



Munich Personal RePEc Archive

Social Sector Expenditure and Human Development of Indian States

Mittal, Pranjali

Individual

13 July 2016

Online at <https://mpra.ub.uni-muenchen.de/75804/>
MPRA Paper No. 75804, posted 25 Dec 2016 01:31 UTC

Social Sector Expenditure and Human Development of Indian States

Pranjal Mittal

Abstract

The Study tries to explore the effect of Social Sector Expenditure (SSE) on Human Development Index (HDI) of Indian States. It is found that SSE has a positive impact on HDI.

JEL: H76, JEL: O23

Social Sector Expenditure and Human Development Index of Indian States

Introduction

Social sector expenditure is a key instrument for the development of the country. Researchers have made several attempts both at national and international level to address the issue that whether social sector expenditure can be instrumental for sustainable economic and social development to achieve various developmental goals (such as MDG-Millennium Development Goals) by influencing the wellbeing of people.

Public spending on social sector is given importance for at least two reasons. First, the extent of deprivation in the developing countries is too large to be left to market forces alone to take care of sufficient spending required for human development. Second, the poor utilizes government services as compared to richer households. This study makes an attempt to analyse the state of human development index and public spending on social sector across the States of India. The Human Development Index (HDI) is a composite index of health, education and per capita income. The Human Development Index (HDI) introduced by UNDP in 1990 is a simple average of three dimension indices that measure average achievements in a country with regard to 'A long and healthy life', as measured by life expectancy at birth; 'Knowledge', as measured by the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio; and 'A decent standard of living', as measured by estimated earned income in Purchasing Power Parity (PPP) US\$. It can be taken as a simple proxy for the extent of achievement in few important dimensions of economic development.

The concept of Human Development throws light on total development of human beings by considering the improvement of following sectors: economic, social, cultural, educational, health and civic conditions of human beings residing in a definite territory. Mere consideration of economic development is considered to be dangerous for human development of any country.

Review of Literature

Social Expenditure plays a major role to achieve the goal of development to build societies that are socially inclusive, economically healthy, and democratically anchored. There have been many attempts to measure the quality of life of society across the countries in world (Human Development Index of UNDP, various years), or across the states in India (HDR of different States, various years). Unequal human development among states is marked by several studies in India. Several studies with their different quantitative methodologies concluded that expenditure in the social sector is an important determinant of economic growth. Such social expenditures enhance productivity by providing infrastructure, education, health and harmonizing private and social interests (Arora,2001; Mundle, 1998; Dev and Ravi (2007); Majumder,2005; Kannan and Pillai, 2007; Sen and Karmakar,2007; Guha and Chakraborty, 2003; etc.). Planned allocation of resources in independent India was expected to rectify inter-regional disparities and imbalances in development but it could not fulfil its challenges (Roy and Bhattacharjee, 2009; Rao, Govinda et al, 1999; Chakravarty, 2009; etc.).

Objective of the Study

An important feature of social sector expenditures in India is that they are incurred majorly by State Governments. In the constitutional division of responsibilities between Centre and States, sectors that ensure the provision of basic needs are the primary responsibility of State governments, though the Centre may provide leadership, direction, and support. Among the social sectors, education is in the concurrent list though the bulk of expenditure is incurred by the State Governments. On the other hand, although medical and public health is in the domain of the States, the Centre plays an important role and finances several Centrally-sponsored programmes and almost the entire family welfare programmes which includes maternal and child health services. This study is inspired by existing literature on relationship between social sector expenditure and human development for India. The objectives of this study are: i) To analyse the trends in social sector expenditure for Indian States; ii) To do an inter-state comparison with respect to social sector expenditure and human development and iii) To capture the correlation between human development index and social sector expenditure by doing a state level analysis. The study is

confined to two time periods 2004-05 and 2011-12 for analysis of correlation and for rest of the trend analysis the data is from 2000-01 to 2014-15.

