

Trend of Social Sector Expenditures: A Study on Indian States

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Abstract

The present paper studies performance of Social Sector Expenditures (SSE) using state level data for 24 states from 1990-91 to 2019-20. The relative position and relative performance of the sample states for SSE is studied. For capturing SSE, two indicators have been used namely SSE as percentage of Gross State Domestic Product (GSDP) (SSE1) and Per-Capita SSE (SSE2). States' ranking in the first year and last year of the sample periods and growth rate are calculated for each state to comprehend the states' relative position. Also, states' decadal growth is studied for each of the three decades. The relative performance of the individual states compared to all states for SSE are also studied. The results of states' relative position suggests that for SSE1, compared to 1990-91, out of 24 states, rank of 11 states increased and 12 states decreased; for SSE2, 11 states' rank increased and 11 states' rank decreased. The states' growth rate is found to be greater for SSE2 compared to SSE1. The result on states' decadal growth rate for SSE signifies that in three decades, the states' growth rate is fluctuating but not only that it shows negative values for some sample states in D1 and D2 for SSE1. Comparing this states' decade wise change in growth based on two alternative indicators, SSE1 and SSE2, the maximum growth state is found in Arunachal Pradesh during D2. The result of SSE1 and SSE2 are similar during D3 i.e. the maximum and minimum growth rate are found for Bihar and AP respectively. The states' relative performance for SSE points out that for both SSE1 and SSE2, 9 states are found to be good performing.

Keywords: Social Sector Expenditures, Growth, Indian States, Different indicators

Introduction

The claims of the government that poverty eradication and social development generally are the main challenges and that it is fully committed to address these issues have continued over time. The Government's spending on social services has shown a rising trend since Financial Year (FY)16. Social sector expenditures (SSE) to government's total expenditure were around 25% from FY18 to FY20; improved to 26.6% in FY23. While SSE of Centre and State governments augmented progressively to 21.3 lakh crore in FY23 (Economic Survey 2022-23). During 2014-15 to 2019-20, Odisha has used up the maximum on developmental (74%) followed by Karnataka (72%), Madhya Pradesh and Bihar (71%) and lowest is Punjab (41%) followed by Nagaland (44%) (State Finance, 2019-20). So, it is motivating to look at the performance of SSE across Indian states.

Vast literature is available on social expenditure financed by public sector upon different economic indicators. It becomes scarce when study is confined to Indian states and regions. Dev and Mooji (2002) found that percentage of GDP and aggregate GE on Indian social sector is low as compared with other

developing countries, and certainly with East Asian countries. It is also detected that trend growth rates for the centre are higher than the States. Kaur and Mishra (2003) studies of the efficacy of SSE in E & H from 1985-86 to 2000-01 in Indian states. Results shows that PS on education is productive, particularly at primary levels and female education enhances enrolments. However, association amongst PS and health is weaker, with infrastructure availability reducing infant mortality. Joshi (2006) argued that India's SSE has increased during the reform period, with a substantial rise from 10.59% in the pre-reform period to 13.87% in the post-reform period. Bhakta (2014) examines the impact of PE on children's E&H in India, focusing on the association amongst health status and educational achievement. Bhanumurthy et al. (2016) explores the relationship between governance quality, PE and human development results in Madhya Pradesh. They suggest that districts with low human development should prioritize administrative governance. Meril (2016) looks at whether SSE in India's states is convergent between 1980-81 and 2017-18. Bhowmik et. al. (2018) observed that the North Eastern Region (NER) of India increased SSE alike other states in the country and SSE has been higher for the sub-period 2004-05 in general, mostly because of the execution of the social security and welfare schemes of the centre. The states spending patterns have been fluctuating with greater focus on revenue expenditure. Mohanty and Bhanumurthy (2018) examine public expenditure efficiency in India using Outcome based Budgeting (DEA) approaches. It emphasises on H & E, revealing that Indian states spend more efficiency on education compared to health and overall SSE. Yadava and Neog (2019) ranked states based on efficiency. The result show that states should have decreased public spending by 57.88%. Das and Ivaldi (2020) examined whether Indian states are converging in SSE from 1980-81 to 2017-18.

