Inter-State Disparities in Public Expenditure on Primary Education in India

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Abstract. The paper presents trends in public expenditure on primary education among seventeen major states of India from 1990-91 to 2010-11. A considerable proportion of the expenditure is undertaken by the states but the central share seems to be increasing over time. The paper examines the inter-state variation in public expenditure on primary education among the states. The paper analyses trends in central and state combined expenditure. Overall, per capita average expenditure on primary education is increasing real term. The study shows that there were widespread disparities among the Indian states due to the variations in the size of investment in primary education

Key Words*:* Disparities, Expenditure, Education

1. Introduction

India is a big country comprising of 29 States and 6 Union Territories with various socio-cultural histories, spread over widely varying in geographical conditions. According to the Census of India 2011, India's population increased to 1.21 billion in 2011 as compared to 1.028 billion in 2001. The Commitment of providing basic education to all is a goal preserved in Indian Constitution, which guarantees collective compulsory education as an essential right for every child in the age group of 6-14years. Successive development policies and plans have pursued this goal for the last six decades. As a result, impressive progress has been noticed in education in general and elementary education. In the beginning of sixties the human capital revolution, economists have come to become conscious about that investment in human capital which is as important as investment in physical capital not only that, as social sector plays a very important role in human development. Investment in education contributes to increase labor productivity, higher individual's earnings, and higher levels of national economic growth; equality is a strong evidence to show that investment in education contributes to reduce poverty and improvements in income distribution, besides to social, demographic, and political development.

The educational statistics' presents the drastic change in enrolments, number of institutions, and expenditure on primary education. In 1950-51 at Primary level of education, the total enrolments were 192 lakh, which has gone up 1353 lakh, in 2011 upper primary schools 31 lakh to 620 lakh, this growth has shown a drastic change in educational institutions at different levels of education in the states of India. In 1951-52, total educational expenditure as a percentage of GDP was 0.64%, which rose up to 3.80 % in 2010-11. Since the commencement of five-year plans in India, education has become one of priority of the union and state governments. The budget allocation on education in the total has increased from Rs 1512 crore in the first five year plan to Rs 4, 38,250 crore in the tenth plan registering 290 fold increase. The eleventh plan estimate has raised public outlay on education to 6% of GDP.

2. Literature Survey

In India, provision of most of the educational sector activities is the responsibility of the states governments. As per some of the available studies **Anbalma (2011)** in his study has examined the variations in the trends of public expenditure on education on macroeconomic aspects. He used time series data for a period of 1990-91 to 2006-07 for 15 major states of India. To examine the effective relationship between variables the coefficient of correlation and rank correlation methods have been used. That there were widespread disparities among the Indian states due to the variations in the size of investment in education.

Ansari and Singh (1997) have examined the relationship between public spending on education and growth. They used annual time series data from 1951 to 1987 and found no long run relationship between the two, reliable with "the closed economy fails to leverage new knowledge" hypothesis. They found a direct causal link from public spending on education to private capital formation and hence indirectly onto growth in a study of the Indian states from 1970-94. Their study reveals that Indian economy can expect to grow by investing in education but the rate of return will be comparatively low.

At the state level, Kaur and Misra (2003) in their study have analyze the impact of public expenditure on primary, intermediate, and secondary school enrollment rates over a period from 1985-86 and 2000-01 for 15 states in India. Their panel regression results observed that public expenditure on education has been generally productive in poorer states. In terms of outcomes, public expenditure has a greater effect on primary education than secondary education. The role

of public funding decreases at higher stages of education because of private funding plays a greater role. Overall, the study on public expenditure on education shows a mixed bag of results on educational spending and outcomes. The Parental investments of time or money, and a child's essential motivation may be more influential than the effect of public expenditure.

Choudhary (2008) in her study has examined the regional disparities in social sector expenditure among the 15 major states of India. There were regional disparities, which may be natural due to uneven natural endowments and poor climatic conditions and manmade due to neglect of some regions. The existences of regional disparities in the way growth has generated different problems in the economy. She explained that the status of educational development of India, at regional level, is quite uneven.

De and Endow (2008) examined the level and composition of public expenditure on education and the mechanisms of allocation of resource, provision and deployment, in combined as well as separately for the centre and the states. They found out that while expenditure in real terms increased during the 1990s, it had stagnated since then. As a proportion of GDP, the share of public expenditure on education had been less than 4 per cent. However there had been major changes in the composition and modalities of expenditure

Goodwin Liut (2006) in his study examined the interstate inequality in educational opportunities. He observed that intrastate disparities positively correlated with median district spending. He argued that States with higher spending tend to have greater inter district disparity. High-spending states with a large expenditure range tend to be comprised of numerous small school districts whereas low-spending states with a small expenditure range tend to be dominated by large countrywide school districts for all states.

Iyer (2009) studied 115 districts across three states in India, Uttar Pradesh, Andhra Pradesh and Karnataka, to examine the effectiveness of public spending on primary education. She found that spending on primary education has in consequential impact on enrolment rates, primary school transition rates and performance of students on exams. The overall conclusion show, the policymaker should find the new ways to improve the quality of primary education and dictate how to make a better allocation of primary education fund to get a better result of overall expenditure from country budget.

Ogbu and Gallagher (1991) in their study examined the behavior of government education spending for a period of 1975-85. They analyzed the per capita government education spending, which was a gross aggregative input measure, could not adequately reflect distributive presentation. Education spending as a proportion of total government spending remained nearly balanced from 1975 to 1987. As an indicator for cross-country comparison, per capita public expenditure was needed to be supplemented with more disaggregated information on account of the varying degrees of communal efforts. This study reflects the inefficiency of government spending and its distribution system.

Srivastava (2006) in his study has examined the inter-state disparities in health and education among the major states of India. He concluded that differences, within the social sector expenditures, per capita expenditures on education, health, and water supply and sanitation are large. The states with low per capita GSDPs also have low per capita expenditure. These disparities are due to differences in fiscal capacity, differences in revenue effort and differences in priority.