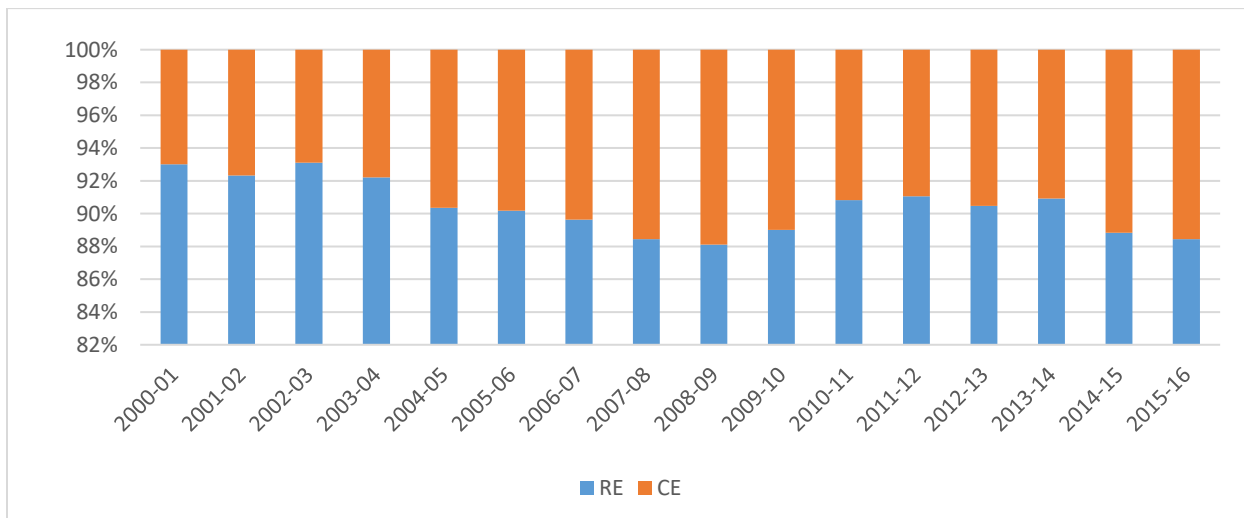
Data Source and Methodology

The study uses data from Reserve Bank of India, Ministry of Statistics and Programme Implementation, Government of India, Census of India, RGI. The analysis of the study is based on simple correlation and regression.

Data Analysis and Results

The social sector expenditure in India can be classified under two heads capital expenditure and revenue expenditure. Capital expenditure constitutes a very small portion of total social sector expenditure and revenue component is over 90 per cent which can be observed from the following graph 1. Revenue expenditure consists mainly of salaries, while capital expenditure is the expenditure for accumulation of asset. It is important to notice that the share of capital expenditure is showing an increasing trend. It accounts for 11.2 per cent in 2014-15(RE) as compared to 6.9 per cent in 2000-01. Table 1 shows the revenue-capital composition of State governments' expenditure on education, health and overall social sector from 2000-01 to 2014-15.

Graph 1: Share of revenue and capital expenditure in total social sector expenditure (In per cent)

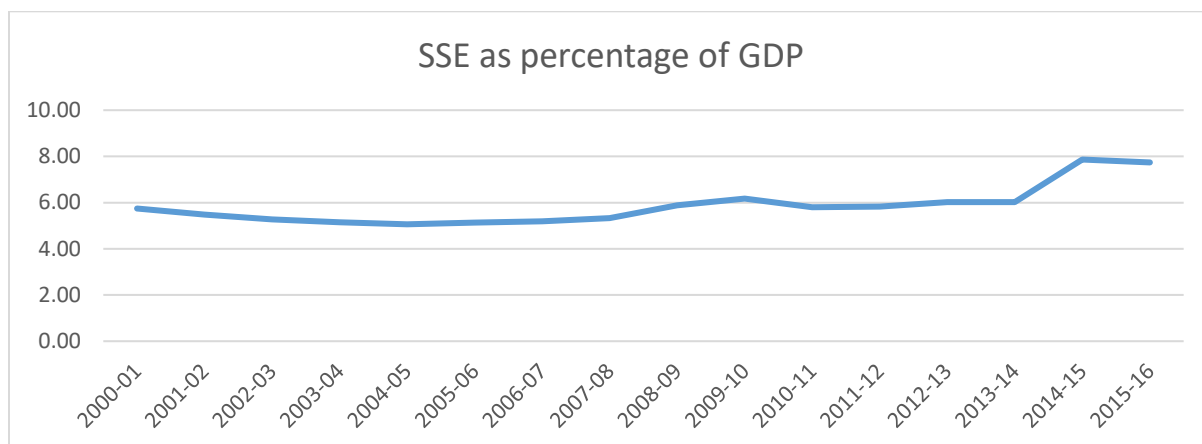


Data Sources: State Finances: A Study of Budgets, Reserve Bank of India, 2016

From the above graph, we can observe that the share of capital expenditure first increased from 2000-01 to 2001-02 and then decreased in the next year. Afterwards, it continuously increased

from 2002-03 to 2008-09. Then the capital expenditure decreased till 2010-11 and remained almost constant till 2013-14. Finally, it increased from 2013-14 to 2015-16.

Graph 2: Social Sector expenditure as percentage of GDP



The above diagram shows Social sector expenditure as a percentage of GDP, which was declining till 2008. Then it increased till 2011 and afterwards became constant. Finally, it increased till 2016.

Table 1: Composition of Expenditure on Social Service: All States

(In Rs Billion)

Item	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15(RE)
1. Revenue Expenditure (i + ii)	1134	1163	1219	1322	1460	1678	1956	2281	2851	3489	4029	4679	5367	6103	8662
(i) Social Services (a to l)	1024	1054	1091	1175	1290	1486	1746	2038	2553	3086	3657	4256	4854	5501	7292
(a) Education, Sports, Art and Culture	588	591	613	643	694	782	896	1008	1213	1517	1876	2161	2454	2735	3490
(b) Medical and Public Health	126	129	134	141	152	175	192	219	262	326	381	440	506	564	815
(c) Family Welfare	23	25	24	25	25	28	30	36	45	57	68	76	95	101	162
(d) Water Supply and Sanitation	54	55	55	65	69	85	88	98	103	105	115	127	124	147	235
(e) Housing	13	12	14	17	19	20	29	40	59	57	64	67	86	87	183
(f) Urban Development	27	32	35	39	48	47	95	142	218	227	217	228	283	315	474
(g) Welfare of SCs, STs and OBCs	61	68	71	77	92	105	118	146	181	209	253	309	380	427	556
(h) Labour and Labour Welfare	12	11	12	14	15	17	25	24	28	34	40	44	59	70	94
(i) Social Security and Welfare	49	50	61	71	80	92	129	176	252	329	387	485	556	655	800
(j) Nutrition	25	23	23	28	32	40	48	62	85	112	135	157	170	196	239
(k) Expenditure	39	50	42	47	56	86	79	67	83	84	88	137	110	169	202