There is dearth in the study regarding state level study and specifically the analysis of SSE. Thus, the main objectives in this paper are twofold: (I) to examine the relative position of the Indian states for SSE and (II) to analyse the relative performance of the individual states compared to all states for SSE.

Methodology and Data

Methodology

Two alternative indicators are taken for capturing social sector expenditure (SSE) such as social sector expenditures as % of Gross State Domestic Product (SSE1) and Per-Capita social sector expenditures (SSE2). For finding out states' relative position in the first sample year i.e. 1990-91 and last sample year i.e. 2019-20 of the sample periods, ranks are assigned to all the states based on the fact that the state incurring maximum expenditures are assigned rank 1 and vice versa for all the indicators of SSE. Also Compound Annual Growth Rates (CAGR) in 2019-20 w.r.t. 1990-91 are calculated for each state to understand the states' relative position.

Along with it, states' decadal growth is studied by calculating CAGR for each decade. The total sample period is divided into 3 decades; first decade (D1) covers 1990-91 to 1999-20, second decade (D2) covers 2000-01 to 2009-10 and 2010-11 to 2019-20 are covered under third decade (D3). CAGR for each state for D1, D2 and D3 are compared for all the indicators of SSE for understanding the relative position of the sample states in the three decades.

The relative performance of the individual states compared to all states for SSE are studied. For doing that each state's average SSE and their respective grand mean (GM) i.e. all states' average SSE is calculated. Then each states' relative performance is determined by comparing each state's average SSE with all states' average SSE (grand mean, GM). Good performing states are those whose average SSE > GM whereas bad performing states are those states having average SSE < GM.

Data

The present study used secondary time series data during 1990-91 to 2019-20. The variables used are GSDP at constant price, base at 2004-05, NSDP at constant price, base at 2004-05, and Social Sector Expenditure.

The data are collected from various issues of State Finances: A Study of Budgets, Handbook of Statistics on the Indian Economy, Reserve Bank of India Bulletin, National Accounts Statistics, Population Projections for India and States, and Economic survey of India. Based on data availability, 24 states of India are considered like Andhra Pradesh (AP), Arunachal Pradesh (AR), Assam (AS), Bihar (BH), Goa (GO), Gujarat (GJ), Haryana (HR), Himachal Pradesh (HP), Karnataka (KA), Kerala (KL), Madhya Pradesh (MP), Maharashtra (MH), Manipur (MN), Meghalaya (ML), Mizoram (MZ), Nagaland (NL), Odisha (OD), Punjab (PB), Rajasthan (RJ), Sikkim (SK), Tamil Nadu (TN), Tripura (TR), Uttar Pradesh (UP) and West Bengal (WB). Other states Union Territories could not be considered due to data unavailability during the sample period.

Results and Discussion

The relative position as well as relative performance of the 24 states for SSE is presented for the two indicators, SSE1 and SSE2. States' ranking in 1990-91 and 2019-20 of the sample periods and CAGR in 2019-20 w.r.t. 1990-91 are calculated for each state to understand states' relative position. Along with it, states' decadal growth is studied by calculating CAGR for each of the three decades. The relative performance of the individual states compared to all states for SSE is studied.

Results of relative position of the states in terms of SSE

The states' relative position for SSE1 and SSE2 is presented in Table 1 below:

Table 1: Relative position of the states in terms of SSE

States	SSE1			SSE2		
	Rank in 1990-91	Rank in 2019-20	CAGR in 2019-20 w.r.t. 1990-91	Rank in 1990-91	Rank in 2019-20	CAGR in 2019-20 w.r.t. 1990-91
AP	17	10	0.60%	6	3	10.74%
AR	21	24	4.20%	21	23	12.06%
AS	9	19	4.60%	8	14	12.85%
BH	10	21	5.03%	1	7	13.13%
GO	8	3	0.43%	20	21	11.31%
GJ	4	1	0.41%	12	8	11.22%
HR	2	7	2.87%	11	15	12.43%
HP	15	12	1.83%	17	18	11.69%
KA	5	8	2.25%	5	12	12.54%
KL	12	4	0.48%	14	6	10.84%
MP	13	11	2.77%	4	4	11.76%
MH	3	6	2.35%	13	11	11.72%
MN	18	23	3.86%	16	20	12.48%