Ramachandran et. Al. (1997) in the study examined the disparities in investment in primary education for 17 major state of India. Their results show that there were wide disparities in investment in primary education. He also concludes that investment at the all-India level needs to be more than doubled and that about 3.1 per cent of GDP needs to be allocated to primary education that every child in India.

3. Data, Sources and Statistical Methodology

The study has examined at length the inter-state disparities in per capita expenditure on primary education. It examines growth, composition and inter-state disparities in per capita average expenditure on primary education among 17 states of India. The study attempts a detailed analysis of public expenditure on education across the seventeen major states of India. It deals with the post reform period i.e. from 1990-91 to 2010-11. The whole study period is divided into two phases: in phase-I (1990-91 to 1998-99) and (200-01to 2010-11) phase-II. The state wise data on per capita expenditure on education at current prices has been converted into constant prices, using GSDP Deflator index as a base year 2003-04. It considers expenditure on education at per capita level deals with the states. (ANP)Andhra Pradesh, (ASM) Assam, (BHR)Bihar, (GUJ)Gujarat, (HR) Haryana, (HP)Himachal Pradesh, (UP)Uttar Pradesh,

(MP)Madhya Pradesh, and (TND)Tamil Nadu, (KRL)Kerala, (KTK) Karnataka, (WB)West Bengal, (MHR)Maharashtra, (RAJ)Rajasthan, (ORS)Orissa, (PNB)Punjab, (JNK)Jammu and Kashmir.

The data on public expenditure on primary education were available at current prices only. The data of expenditure on primary education is gathered from various sources including by education departments and other departments for different levels of education. The suitable sets of data on public expenditure in education at the level of states and India have been derived from the budgetary documents to the respective states and centre, published by the budgeted analysis of Ministry of Human Resource and Development Government of India, Studies on State's Finances published by reserve bank of India, and Combined Finance and account Ministry of Finance Government on India. National Sample Survey Organization of India

To examines the inter-state variation in public expenditure on primary education among the states. The data analysis is carried out on the basis of elementary statistical tools like average *number*, percentage, ranking*, and coefficient of variation (CV)*, *compounded annual growth Rate* (*CAGR*)*,* Gini coefficient. It is assumed that Inter-State disparities in public expenditure on primary education are increasing

4. Results and Discussion

Results obtained from the study on the inter-state inequalities in per capita average expenditure on primary education have been discussed under the following heads.

State-wise Per Capita Average Expenditure on Primary Education: (1990-91 to 2010-11)

The present study deals with inter-state (17 states) divergences in per capita average expenditure of two sub period's viz. 1990-91 to 1998-99 and 2000-01 to 2010-11 and overall period. The table presents the average, coefficient of variation, percentage change and ranks of per capita average expenditure on primary education across selected states. The ranks have been assigned to the states on the basis of highest (1) to lowest (17) percentage change during phase-II over phase-I.

Table 1 brings out a number of features in per capita average expenditure on primary education. It is revealed from the table that during 1990-91 to 2010-11 the maximum per capita expenditure on an average on primary education sector was Rs.781 in Himachal Pradesh, which

is followed by Kerala Rs.389.26 and the lowest level of per capita expenditure on primary education was Rs.189.10 in West Bengal. The gap is gradually increasing between highest and lowest spending states. The range in expenditure was Rs.591.9 = (781-189.10) in between highest and lowest states. This shows a wide disparity in per capita expenditure on primary education across selected states.

To observe the degree of variability in average expenditure on primary education among the states, coefficient of variation was estimated and has been shown in the column (3) of the table revealed fluctuations across selected states over the study period. It was the highest in **case** of Odissa (75%) and lowest in Punjab (12.91). It is also observed that the rich states have less and poor states have more fluctuations in per capita average expenditure on primary education over the period. This is because of the fiscal crisis of the states and structural changes in the transfer of resources from centre to state in the era of economic reforms. It is also noticed from the table that per capita expenditure on primary education has increased in all the states during phase-II over phase-I. The maximum per capita average expenditure on primary education was in Himachal Pradesh Rs.462 in phase–I and Rs.1043 during phase-II. Similarly, the lowest expenditure on primary education was in Andhra Pradesh Rs.147 and in Punjab Rs.208 during phase-I and phase-II respectively. The gap is gradually increasing. In phase-I it was Rs.315= (462-147) and in phase-II it has been aggravated to Rs.835.

To observe the degree of variability in average expenditure on primary education the coefficient of variation has shown disparity in phase-1 over phase-II. It is also concluded from table 4.1 that the coefficient of variation among top ranking states such as Himachal Pradesh, Maharashtra, Orissa, Haryana, and Andhra Pradesh has increased over time. While in bottom ranking states, the coefficient of variations has also increased in all the states except Bihar (41.31% to 29.52%) and Kerala (14.32% to 12.14%) which shows that instability in average expenditure on education among the selected states has been increasing over the study period. It reveals that poor states have more and rich states have less fluctuations in per capita average expenditure on primary education during phase-II over phase-I.

The column (8) of the table shows the percentage change in per capita expenditure on primary education over the two sub periods. The change was the highest in Himachal Pradesh (125.76%) and lowest in Punjab (10.05%). Five states which registered a largest increase in per

capita expenditure on primary education during phase-II over the phase- I were Himachal Pradesh, (125.76%), Maharashtra (95.93%), Orissa (93.72%), Haryana (85.96%), and Andhra Pradesh (81.33%). The bottom five states have registered an increase in average expenditure on primary education among the selected states which were Bihar (36.56%), Gujarat (34.56%), Kerala (30.24%), Tamil Nadu (28.36%) and Punjab (10.05%). The remaining seven states lie between above two categories. The rich states such as Maharashtra and Haryana have shown high variation (instability) and some poor states such as Bihar and Assam have shown less variation in public expenditure on primary education during phase-II over the phase-I.