on Natural Calamities															
(l) Others	7	7	7	8	8	10	17	21	25	27	33	27	29	35	43
(ii) Economic Services (a + b)	110	110	128	147	170	192	211	244	299	403	372	422	513	602	1370
(a) Rural Development	100	102	118	136	154	176	193	222	266	356	326	372	444	488	1235
(b) Food Storage and Warehousing	10	8	10	11	16	16	18	22	33	47	46	50	69	114	135
2. Capital Outlay (i + ii)	85	97	90	112	156	183	226	298	385	431	408	459	565	609	1088
(i) Social Services (a to i)	54	58	72	93	117	141	174	230	292	294	314	343	433	501	839
(a) Education, Sports, Art and Culture	4	5	5	7	10	17	24	34	46	42	51	46	58	73	123
(b) Medical and Public Health	6	6	6	9	10	17	31	34	36	39	42	50	61	76	123
(c) Family Welfare	0	0	0	0	-	-	0	0	1	1	0	1	1	3	15
(d) Water Supply and Sanitation	31	27	36	36	52	52	67	93	113	102	88	89	115	136	244
(e) Housing	5	5	6	6	10	7	10	10	12	11	30	32	44	50	87
(f) Urban Development	3	4	5	18	18	23	18	25	42	62	52	74	91	75	96
(g) Welfare of SCs, STs and OBCs	4	4	6	8	9	12	17	18	24	21	29	32	33	41	85
(h) Social Security and Welfare	0	0	1	2	2	2	3	5	8	8	12	10	15	24	40
(i) Others	0	6	7	7	7	10	5	10	9	9	10	10	17	23	26

(ii) Economic Services (a + b)	32	39	18	19	39	41	52	68	93	137	94	116	132	108	249
(a) Rural Development	13	23	22	23	30	40	54	57	58	70	92	100	100	100	225
(b) Food Storage and Warehousing	19	16	-4	-4	9	2	-2	11	35	67	1	16	32	8	24

Data Sources: State Finances: A Study of Budgets, Reserve Bank of India, 2016

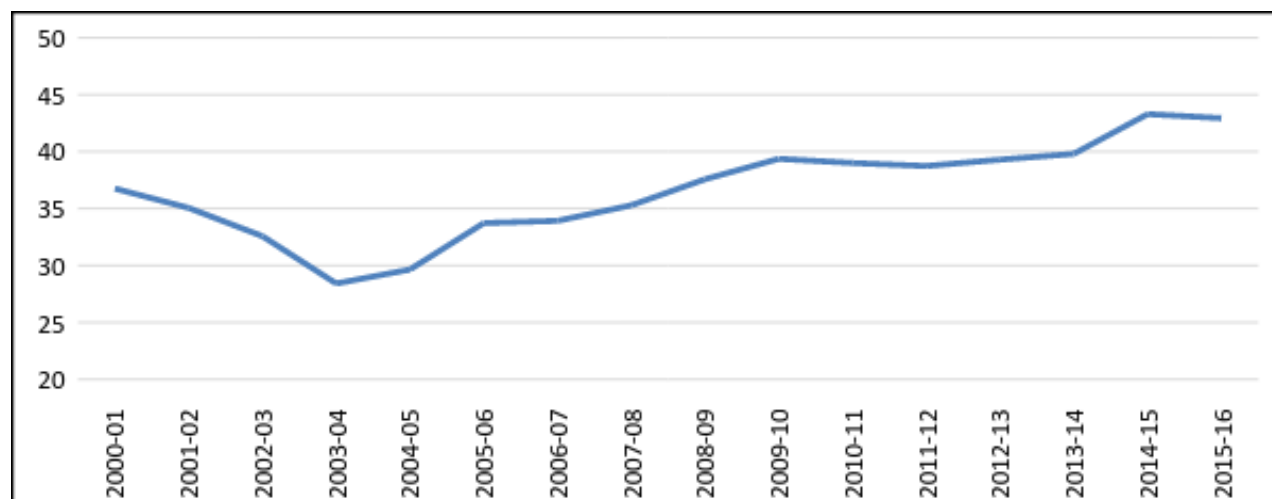
Table 2: Share of Expenditure on Social Service: All States

Item	2011-12	2012-13	2013-14	2014-15(RE)
Expenditure on Social Service	100	100	100	100
Education, Sports, Art and Culture	47.2	46.9	46.3	44.1
Medical and Public Health	10.5	10.6	10.5	11.5
Family Welfare	1.6	1.8	1.7	2.2
Water Supply and Sanitation	4.6	4.5	4.7	5.8
Housing	2.7	2.9	2.8	3.6
Urban Development	6.5	7	6.4	6.9
Welfare of SCs, ST and OBCs	7.3	7.7	7.7	7.8
Labour and Labour Welfare	0.9	1.1	1.1	1.1
Social Security and Welfare	10.6	10.6	11.2	10.2
Nutrition	3.4	3.2	3.2	2.9
Expenditure on Natural Calamities	2.9	2	2.8	2.5
Others	1.7	1.8	1.5	1.4

Data Sources: State Finances: A Study of Budgets, Reserve Bank of India, 2016

The table 2 represents a table on States' share of expenditure on social services. The table shows that States spend highest on education, sports, art and culture, followed by Medical and Public Health and Social Security and Welfare, among the other categories of social sector expenditure. The share is 47.2 per cent as per 2011-12. Though the share has gone down over the years from 47.2 per cent in 2011-12 to 46.9 per cent in 2012-13, 46.3 per cent in 2013-14 and 44.1 per cent as per 2014-15(RE), the share of expenditure on education, sports, art and culture is still at the top as compared to rest of the components under social sector. The share of medical and public health and social security and welfare are almost same. Their shares are approximately constant between 10 to 11 per cent. The trend of overall social sector expenditure as percentage of total expenditure of the States is shown below in graph 3.

