be determined by executing an additional DEA program with the assumption of non-increasing returns-to-scale (NIRS) imposed. The process for determining the nature of returns-to-scale is provided in Figure 1.

Figure 1: Determination of Returns-to-Scale



By adding the restriction $\sum_{j=1}^{n}\lambda_j \leq 1$ in DEA model (1) the TE scores assuming NIRS can be calculated. The calculation of technical efficiency assuming NIRS facilitates the identification of the nature of returns-to-scale. Let the measure of TE assuming NIRS be denoted by TE_{NIRS}. The existence of increasing or decreasing returns-to-scale can be identified by seeing whether the TE_{NIRS} is equal to the $TE_{VRS.}$However, to carry out the analysis of economic efficiency, the following DEA model will be executed:

$$
\begin{aligned}
&\min \quad C_k = \sum_{i=1}^{m} p_i^k x_i^k \\
&\text{subject to:} \\
&\sum_{j=1}^{n}\lambda_j x_{ij} \leq x_{ik} && i=1,2,\ldots,m; \\
&\sum_{j=1}^{n}\lambda_j y_{rj} \geq y_{rk} && r=1,2,\ldots,s; \\
&\lambda_j \geq 0, && j=1,2,\ldots,n. \\
&s_r^+, s_i^- \geq 0 \\
&0 < \varepsilon \leq 1
\end{aligned}
\qquad (2)
$$

In above model, the $p_i$represents price paid to use i^{th} input $x_i$by state k. Thus, the scalar C_k is the cost of production incurred by k^{th}state .Economic Efficiency is defined as the multiplication of Overall Technical Efficiency(OTE) and Allocative Efficiency(AE), i.e.,

$$EE = OTE \times AE$$

The execution of models (1) and (2) give us OTE and EE, respectively. Therefore, the following formula has been used to work out Allocative Efficiency (AE):

$$AE = \frac{EE}{OTE}$$