A similar trend regarding average expenditure and coefficient of variation has been showing in all the bottom five states except Bihar and Kerala where the variation in expenditure has fallen in phase-2 over the phase-1. This shows that disparity in per capita expenditure on primary education has been growing in majority of the states over the period.

Table 1: **State-wise Per Capita Average Expenditure on Primary Education:- 1990-91 to 2010-11**

	Total Period		Phase-I (1990-91 -1998-99)		Phase-II (2000-01to2010-11)		% change in column (4) to (6)	
State (1)	Avg (Rs.) (2)	CV (3)	Avg (Rs.) (4)	CV (5)	Avg (Rs.) (6)	CV (7)	% change (8)	Ranks (9)
Maharashtra	375.85	36.30%	246	13.35%	482	17.50%	95.93%	2
Himachal Pradesh	781.85	43.47%	462	10.98%	1043	21.48%	125.76%	1
Odissa	337.65	75.46%	223	13.25%	432	73.58%	93.72%	3
Haryana	335.60	44.00%	228	22.49%	424	33.66%	85.96%	4
Andhra Pradesh	217.16	33.43%	150	7.73%	272	18.68%	81.33%	5
Karnataka	357.05	32.86%	252	15.22%	443	18.77%	75.79%	6
Jammu &Kashmir	337.05	38.46%	255	26.97%	404	32.48%	58.43%	7
Uttar Pradesh	226.35	33.09%	173	16.16%	270	27.10%	56.07%	8
Rajasthan	344.30	28.16%	266	20.37%	408	18.27%	53.38%	9
Madhya Pradesh	251.55	26.20%	195	7.44%	298	18.07%	52.82%	10
West Bengal	189.10	25.28%	147	8.99%	224	15.94%	52.38%	11
Assam	399.20	21.50%	320	14.52%	464	9.44%	45.00%	12
Bihar	223.87	36.51%	186	41.35%	254	29.52%	36.56%	13
Gujarat	354.30	21.68%	298	11.00%	401	17.87%	34.56%	14
Kerala	389.65	18.29%	334	14.32%	435	12.14%	30.24%	15
Tamil Nadu	309.65	20.96%	268	11.05%	344	19.36%	28.36%	16
Punjab	199.60	12.91%	189	9.79%	208	13.72%	10.05%	17

Sources: - *Computed from Analysis of various years of Budgeted Expenditure on Education Ministry HRD, GOI. India (1990-2011)*

Figure 1, 2 and 3, is a graphically display of showing the trends of per capita average expenditure vs. coefficient of variation on primary education during phase-1, phase-2 and overall period. The figure 1 clearly revels that disparities in per capita average expenditure among the state are growing. The coefficient of variation among the states also showed differences in average expenditure. It is noticed from the figure 1,2, and 3 that Himachal Pradesh has recorded highest level of average expenditure during 21 years whereas the West Bengal has recorded the lowest level.

Figure 1: Average Expenditure and coefficient of Variation (CV) across states (Phase-I)

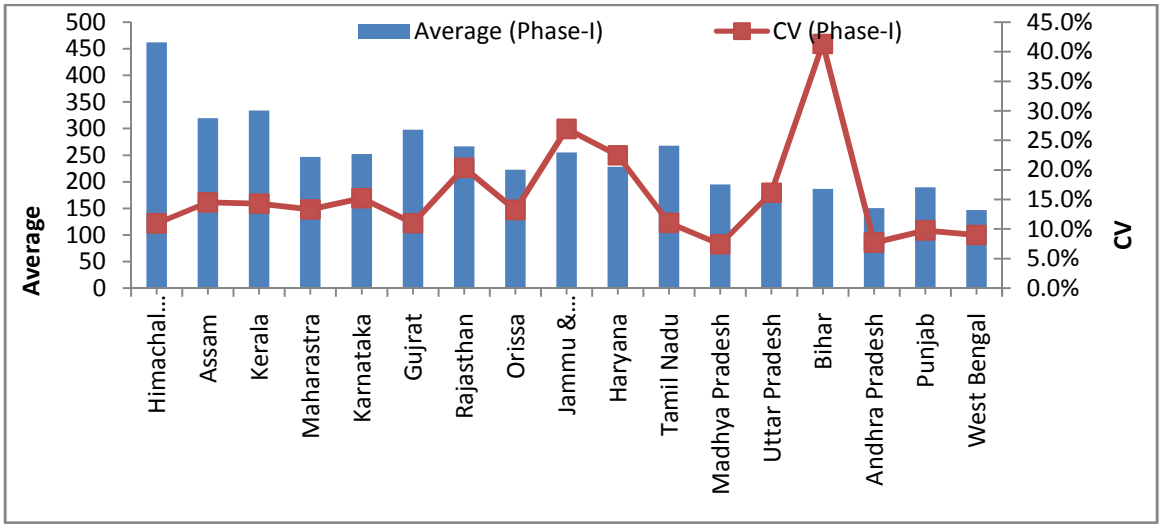


Figure 2: Average Expenditure and coefficient of Variation (CV) across states (Phase-II)