Graph 3: Social Sector Expenditure as percent of Total expenditure of States



Data Sources: Authors calculation and State Finances: A Study of Budgets, Reserve Bank of India, 2016

The above graph shows that the social sector expenditure as percentage of total expenditure of states is highest for the year 2014-15 at 43.3 per cent, followed by the year 2015-16 at 42.9 per cent. The percentage of social sector expenditure decreases from 35 per cent in 2000-01 to 28.4 per cent in 2003-04. Then it shows an increasing trend from 2003-04 to 2009-10. After 2009-10, it remains stagnant till 2013-14. Then it again increases from 39.8 per cent in 2013-14 to 43.3 per cent in 2014-15. 2015-16 figure gives an estimate of downturn of 42.9 per cent from 2014-15. Expenditure on social sector is an area of concern for human development, therefore, it is necessary to make efficient amount of expenditure by the government to achieve human development goals. The following section analyses the state wise pattern of per capita social expenditure and human development index. The study does a comparison of states for two years 2004-05 and 2011-12 and try to capture the correlation between human development index and social sector expenditure of States.

Table 3: Per Capita Social Sector Expenditure and their ranks during 2004-05 and 2011-12

States	PCSSE (Rs.)		Rankings		Rank change (old rank –new rank)
	PCSSE 2004-05	PCSSE 2011-12	PCSSE 2004-05	PCSSE 2011-12	

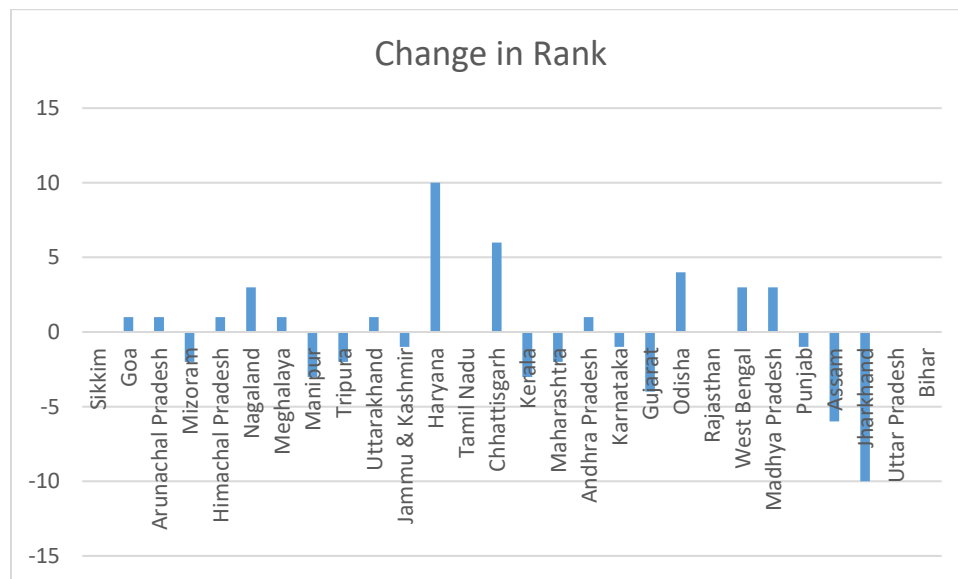
Sikkim	8875	23861	1	1	0
Goa	5936	15778	3	2	1
Arunachal Pradesh	5920	15623	4	3	1
Mizoram	7315	15032	2	4	-2
Himachal Pradesh	3834	8751	6	5	1
Nagaland	3166	8129	9	6	3
Meghalaya	3191	7895	8	7	1
Manipur	4015	7422	5	8	-3
Tripura	3501	7328	7	9	-2
Uttarakhand	2745	7295	11	10	1
Jammu & Kashmir	3056	6965	10	11	-1
Haryana	1655	6417	22	12	10
Tamil Nadu	2182	5808	13	13	0
Chhattisgarh	1742	5799	20	14	6
Kerala	2305	5613	12	15	-3
Maharashtra	2109	5440	14	16	-2
Andhra Pradesh	1813	5362	18	17	1
Karnataka	1847	5295	17	18	-1
Gujarat	1999	5026	15	19	-4
Odisha	1250	4303	24	20	4
Rajasthan	1741	4059	21	21	0
West Bengal	1214	3898	25	22	3
Madhya Pradesh	1205	3737	26	23	3
Punjab	1539	3599	23	24	-1

Assam	1793	3590	19	25	-6
Jharkhand	1904	3252	16	26	-10
Uttar Pradesh	1019	2992	27	27	0
Bihar	737	2317	28	28	0

Data Sources: Authors calculation, State Finances: A Study of Budgets, Reserve Bank of India, 2016 and Census of India, RGI.

Table 3 shows state wise PCSSE during 2004-05 and 2011-12 and also shows how ranks of states changes over time.