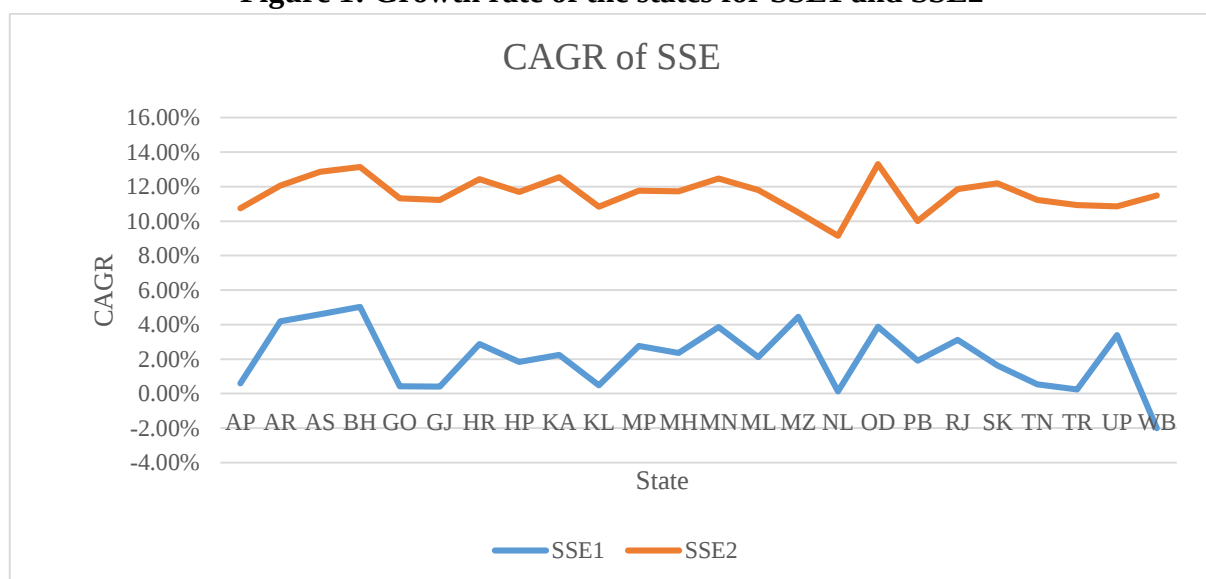
ML	20	20	2.11%	18	19	11.80%
MZ	16	22	4.46%	24	22	10.50%
NL	23	18	0.13%	23	16	9.14%
OD	7	16	3.88%	3	13	13.30%
PB	1	2	1.92%	10	2	10.00%
RJ	11	14	3.11%	9	9	11.86%
SK	19	17	1.63%	22	24	12.20%
TN	14	5	0.55%	15	10	11.22%
TR	22	15	0.23%	19	17	10.92%
UP	6	13	3.39%	2	1	10.85%
WB	24	9	-2.00%	7	5	11.48%

For SSE1, the result of analysis suggests that in 1990-91 Punjab was in 1st position and WB take 24th position. But in 2019-20 it is found that Gujarat takes 1st position whereas Arunachal Pradesh takes 24th place. It is found that compared to 1990-91, out of 24 states, rank of 11 states increased and 12 states decreased and for one state i.e., Meghalaya there is no change in rank.

For SSE2, it is found that in 1990-91 Bihar was in 1st position and Mizoram take 24th position. But in 2019-20 it is found that Uttar Pradesh takes 1st position whereas Sikkim takes 24th place. Comparing 1990-91 with 2019-20, the result reveals that out of 24 states, 11 states' rank increased and 11 states' rank decreased. But for two states i.e., Madhya Pradesh and Rajasthan there is no change in rank.