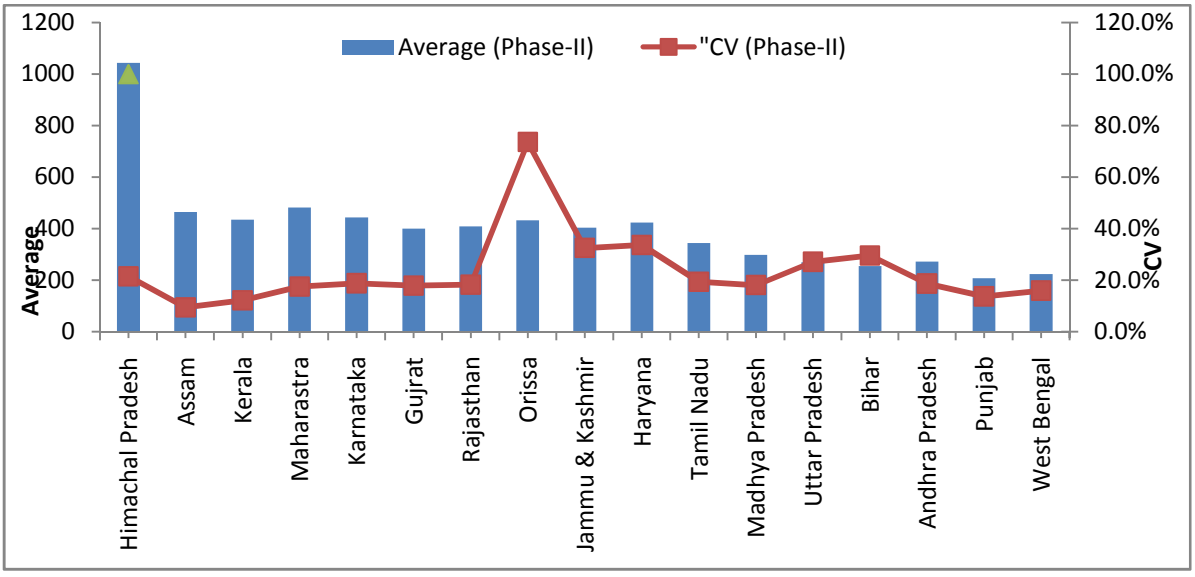
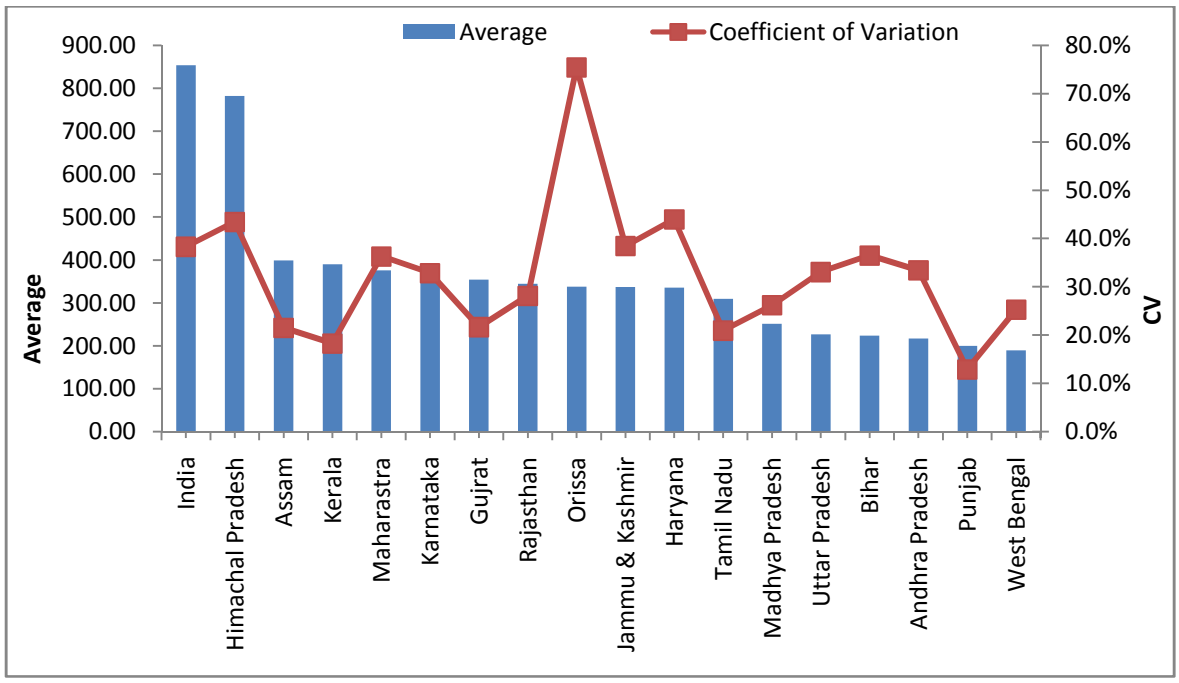


Figure 3: Average Expenditure and coefficient of Variation (CV) across states (Total period)



The table 2 presents the gini results for two sub periods analyzing the disparities in per capita average expenditure on primary education among the selected states of India, during phase-1 and phase-2.

Table 2 Per Capita Average Expenditure on Primary Education

GINI Coefficients		
State (1)	Phase-I (1990-91 to 1998-99) (2)	Phase-II (2000-01to2010-11) (3)
Madhya Pradesh	0.0387	0.0970*
Andhra Pradesh	0.0394	0.0924*
West Bengal	0.0473	0.0791*
Punjab	0.0483	0.0747*
Tamil Nadu	0.0487	0.1022*
Himachal Pradesh	0.0534	0.1094*
Gujarat	0.0587	0.0807*
Maharashtra	0.0693	0.0903*
Odissa	0.0700	0.2632*
Kerala	0.0757	0.0646

Assam	0.0773	0.0505
Karnataka	0.0796	0.1003*
Uttar Pradesh	0.0868	0.1395*
Haryana	0.1006	0.1590*
Rajasthan	0.1021	0.0934
Jammu &Kashmir	0.1377	0.1736*
Bihar	0.1862	0.1645

Sources': - *Computed from Analysis of various years of Budgeted Expenditure on Education Ministry HRD, GOI. India (1990-2011)*

Table 2 reveals that disparities in per capita average expenditure on primary education as shown in the column (2) and (3) has been increasing in 13 out of 17 states during phase-2 over phase-1. Such states are Himachal Pradesh, Haryana, Gujarat, Orissa, Madhya Pradesh, Uttar Pradesh, Karnataka, Tamil Nadu, Jammu and Kashmir, Maharashtra, Punjab, Andhra Pradesh and West Bengal. Further it should be noted that the disparities on expenditures on primary education has fallen in states such as Rajasthan (0.1021) to (0.0934) Assam (0.0773) to (0.0505), Bihar (0.1865) to (0.1645) and Kerala (0.757) to (0.645) during phase-I to phase-II respectively. Ahluwalia (2002) has calculated population weighted *gini* coefficients for the 14 major states which showed a substantial increase, from (0.175) in 1991-92 to (0.233) in 1998-99. It is also noticed from the table that inequalities in per capita expenditure on primary education among rich and poor states of India has been growing over the study period.