Graph 4: Change in ranks (PCSSE) of states from 2004-05 to 2011-12



From the above graph, we can assess the performance of Indian States in terms of Per Capita Social Sector Expenditure. States like Haryana, Chhattisgarh, Odisha witnessed a substantial increase in PCSSE. Further, states like Goa, Meghalaya, Jammu and Kashmir observed small amounts of positive trend. On the other hand, states like Mizoram, Manipur, Gujarat had a decrease in their PCSSE over the time and states like Assam and Jharkhand experienced major decline in their PCSSE.

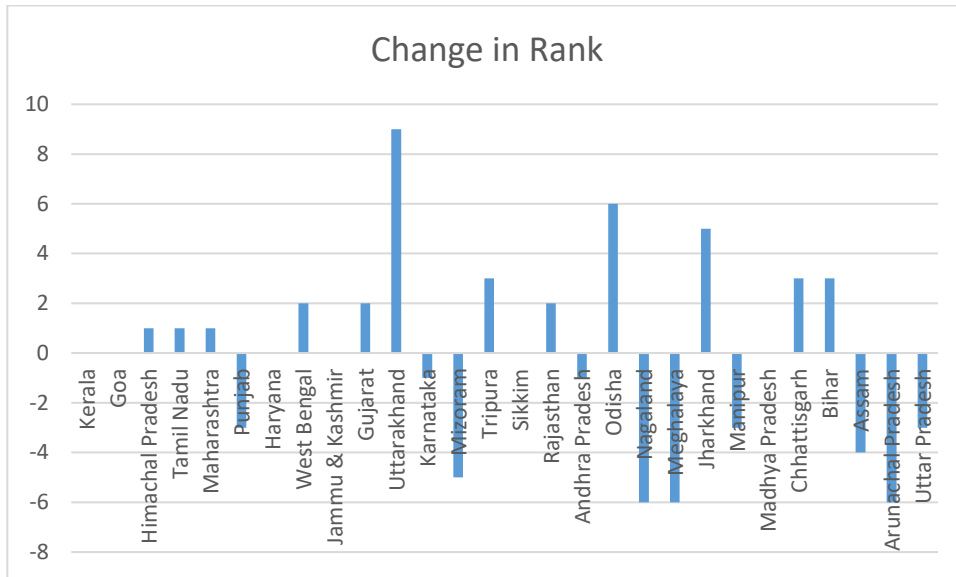
Table 4: State wise HDI and their ranks during 2004-05 and 2011-12

States	HDI		Rankings		Rank change (old rank- new rank)
	HDI 2004-05	HDI 2011-12	HDI 2004-05	HDI 2011-12	
Kerala	1.000	0.911	1	1	0
Goa	0.781	0.803	2	2	0
Himachal Pradesh	0.605	0.647	4	3	1
Tamil Nadu	0.587	0.633	5	4	1
Maharashtra	0.583	0.629	6	5	1
Punjab	0.64	0.538	3	6	-3
Haryana	0.544	0.493	7	7	0
West Bengal	0.462	0.483	10	8	2
Jammu & Kashmir	0.493	0.479	9	9	0
Gujarat	0.429	0.477	12	10	2
Uttarakhand	0.247	0.426	20	11	9
Karnataka	0.436	0.42	11	12	-1
Mizoram	0.529	0.408	8	13	-5
Tripura	0.288	0.354	17	14	3
Sikkim	0.299	0.324	15	15	0
Rajasthan	0.278	0.324	18	16	2
Andhra Pradesh	0.298	0.309	16	17	-1
Odisha	0.174	0.261	24	18	6
Nagaland	0.403	0.257	13	19	-6
Meghalaya	0.34	0.246	14	20	-6
Jharkhand	0.145	0.222	26	21	5
Manipur	0.256	0.199	19	22	-3
Madhya Pradesh	0.182	0.186	23	23	0
Chhattisgarh	0.142	0.18	27	24	3
Bihar	0.05	0.158	28	25	3
Assam	0.234	0.138	22	26	-4
Arunachal Pradesh	0.234	0.124	21	27	-6
Uttar Pradesh	0.167	0.122	25	28	-3

Data Source: Data taken from Mukherjee et al, Working Paper No. 2014-139, June 2014, National Institute of Public Finance and Policy

The above table 4 shows state-wise HDI during 2004-05 and 2011-12 and also shows how ranks of states change over time.