For SSE1 and SSE2, CAGR of 2019-20 w.r.t. 1990-91 are computed which shows maximum growth for Assam and minimum for West Bengal in case of SSE1 whereas Odisha and Nagaland for SSE2. The growth rate of the states is found to be greater for SSE2 compared to SSE1. Growth rates of the states are presented graphically in the Figure 3.1 for SSE1 and SSE2.

Figure 1: Growth rate of the states for SSE1 and SSE2



Decadal growth rate of SSE of the states

Now it is interesting to check whether there are any alterations in the state's growth of SSE in three different decades, D1, D2 and D3. The growth rate varied in three decades. The decadal growth of SSE of the sample states are presented in Table 2.

Table 2: Decadal growth of the states in terms of SSE

State	SSE1			SSE2		
	CAGR in D1	CAGR in D2	CAGR in D3	CAGR in D1	CAGR in D2	CAGR in D3
AP	-2.08	1.69	0.23	3.52	3.42	2.19
AR	-1.25	3.28	3.40	2.82	5.47	4.35
AS	-1.57	2.14	3.39	2.97	3.24	5.29
BH	1.19	1.28	3.61	4.02	2.70	5.93
GO	-2.32	1.83	0.52	2.75	3.66	3.56
GJ	-1.62	-0.02	0.70	3.95	2.48	2.98
HR	-1.33	2.00	1.72	3.35	4.05	3.68
HP	-1.28	0.89	1.55	3.80	2.94	3.33
KA	-1.72	2.05	1.53	3.95	3.70	3.66
KL	-1.61	0.52	1.64	4.13	2.58	3.53
MP	-1.13	1.14	1.88	3.46	2.99	3.94
MH	-1.57	1.28	1.90	3.59	3.32	3.50
MN	-0.78	2.37	2.24	3.92	3.98	4.32
ML	-2.32	0.90	2.82	2.97	2.63	4.61
MZ	1.84	1.24	1.73	3.22	3.21	3.49
NL	-3.14	0.10	2.39	2.01	1.62	3.76
OD	-0.35	1.36	3.01	4.58	3.46	4.73
PB	-1.71	0.30	1.96	2.97	1.63	3.41
RJ	-1.63	1.63	2.92	3.44	3.15	4.40
SK	0.15	0.45	1.18	3.75	4.28	3.42
TN	-2.35	1.54	1.00	3.35	3.78	2.97
TR	-2.10	0.53	1.85	2.77	2.89	4.39
UP	-1.72	2.89	2.20	2.44	4.08	3.66
WB	-5.79	1.64	2.23	3.51	3.26	3.94

In D1, D2 and D3, the states' growth rate is fluctuating but not only that it shows negative values for some sample states in D1 and D2 for SSE1.

For SSE1, during D1, maximum and minimum growth rate are found for Mizoram and West Bengal respectively. In D2, they are Arunachal Pradesh and Gujarat. During D3, maximum and minimum growth rate are found for Bihar and Andhra Pradesh respectively. For SSE2, during D1, maximum and minimum growth rate are found for Odisha and Nagaland respectively. In D2, they are Arunachal Pradesh and again Nagaland. During D3, maximum and minimum growth rate are found for Bihar and AP respectively. This result is similar to SSE1 during D3.

Comparing this decade wise change in states' growth based on two alternative indicators, SSE1 and SSE2, the maximum growth state is found in Arunachal Pradesh during D2. The result of SSE1 and SSE2 are similar during D3 i.e. the maximum and minimum growth rate are found for Bihar and AP respectively. The states' decadal growth rate is presented graphically in the Figures 2 and 3 considering SSE1 and SSE2 respectively.