Per Capita (States) Expenditure on Primary Education Phase-I and Phase-II

Table 3 and 4 presents inter-state differences in per capita expenditure on education incurred by state governments during: 1990-91 to 1998-99 (Phase-I) and from 2000-01 to 2010-11 (Phase-II). The tables show the *average number*[1], standard deviation, *Coefficient of Variation (CV)* of all the 17 states of India, taken under study. The table also shows the *Compound Annual Growth Rate (CAGR)* for the above periods. The whole analysis is based on actual data collected from the various sources.

Table 3: **Per Capita Average State Expenditure on Primary Education Phase-I (1990-91 to 1998-99)**

Year (1)	Avg (Rs.) (2)	St.dev (3)	CV (4)	CAGR (5)	States above Avg (Rs.) (6)	States below Avg (Rs.) (7)
1990-91	224.3	72.2	32%	-	HP(457),KRL(313), GUJ(257),TND(255),ASM (253),RAJ(224)	ANP(155),BHR(198),HR(201)JK(198),KTK(206),MP(179),MHR(199),ORS(176),PNB(182), UP(198),WB(162)
1991-92	219.4	66.3	30%	-2.18%	ASM(282),GUJ(269),HP(402),KRL(291),MHR(230), TND(273),	ANP(154),BHR(187),HR(195), JK(163),MP(183),ORS(203),PNB(171),RAJ(210),UP(157),WB(146),KTK(214),
1992-93	219.0	75.4	34%	-1.19%	ASM(307),GUJ(251),HP(445)KRL(271),MHR(234), RAJ(225),TND(245)	ANP(163),BHR(178),HR(209), JK(146),MP(179),ORS(205),PNB(173),UP(143),WB(132)
1993-94	234.1	80.2	34%	1.44%	ASM(343),GUJ(291),HP(426),JK(314),KTK(239),KRL(300),MHR(240),RAJ(238)TND(244).	,ANP(149),BHR(168),HR(202),MP(182),ORS(201),PNB(177), UP(131),WB(135)
1994-95	244.8	79.0	32%	2.21%	ASM(279),GUJ(303),HP(463),JK(306),KTK(250),KRL(331),RAJ(258)TND(257)	ANP(156),BHR(183),HR(202), MP(208),MHR(238),ORS(236),PNB(188),WB(133),UP(171)
1995-96	244.4	81.5	33%	1.73%	ASM(305),GUJ(312),HP(451),JK(292),KTK(265),KRL(360),RAJ(255),TND(253),	ANP(156),BHR(193),HR(189), MP(197),MHR(221),ORS(226),PNB(183),UP(158)WB(144)
1996-97	267.8	88.2	33%	3.00%	ASM(339),GUJ(327),HP(514),JK(304),KTK(270),KRL(332),MHR(304),RAJ(299),TND(268),	ANP(162),BHR(216),HR(261), MP(208),ORS(232),PNB(190), UP(185),WB(142)
1997-98	263.1	101.4	39%	2.31%	ASM(387),GUJ(334),HP(432),JK(322),KTK(281),KRL(397),ORS(273),RAJ(368),TND(274),MHR(267),	ANP(131),BHR(26)HR(243),MP(215),PNB(217),UP(200),WB (167)
1998-99	302.9	106.3	35%	3.83%	ASM(382),BHR(319),GUJ (336),HR(349),HP(570),KTK(326),KRL(413),RAJ(381)TND(341)	ANP(132),JK(253),MP(206),MHR(285),ORS(251),PNB(223), UP(213),WB(160)

Note:-RE-Revised Estimate; BE- Budget Estimate.

Sources': - *Computed from Analysis of various years of Budgeted Expenditure on Education Ministry HRD, GOI. India (1990-2011)*

It is observed from the Table 3, that per capita average expenditure on education, as shown in the column (1) has been increasing during the phase-I of the study period. It was Rs. 224.3 in 1990-91 and increased to Rs .302.9 in 1998-99. The expenditure gradually increased from 1990-91 to 2010-11. The rise was Rs.78.5= (302.9-224.3) during 1990-91 to 1998-99 and

has increased to Rs.197.2 in 2001-2011. This shows that growing importance has been accorded to the education sector in the states expenditure.

It is further evident from the column (5) of the table 3 that the growth rate of per capita expenditure on education has recorded a negative growth in 1991-92, and 1992-93 which turned into a positive growth subsequently. The growth rate has shown an upward trend despite fluctuations in some of the years. It was 1.44% in 1993-94, which went up to 3.83% in 1998-99. It however declined in 1995-96 (1.73%) as compared to 1994-95(2.21%) and again declined in 1997-98 (2.31%) than that of 1996-97 (3.00%).

The rise and fall in the growth rate can be supplemented by the estimate of standard deviation, which has been increasing over time from 72.2 in 1991 to 106.3 in 1998-99. Observing the degree of variability in per capita expenditure on education the coefficient of variation has also indicated some fluctuation. It increased from 32% in 1990-91 to 39% in 1997-98.

Looking across the States, it is noticed that Himachal Pradesh has registered a maximum level of average expenditure on education in all the years. What is more that such expenditure in Himachal Pradesh was Rs.457 in 1991 and increased to Rs. 570 in 1998-99. The column (6) shows that in Andhra Pradesh, Kerala, Gujarat, Tamil Nadu, Assam, and Rajasthan, states expenditure on primary education was above average and for remaining the states below average over the years. It shows that the per capita average expenditure on primary education has shown mixed picture in between poor and rich states. It was in case of rich states such as Maharashtra, Haryana, Karnataka and Punjab the expenditure on primary education remains below average while in 1990-91 the expenditure is above average in Himachal Pradesh, Assam and Rajasthan. The trends in per capita average expenditure on primary education had shown fluctuations over the years between rich and poor states.