Graph 5: Change in ranks (HDI) of states from 2004-05 to 2011-12

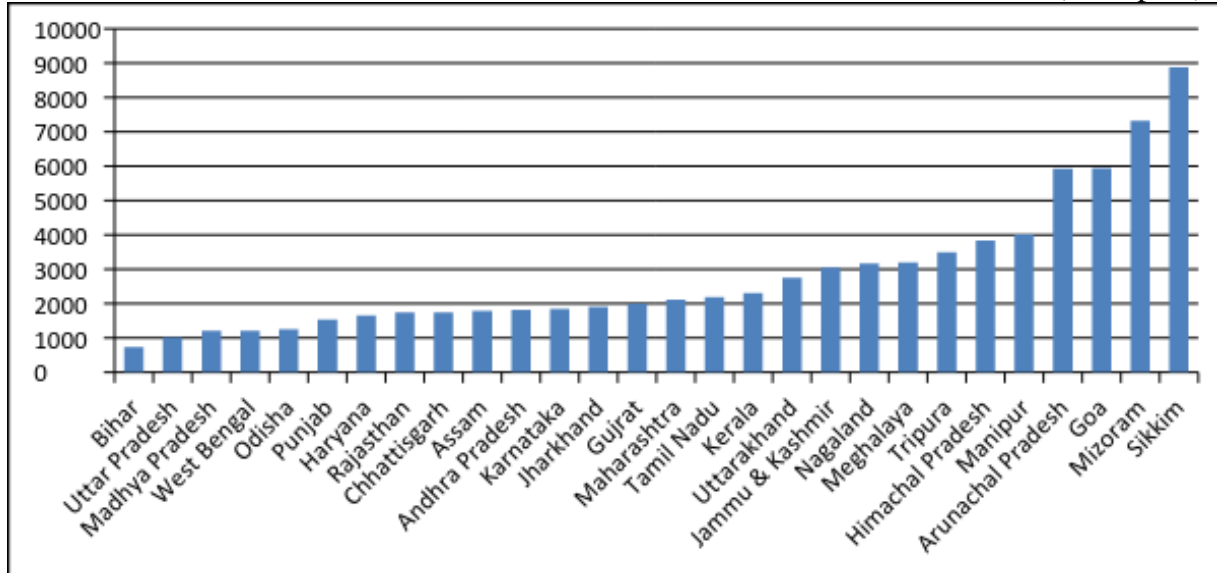


The above graph helps us to understand the performance of Indian States based on HDI from 2004-05 to 2011-12. As we can see, states such as Uttarakhand and Odisha undergone a huge increase in their HDI over the time. While states like Bihar and Chhattisgarh had a moderate increase in their HDI, other states like Mizoram, Nagaland, Meghalaya and Arunachal Pradesh experienced a major dip in their HDI.

The following graph 6 and graph 7 shows the state-wise per capita expenditure and state-wise human development index (HDI) during 2004-05 respectively.

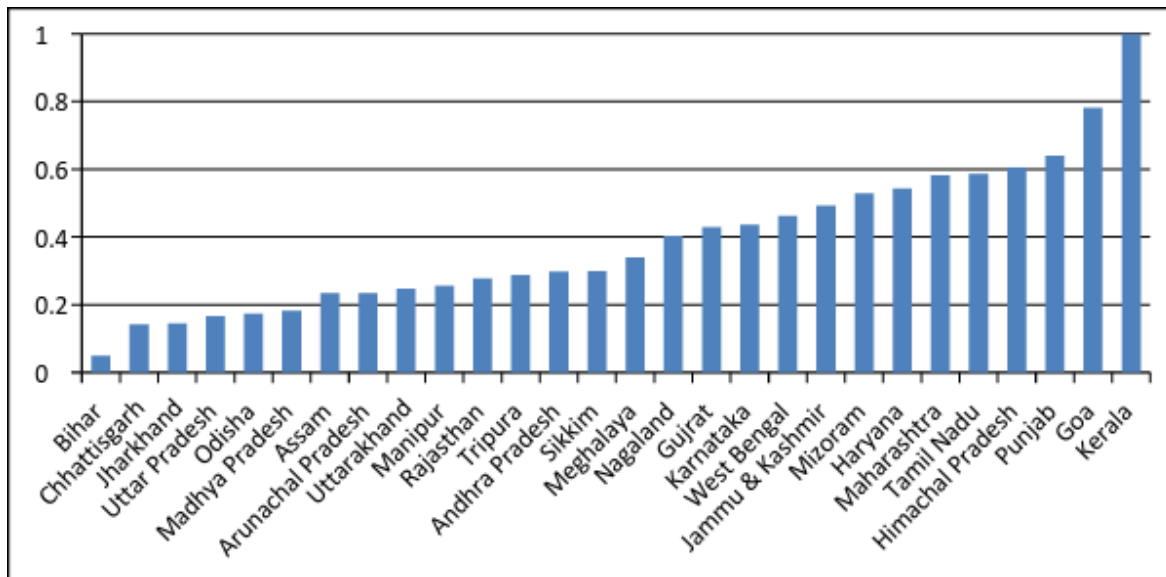
Graph 6: State-wise Per Capita Social Expenditure in India during 2004-05

(In Rupees)



Data Sources: Authors calculation, State Finances: A Study of Budgets, Reserve Bank of India, 2016 and Census of India, RGI.