Figure 2: Decadal Growth rate of the states for SSE1

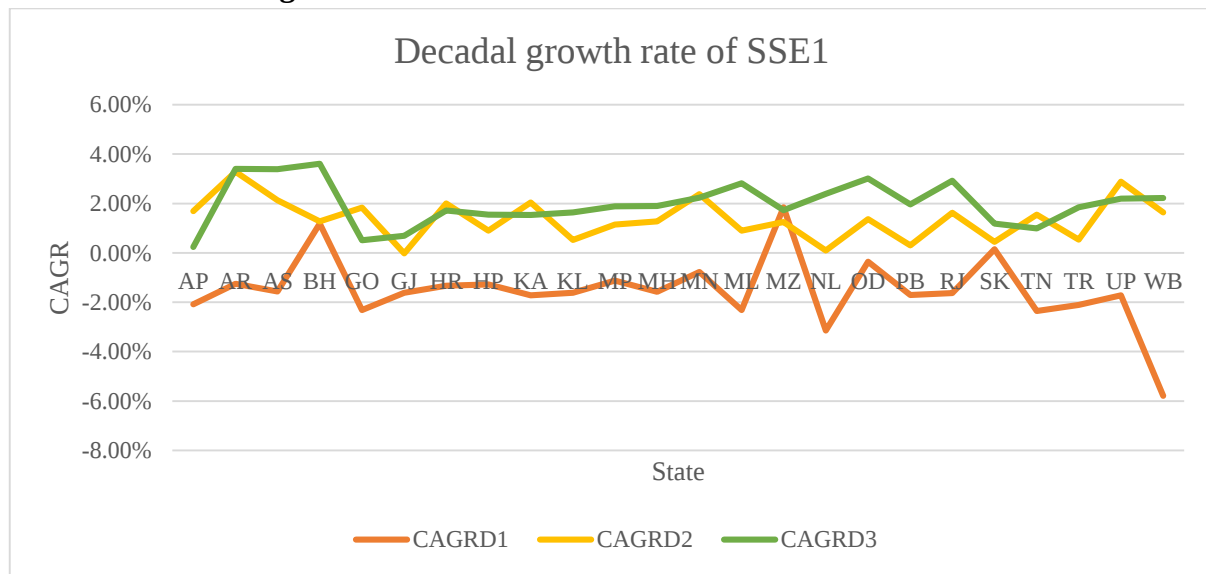
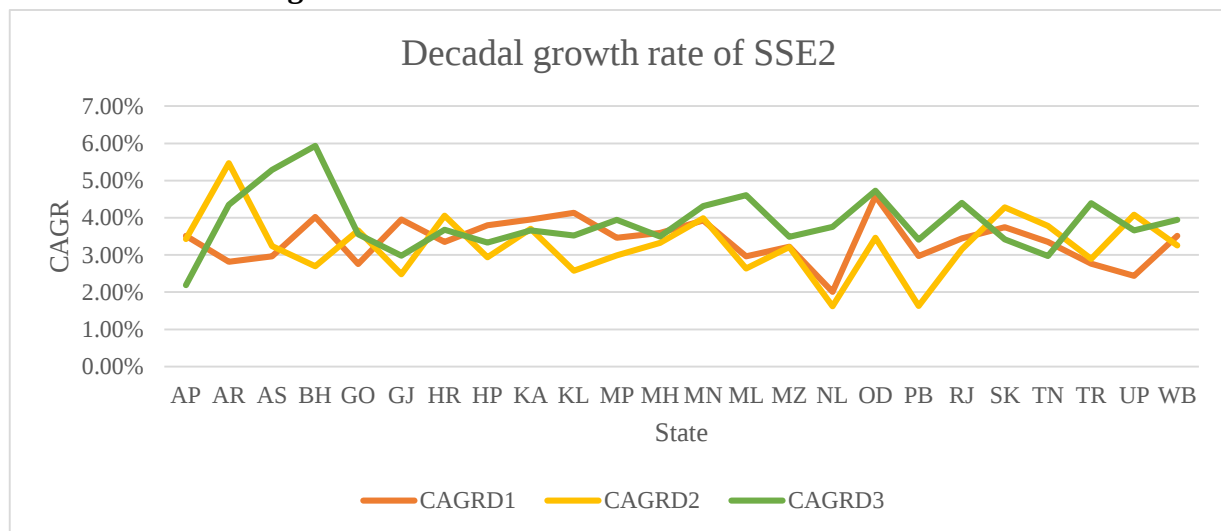


Figure 3: Decadal Growth rate of the states for SSE2



Results of relative performance of the states in terms of SSE

The results of states' relative performance for SSE1 and SSE2 are presented in Table 3. For SSE1, out of 24 states, 9 states are found to be good performing and 15 states are bad performing states. For SSE2, out of 24 states, 9 states are found to be good performing and 15 states are bad performing states. So for both SSE1 and SSE2, 9 states are found to be good performing.