Table 4: **Per Capita Average Expenditure on Primary Education Phase-II (2000-01 to 2010-11)**

Year (1)	Avg (Rs.) (2)	St.dev (3)	CV (4)	CAGR (5)	States above Avg (Rs.) (6)	States below Avg (Rs.) (7)
2000-01	376.2	168.3	45%	-	ASM(481),GUJ(447),HP(895) JK(428),KRL(432),MHR(547) ,	ANP(214),BHR(191),HR(323),K TK(357),MP(348),ORS(322),PN B(236),TND(351),UP(240),WB(2 13),RAJ(370)
2001-02	358.9	173.2	48%	-4.58%	ASM(438),HP(935),JK(396), KRL(361),MHR(556),RAJ(36 3),	ANP(216),GUJ(337),HR(340),B HR(247),KTK(346),MP(266),OR S(291),PNB(207),TND(329),UP(235),WB(209),
2002-03	349.5	171.2	49%	-3.61%	HP(895),KRL(540),GUJ(374), ASM(415),KTK(439),JK(372) ,	TND(284),RAJ(344),HR(331),B HR(169),UP(207),PNB(250),OR S(305),WB(192),ANP(219),
,2003-04	338.2	156.2	46%	-3.48%	HP(834),KRL(387),GUJ(348), ASM(487),RAJ(339),KTK(36 6),MHR(394),JK(450),	TND(271),HR(315),BHR(196),U P(194),PNB(198),MP(284),ORS(278),WB(175),ANP(249),
2004-05	337.4	159.4	47%	-2.68%	HP(825),KRL(435),GUJ(375), ASM(476),RAJ(344),KTK(42 0),HR(345),MHR(402),	TND(278),BHR(150),JK(257),UP (204),PNB(189),MP(248),ORS(3 19),WB(206),ANP(255),
2005-06	343.3	155.0	45%	-1.81%	HP(866),KRL(371),GUJ(360), ASM(437),RAJ(395),KTK(42),MHR(410),	TND(275),HR(332),BHR(2630,J K(252),UP(231),PNB(190),MP(2 59),ORS(288),\PNB(219),ANP(2 63),
2006-07	370.1	188.4	51%	-0.27%	HP(10260),KRL(411),GUJ(41 5),ASM(424),RAJ(382),KTK(457),HR(371),MHR(423),	TND(338),BHR(267),JK(277),UP (244),PNB(167),MP(308),ORS(2 90),WB(216),ANP(276),
,2007-08	384.2	199.9	52%	0.30%	HP(1074),KRL(411),GUJ(415),ASM(424),RAJ(382),KTK(4 57),HR(371),MHR(448),	TND(348),BHR(278),JK(303),UP (307),PNB(168),MP(224),ORS(3 36),WB(237),ANP(256),
2008-09	475.2	262.7	55%	2.97%	HP(1405),ASM(500),RAJ(499),KTK(585),HR(558),MHR(4 9),JK(494),	KRL(465),GUJ(385),TND(438)B HR(353),UP(326),PNB(228),MP(356),ORS(468),WB(217),ANP(3 03),
2009-10(RE)	496.8	250.2	50%	3.14%	HP(1347),ASM(546),RAJ(525),KTK(521),HR(661),MHR(5 14),JK(644),	KRL(454),GUJ(360),TND(449), BHR(391),UP(368),PNB(214),M P(369),ORS(488),WB(288),ANP(316),
2010-11(BE)	573.4	324.2	57%	4.31%	HP(1365),GUJ(593),HR(694), MHR(667),JK(585),ORS(136 5),	KRL(491),TND(422),ASM(499), RAJ(535),KTK(524),BHR(294), UP(415),PNB(241),MP(375),WB (289),ANP(394),

Note:-RE-Revised Estimate; BE- Budget Estimate.

Sources': - *Computed from Analysis of various years of Budgeted Expenditure on Education Ministry HRD, GOI. India (1990-2011)*

The table 4 reveals that per capita expenditure on primary education on an average was Rs.376.2 in 2000-01 and increased to Rs.573.4 in 2010-11.

It is evident from the column (5) of the table that the compound annual growth rate of per capita expenditure on education was negative in the years 2001-02, 2002-03, and 04,05,06,07, which turned into positive trends later on. What is important is that the growth rate has shown an increasing trend. It was 0.30% in 2007-08 and has gone up to 4.31% in 2010-11. The variability in growth rate is reflected by the estimate of standard deviation that has been increasing over time from 168.3 in 2000-01 to 324.2 in 2010-11. Observing the degree of variability in expenditure the coefficient of variation has also indicated a number of fluctuations. It has increased from 45% in 200-01 to 57% in 2010-11 which shows that disparities in per capita average expenditure on primary education are increasing over the period among the selected states.

Looking across the selected States it is noticed that Himachal Pradesh has recorded maximum level of expenditure on primary education during the phase-I to phase-II of the post reform period. What is more is important that such expenditure in Himachal Pradesh was Rs.895 in 2000-01 and increased to Rs.1365 in 2010-11. The minimum level of variation in expenditure during 2000-01 to 2010-11 has come from different states in different years. It was West Bengal in two years, Bihar in three years and in Punjab another six years. This implies that the Government of West Bengal and Bihar had not given much attention on educational expenditure during phase-I and II. From the above observation it is confined that all the states that were on the line of below average could not come out of this except Jammu and Kashmir. The per capita average expenditure on primary education in Punjab remains below average during the whole study period.

4.1 Ranking analysis

In order to examine the relative status (with respect to per capita expenditure on education) of the Indian states, a ranking analysis was conducted which shows disparities in per capita expenditure on primary education over the years. The ranks have been assigned to all the selected states (17) in descending order i.e., the highest rank (1) has been assigned against the highest per capita (aggregated) expenditure on primary education and lowest rank (17) to the lowest average expenditure in a year. This exercise is repeated for every year. As such the ranking pattern is presented in the table 5. It is revealed from the table that during 1990-91 the maximum per capita (annual) expenditure on education sector was Rs.457 in case of Himachal

Pradesh, which is followed by Kerala Rs.313 and the lowest level of per capita expenditure on primary education was observed in Andhra Pradesh (Rs.155). Thus during 1990-91 the top and the bottom ranks were occupied by the Himachal Pradesh and Andhra Pradesh respectively.