Graph 7: State wise Human Development Index in India during 2004-05

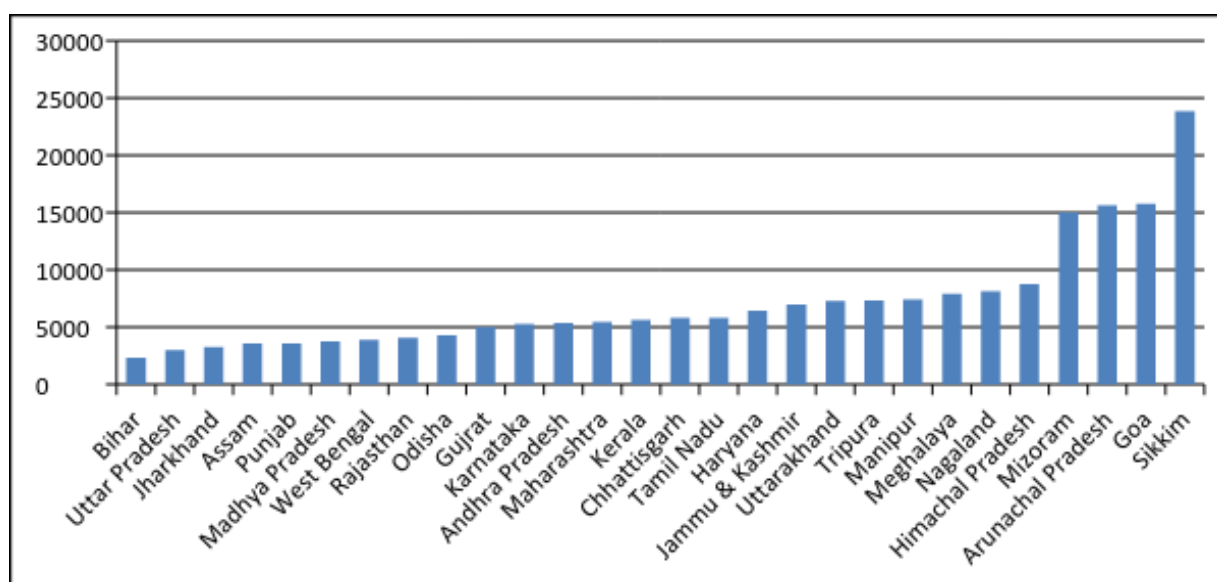


Data Source: Data taken from Mukherjee et al, Working Paper No. 2014-139, June 2014, National Institute of Public Finance and Policy

The above graph 6 and 7 shows that states which spends more on social expenditure have better ranks in HDI and those who spends less have lower ranks in HDI. Bihar, Uttar Pradesh, Odisha and Madhya Pradesh are the states with lower per capita social expenditure as compared to other states and also their ranks are lower in terms of HDI during 2004-05. Bihar spends least among all

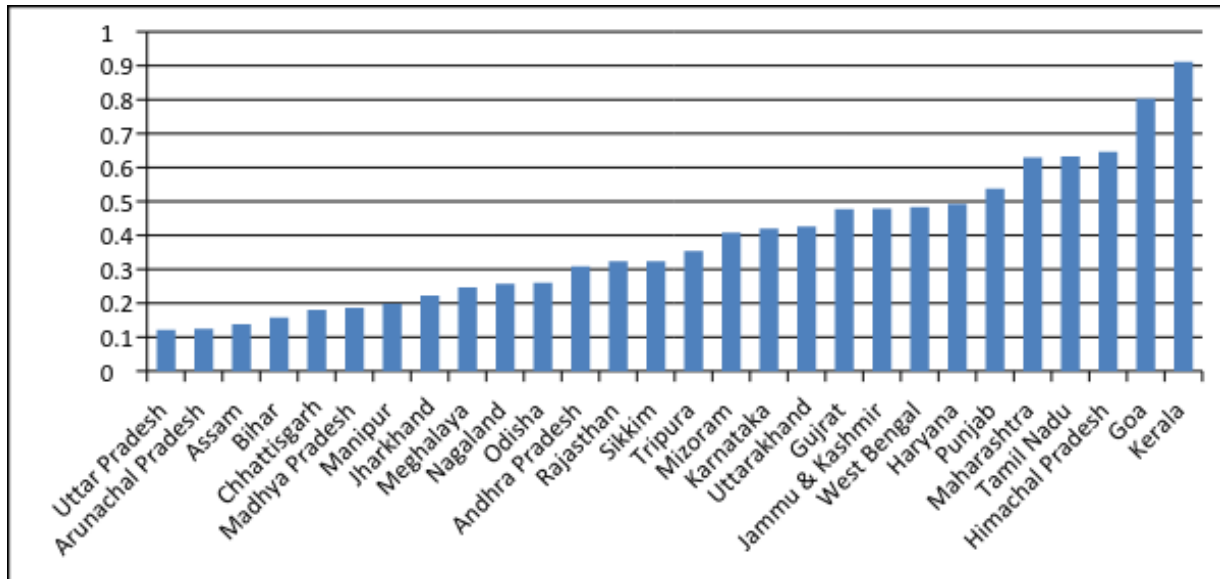
the states and also has the least rank in HDI during 2004-05. Tamil Nadu, Kerala, Jammu & Kashmir, Himachal Pradesh and Goa are the states with social spending on higher side with higher ranks in HDI during 2004-05. The next section looks at the same indicators during 2011-12. Graph 8 and graph 9 shows state-wise per capita expenditure and state wise HDI during 2011-12 respectively. The following graphs 8 and 9 shows that Madhya Pradesh, Chhattisgarh, Bihar and Uttar Pradesh are the states with comparatively lower per capita social expenditure and their ranks in HDI are also comparatively low during 2011-12. When HDI of two periods 2004-05 and 2011-12 are compared it indicates that Madhya Pradesh, Chhattisgarh, Bihar and Uttar Pradesh are the states which are constantly at lower ranks in terms of HDI. Odisha and Jharkhand are the states whose performance have improved over the years. They were at the bottom six states during 2004-05 but their ranks have improved in 2011-12. Assam and Arunachal Pradesh are the states whose ranks have deteriorated over the years. Assam's rank has come down from 22nd in 2004-05 to 26th in 2011-12. Arunachal Pradesh's rank has gone down to 27th in 2011-12 from 21st in 2004-05. The better performing states with respect to HDI in both the periods 2004-05 and 2011-12 are Kerala, Goa, Himachal Pradesh, Tamil Nadu, Maharashtra and Punjab.