Table 3: Relative Performance of the States in terms of SSE

	Good Performing States	Bad Performing States
SSE1	AP, AR, BH, MN, ML, MZ, NL, SK, TR	AS, GO, GJ, HR, HP, KA, KL, MP, MH, OD, PB, RJ, TN, UP, WB
SSE2	AR, GO, HP, MN, ML, MZ, NL, SK, TR	AP, AS, BH, GJ, HR, KA, KL, MP, MH, OD, PB, RJ, TN, UP, WB

Conclusion

The present paper studies performance of SSE using state level data for 24 states from 1990-91 to 2019-20. Here we considered 24 states of India like AP, AR, AS, BH, GO, GJ, HR, HP, KA, KL, MP, MH, MA, ME, MZ, NL, OD, PB, RJ, SK, TN, TR, UP and WB. The relative position and relative performance of the 24 states for SSE is studied. States' ranking of the states in the first year.e. 1990-91 and last year i.e. 2019-20 of the sample periods and CAGR in 2019-20 w.r.t. 1990-91 are calculated for each state to comprehend the states' relative position. Along with it, states' decadal growth is studied by calculating CAGR for each of the three decades. The relative performance of the individual states compared to all states for SSE are also studied. For capturing SSE, indicators taken are SSE1 and SSE2.

The results of states' relative position in terms of SSE suggests that for SSE1, the result of analysis suggests that in 1990-91 Punjab was in 1st position and WB take 24th position. But in 2019-20 it is found that Gujarat takes 1st position whereas Arunachal Pradesh takes 24th place. It is found that compared to 1990-91, out of 24 states, rank of 11 states increased and 12 states decreased and for one state i.e., Meghalaya no change in rank. For SSE2, it is found that in 1990-91 Bihar was in 1st position and Mizoram take 24th position. But in 2019-20 it is found that Uttar Pradesh takes 1st position whereas Sikkim takes 24th place. Comparing 1990-91 with 2019-20, the result reveals that out of 24 states, 11 states' rank increased and 11 states' rank decreased. But for two states i.e., Madhya Pradesh and Rajasthan show no change in rank.

For SSE1 and SSE2, the CAGR of 2019-20 w.r.t. 1990-91 are computed which shows maximum growth for Assam and minimum for West Bengal in case of SSE1 whereas Odisha and Nagaland for SSE2. The states' growth rate is found to be greater for SSE2 compared to SSE1.

The result on states' decadal growth rate for SSE signifies that in three decades, the states' growth rate is fluctuating but not only that it shows negative values for some sample states in D1 and D2 for SSE1. For SSE1, during D1, highest and lowest growth rate are found for Mizoram and West Bengal respectively. In D2, they are Arunachal Pradesh and Gujarat. During D3, highest and lowest growth rate are found for Bihar and Andhra Pradesh respectively. For SSE2, during D1, highest and lowest growth rate are found for Odisha and Nagaland respectively. In D2, they are AR and again Nagaland. During D3, highest and lowest growth rate are found for Bihar and AP respectively. This result is similar to SSE1 during D3.

Comparing this states' decade wise change in growth based on two alternative indicators, SSE1 and SSE2, the maximum growth state is found in Arunachal Pradesh during D2. The result of SSE1 and SSE2 are similar during D3 i.e. the maximum and minimum growth rate are found for Bihar and AP respectively.

The states' relative performance for SSE points out that for SSE1, out of 24 states, 9 states are found to be good performing and 15 states are bad performing states. For SSE2, out of 24 states, 9 states are found to be good performing and 15 states are bad performing states. So, for both SSE1 and SSE2, 9 states are found to be good performing.

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