During 1998-99 the maximum per capita annual expenditure on primary education sector was Rs.570 in case of Himachal Pradesh and the least was Rs.132 in Andhra Pradesh. Thus during 1998-99 the relative ranks of these two states (Himachal Pradesh and Andhra Pradesh) again occupied the same as in 1990-91. However, ranking of the other states did not remain totally unchanged. For instance, ranking of Gujarat had slipped 3rd in 1990-91 to 7th in 1998-99. During 2010-11, the maximum per capita annual expenditure on primary education was Rs.1365 in Himachal Pradesh and Odissa and lowest Rs.241 in Kerala. Further, ranking of Gujarat, and Assam had slipped from 3rd in 1990-91 to 10$^{th\ in}$ 2010-11, and 3$^{rd\ in}$ 1998-99 to 11th in 2010-11 and in Andhra Pradesh rank has improved from 17th in 1990-91 to 13th respectively during 2010-11. It is also revealed from the table that the eight States during phase-I and six states in phase-II out of 17 states have maintained the same rank. While the rank of three and five out of 17 states has improved and for the rest for the states the rank has declined during phase-I and phase-II. It shows that disparities in per capita expenditure on education among the various states are rising.

The figure 3(A) reflects those states whose ranks had remained almost constant during 1990-91 to 2010-11. Figure 3(B) shows that the states like Kerala has slipped from the rank 2nd to 9th ,Tamil Nadu 4th to 10th , Bihar 10th to 14th ,Uttar Pradesh 7th to 11th , Punjab 5th to 16th and Assam 5th to 8th ranks during the period 1990-91 to 2010-2011. This shows that per capita expenditure of the respective states has decreased over the years.

The figure 3(C) is a graphically display of showing the improvement in ranks among the states during the study period. It is in Haryana the rank has improved from 8th to 2nd, Maharashtra 9th to 3rd, Jammu and Kashmir 7th to 5th, and Andhra Pradesh 15th to 12th and Orissa 13th to 1st over the years.

This shows that in some of the states the ranks have improved and in others deteriorated and in some of the states it was constant over the study period. It is clearly revealed from the figures that the disparity among the states in per capita average expenditure on primary education has increased over the period.

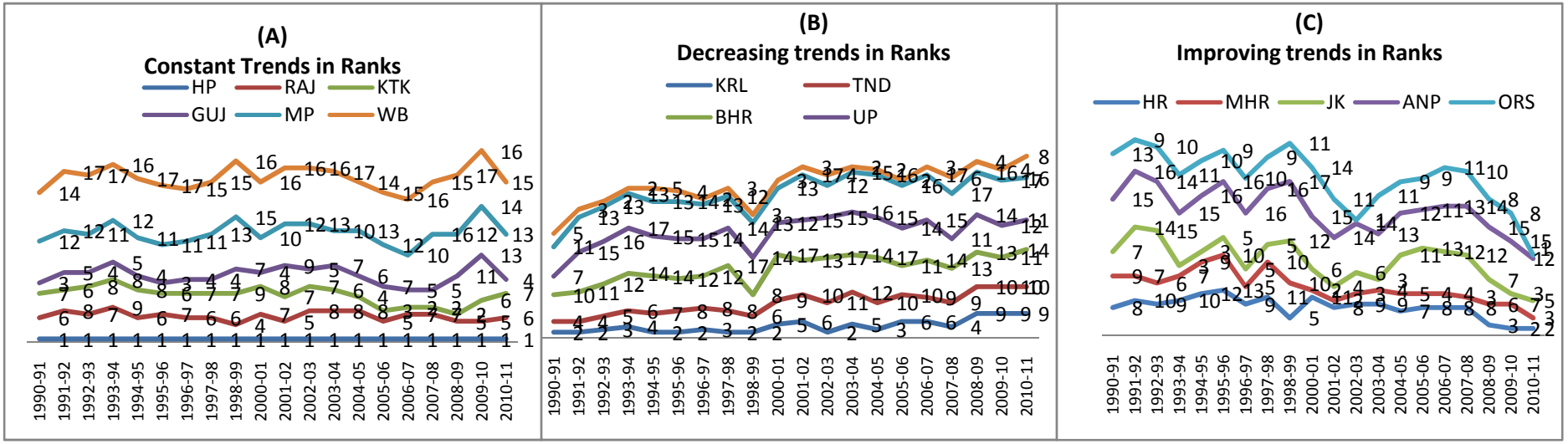
Table 5**: Per Capita State Expenditure on Primary Education (Ranking analysis)**