Graph 8: State wise Per Capita Social Expenditure in India during 2011-12



Data Sources: Authors calculation, State Finances: A Study of Budgets, Reserve Bank of India, 2016 and Census of India, RGI.

Graph 9: State-wise Human Development Index in India during 2011-12



Data Source: Data taken from Mukherjee et al, Working Paper No. 2014-139, June 2014, National Institute of Public Finance and Policy

Table 5: Correlation Matrix

Correlation	PCSSE	HDI
PCSSE	1	0.19
HDI	0.19	1

Data source: Author's calculation

The above correlation matrix between HDI and per capita social expenditure (PCSSE) for states shows that an increase in PCSSE will have a positive impact on HDI. Therefore, states are required to increase their social sector expenditure to improve their performances in HDI.

The regression equation of HDI on PCSSE is

$$\text{HDI} = C1 + C2 * \text{PCSSE}$$

The regression results show that the coefficient C2 is positive for both the periods 2004-05 (0.6) and (0.9) 2011-12 indicating a positive relation between PCSSE and HDI. A higher PCSSE will have better HDI and vice-a-versa.

Conclusion and Recommendation

In this research study an attempt has been made to analyse the relation between social sector spending and human development at state level of India. It is observed that there is a positive relation between social sector spending and human development index of the states. Tamil Nadu, Kerala, Jammu & Kashmir, Himachal Pradesh and Goa are the states with social spending on higher side with higher ranks in HDI during 2004-05. Bihar, Uttar Pradesh, Odisha and Madhya Pradesh are the states with lower per capita social expenditure as compared to other states and also their ranks are lower in terms of HDI during 2004-05. Madhya Pradesh, Chhattisgarh, Bihar and Uttar Pradesh are the states with comparatively lower per capita social expenditure and their ranks in HDI are also comparatively low during 2011-12. When HDI of two periods 2004-05 and 2011-12 are compared, it indicates that Madhya Pradesh, Chhattisgarh, Bihar and Uttar Pradesh are the states which are constantly at lower ranks in terms of HDI. Odisha and Jharkhand are the states whose performance have improved over the years. The better performing states with respect to HDI in both the periods 2004-05 and 2011-12 are Kerala, Goa, Himachal Pradesh, Tamil Nadu, Maharashtra and Punjab.

These findings can be intuitively explained by the fact that because of extreme poverty and deprivation in India the wellbeing of the people can only be increased by greater involvement of government. At the policy level the study recommends for more public expenditure to have a balanced and improved human development in India,

The study also looks at the composition of social expenditure where it shows that States' share of capital expenditure in total social sector expenditure is improving over the years although its share is very small as compared to the share of revenue expenditure.

An increase in social sector expenditure should be considered as one of the priority to promote efficiency in growth and development. Budgets are recommended to be adequately allocated to provide support to policies and programmes necessary to achieve growth and development of the country.

However, because of the weak correlation between the social sector expenditure and the human development index of various states of India, merely increasing the allocation to the social sector

will not prove to be very useful for progress of the society. How the money allocated is being spent is also a very crucial aspect which needs to be considered.

A weak correlation also signifies that there are other important factors apart from expenditure which are needed to be addressed, like the effectiveness of the schemes in education, health and income, proper implementation of such schemes, if the target group is reaping the benefits, etc.

In addition, there is a scope of future study to see the impact of existing government schemes in the sectors of education and health on Human Development Index.

References:

Chakraborty Pinaki (2009), "Intra- Regional Inequality and the Role of Public Policy: Lessons Learnt from Kerala," Economic and Political Weekly, Vol. 44, No. 26.

Guha, A. and D. Chakraborty (2003), "Relative Positions of Human Development Index Across Indian States: Some Exploratory Results", Artha Vision, Vol. 11, No. 4

Mundle, Sudipto (1998), "Financing Human Development: Some Lessons from Advanced Asian Countries", World Development, Vol. 26, No.4

Majumder, Rajarshi(2005) "Human Development in India: Regional Pattern and Policy Issues" Indian Journal of Applied Economics, Vol. 2, No. 1

GoI (2001), "Census of India", Ministry of Home Affairs, Office of the Registrar General and Census Commissioner, India.

GoI (2011), "Census of India", Ministry of Home Affairs, Office of the Registrar General and Census Commissioner, India.

GoI(2015-16), "Central Statistics Office", India, Ministry of Statistics and Programme Implementation .

Mukherjee,S., D.Chakraborty and S.Sikdar (2014), "Three Decades of Human Development across Indian States: Inclusive Growth or Perpetual Disparity?", Working Paper No. 2014-139 , National Institute of Public Finance and Policy, New Delhi, June 2014

Reserve Bank of India (2016), "State Finances a Study of Budgets of 2015-16".

Roy Hiranmoy and Kaushik Bhattacharjee (2009) "Convergence of Human Development across Indian States: Quantitative Approaches to Public Policy" Fourth Annual International Conference on "Public Policy and Management", IIM,Banglore,9-12 August

Rao, Govinda M, Shand R T and Kalirajan, K P (1999) "A Convergence of Income Across Indian States A Divergent Issue", Economic and Political Weekly, Vol. 34, No. 13

S. Arora, (2001). "Health Human Productivity and Long-Term Economic Growth" Journal of Economic History, Vol. 61, No. 3