Years	HP (1)	KRL (2)	GUJ (3)	TND (4)	ASM (5)	RAJ (6)	KTK (7)	HR (8)	MHR (9)	BHR (10)	JK (11)	UP (12)	PNB (13)	MP (14)	ORS (15)	WB (16)	ANP (17)
Phase-1																	
1990-91	1 (457)*	2 (313)	3 (257)	4 (255)	5 (253)	6 (224)	7 (206)	8 (201)	9 (199)	10 (198)	10 (198)	10 (198)	11 (182)	12 (179)	13 (176)	14 (162)	15 (155)
1991-92	1 (402)	2 (291)	5 (269)	4 (273)	3 (282)	8 (210)	6 (214)	10 (195)	7 (230)	11 (187)	14 (163)	15 (157)	13 (171)	12 (183)	9 (203)	17 (146)	16 (154)
1992-93	1 (445)	3 (271)	4 (251)	5 (245)	2 (307)	7 (225)	8 (217)	9 (209)	6 (234)	12 (178)	15 (146)	16 (143)	13 (173)	11 (179)	10 (205)	17 (132)	14 (163)
1993-94	1 (426)	4 (300)	5 (291)	6 (244)	2 (343)	9 (238)	8 (239)	10 (202)	7 (240)	14 (168)	3 (314)	17 (131)	13 (177)	12 (182)	11 (201)	16 (135)	15 (149)
1994-95	1 (463)	2 (331)	4 (303)	7 (257)	5 (279)	6 (258)	8 (250)	12 (202)	9 (238)	14 (183)	3 (306)	15 (171)	13 (188)	11 (208)	10 (236)	17 (133)	16 (156)
1995-96	1 (451)	2 (360)	3 (312)	8 (253)	4 (305)	7 (255)	6 (265)	13 (189)	10 (221)	12 (193)	5 (292)	15 (158)	14 (183)	11 (197)	9 (226)	17 (144)	16 (150)
1996-97	1 (514)	3 (332)	4 (327)	9 (268)	2 (339)	7 (299)	8 (270)	10 (261)	5.5 (304)	13 (216)	5.5 (304)	15 (185)	14 (190)	12 (208)	11 (232)	17 (142)	16 (162)
1997-98	1 (432)	2 (397)	4 (334)	8 (274)	3 (387)	6 (307)	7 (281)	11 (243)	10 (267)	17 (26)	5 (322)	14 (200)	12 (217)	13 (215)	9 (273)	15 (167)	16 (131)
1998-99	1 (570)	2 (413)	7 (336)	6 (341)	3 (382)	4 (381)	9 (326)	5 (349)	10 (285)	8 (329)	12 (253)	14 (213)	13 (223)	15 (206)	11 (251)	16 (160)	17 (132)
Phase-2																	
2000-01	1 (895)	5 (432)	4 (447)	9 (351)	3 (481)	7 (370)	8 (357)	11 (323)	2 (547)	17 (191)	6 (428)	12 (240)	13 (236)	10 (348)	14 (322)	16 (213)	15 (214)
2001-02	1 (935)	6 (361)	9 (337)	10 (329)	3 (438)	5 (363)	7 (346)	8 (340)	2 (556)	13 (247)	4 (396)	15 (235)	17 (207)	12 (266)	11 (291)	16 (209)	14 (246)
2002-03	1 (895)	2 (540)	5 (374)	11 (284)	4 (415)	8 (344)	7 (357)	9 (331)	3 (439)	17 (169)	6 (372)	15 (207)	12 (250)	13 (249)	10 (305)	16 (192)	14 (219)
2003-04	1 (834)	5 (387)	7 (348)	12 (271)	2 (487)	8 (339)	6 (366)	9 (315)	4 (394)	14 (196)	3 (435)	16 (194)	15 (198)	10 (284)	11 (278)	17 (175)	13 (249)
2004-05	1 (835)	3 (435)	6 (375)	10 (278)	2 (476)	8 (344)	4 (420)	7 (345)	5 (402)	17 (150)	11 (257)	15 (204)	16 (189)	13 (246)	9 (319)	14 (206)	12 (255)
2005-06	1 (866)	6 (371)	7 (360)	10 (275)	2 (437)	5 (395)	3 (425)	8 (332)	4 (410)	11 (263)	13 (252)	14 (231)	16 (190)	12 (259)	9 (288)	15 (219)	11 (263)

2006-07	1 (1026)	6 (411)	5 (415)	9 (338)	3 (424)	7 (382)	2 (457)	8 (371)	4 (423)	14 (267)	12 (277)	15 (244)	17 (167)	10 (308)	11 (290)	16 (216)	13 (276)
2007-08	1 (1074)	4 (438)	5 (412)	9 (348)	6 (404)	7 (393)	2 (515)	8 (391)	3 (448)	13 (278)	12 (303)	11 (307)	17 (168)	16 (224)	10 (336)	15 (237)	14 (256)
2008-09	1 (1405)	9 (465)	11 (385)	10 (438)	4 (500)	5 (499)	2 (585)	3 (558)	6 (499)	13 (353)	7 (494)	14 (326)	16 (228)	12 (356)	8 (468)	17 (217)	15 (303)
2009-10(RE)	1 (1347)	9 (454)	13 (360)	10 (449)	4 (546)	5 (525)	6 (521)	2 (661)	7 (514)	11 (391)	3 (644)	12 (368)	17 (214)	14 (359)	8 (488)	16 (288)	15 (316)
2010-11(BE)	1 (1365)	9 (491)	4 (593)	10 (422)	8 (499)	6 (535)	7 (524)	2 (694)	3 (667)	14 (294)	5 (585)	11 (415)	16 (241)	13 (375)	1 (1365)	15 (289)	12 (394)

*values within parameters are the per capita (aggregated) annual expenditure on primary education (in Rs.) Sources': - Computed from Analysis of various years of Budgeted Expenditure on Education Ministry HRD, GOI. India (1990-2011)

Figure 3: **Per capita Average Expenditure on primary Education among the states**



5. Conclusion

The analysis has clearly revealed wide disparities among the states in respect to per capita average expenditure on primary education. The analysis of public expenditure on primary education among seventeen major States of India in absolute term has revealed that it has increased in all the States over 1990-91 to 2010-11. It is also observed that Haryana, Himachal Pradesh and Maharashtra had higher coefficient of variation, while Punjab, Kerala, Tamil Nadu and Gujarat has low. It also observed that the coefficients variation has increased in 14 out of 17 States during phase-II over phase-I.

The estimated gini coefficient has shown disparities in public expenditure on primary education. It has shown substantial increase in 13 out of 17 states during phase-I and phase-II. Such states are Madhya Pradesh, Andhra Pradesh, West Bengal, Punjab, Tamil Nadu, Himachal Pradesh, Gujarat, Maharashtra, odissa, Karnataka, Uttar Pradesh, and Haryana.

The growth rate has shown fluctuations in educational expenditure. It was recorded a negative growth in 1991-92, and 1992-93 which turned into a positive growth subsequently

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