

COMPARATIVE ANALYSIS OF HEALTH AND EDUCATION EXPENDITURE AMONG SELECTED INDIAN STATES

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ABSTRACT

This paper presents a comparative analysis of health and education expenditures among 16 selected Indian states—Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal—over three time periods: 2000-01, 2010-11, and 2020-21. The study highlights the disparities in public spending on these two key sectors, critical for human capital development. Using secondary data from state budget documents, the research calculates growth rates and examines changes in expenditure patterns across different decades. The analysis reveals significant increases in both health and education expenditures across states, though with varying degrees of growth. Top-performing states like Maharashtra, Tamil Nadu, and Uttar Pradesh have consistently allocated higher resources, while fast-growing states such as Bihar, Rajasthan, and Madhya Pradesh show rapid improvements. Despite this, considerable disparities remain, with states like Punjab and Himachal Pradesh showing slower growth. The findings underscore the importance of equitable fiscal policies to ensure balanced human development outcomes across regions.

Keywords: Health expenditure, Education expenditure, Indian states, public spending, Human capital development, Fiscal policy, Growth rates, Human Development Index (HDI).

INTRODUCTION

India's federal structure allows states significant autonomy in determining their public expenditure priorities. Health and education are two critical pillars of human capital development, directly impacting the socioeconomic progress of any region. In a diverse country like India, where states have varying levels of development and resources, the allocation of public expenditure on health and education plays a crucial role in shaping the overall wellbeing and potential of the population. State governments in India have the constitutional authority to determine their budgetary allocations in these sectors, leading to significant disparities in spending patterns across different states.

India's economic reforms in the early 1990s led to rapid economic growth, which in turn increased the fiscal capacity of both the central and state governments. As a result, the importance of investing in human capital through health and education became more apparent, particularly as the country sought to leverage its demographic dividend. However, despite the increased awareness and focus, the allocation of resources for health and education has not been uniform across all states.

This research paper aims to analyse and compare the expenditure on health and education in selected Indian states over a period of two decades (2000-01, 2010-11, and 2020-21). The states chosen for the study – Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal – represent a cross-section of India's geographic, economic, and developmental diversity.

The Importance of Health and Education in Human Development

Health and education are integral components of the Human Development Index (HDI), a metric that measures the average achievements of a country or region in three basic aspects of human development: health (life expectancy), education (years of schooling), and income (standard of living). A higher investment in health improves life expectancy, reduces infant and maternal mortality, and enhances overall productivity. Similarly, investment in education improves literacy, cognitive skills, and employability, enabling individuals to contribute more effectively to the economy.

Despite these obvious benefits, the extent of government spending on health and education varies widely among Indian states. Some states, such as Tamil Nadu and Maharashtra, have consistently prioritized health and education, resulting in better human development outcomes. Other states, such as Bihar and Odisha, have traditionally lagged in these sectors due to a variety of factors, including lower fiscal capacity, historical neglect, and governance challenges.

Objective

The primary objective of this research is to analyse the health and education expenditure patterns among selected Indian states and Compare growth rates across different decades (2000-01 to 2010-11 and 2010-11 to 2020-21).

Methodology

The study relies on secondary data from State Finances: A Study of Budgets published by Reserve Bank of India. The data represent total health and education expenditure (in Rs Crores) of selected states over three periods: 2000-01, 2010-11, and 2020-21. The key indicators used to compare the states' performances include:

- **Change 1 (2000-01 to 2010-11):** The ratio of increase in expenditure between 2000-01 and 2010-11.
- **Change 2 (2010-11 to 2020-21):** The ratio of increase in expenditure between 2010-11 and 2020-21.
- **Average:** The mean expenditure across all states for each period.
- **Standard Deviation (SD) and Coefficient of Variation (CV):** Used to understand the variability in expenditure among states.

RESULTS AND DISCUSSION

TABLE 1
EDUCATION EXPENDITURE OF SELECTED STATES

States	2000-01 (Rs.Crores)	2010-11 (Rs.Crores)	2020-21 (Rs.Crores)	Change 1 2000-01 to 2010-11	Change 2 2010-11 to 2020-21
AP	3740.3 (6)	12584.69 (5)	24205.29 (10)	3.36	1.92
Assam	1943.52 (12)	5705.49 (14)	16410.3 (12)	2.94	2.88
Bihar	4012.27 (5)	8244.32 (10)	27346.9 (7)	2.05	3.32
Gujarat	3684.77 (7)	11412.78 (6)	26726.55 (8)	3.10	2.34
Haryana	1334.47 (15)	5972.48 (13)	14438.8 (14)	4.48	2.42
HP	904.52 (16)	2889.14 (16)	6699.99 (16)	3.19	2.32
Karnataka	3488.75 (8)	11212.63 (7)	25483.39 (9)	3.21	2.27
Kerala	2635.52 (11)	6933.37 (11)	16861.99 (11)	2.63	2.43
MP	2762.53 (10)	8557.15 (9)	30108.9 (6)	3.10	3.52
Maharashtra	9420.25 (1)	26983.37 (1)	62322.25 (1)	2.86	2.31
Odisha	1760.48 (14)	6611.89 (12)	15823.81 (13)	3.76	2.39
Punjab	1859.24 (13)	4339.54 (15)	12149.22 (15)	2.33	2.80

Rajasthan	3286.28 (9)	10236.23 (8)	39190.68 (3)	3.11	3.83
TN	4409.67 (4)	13824.23 (4)	38578.26 (4)	3.13	2.79
UP	6172.52 (2)	21664.28 (2)	54844.39 (2)	3.51	2.53
WB	4581.63 (3)	14395.82 (3)	35872.87 (5)	3.14	2.49
Average	3500	10723	27941	-	-
SD	2022.49	6142.04	14833.25	-	-
CV	57.79	57.28	53.09	-	-

Source: State Finances: A study of Budgets, RBI Publication, various years.

Note: Figures in brackets are ranks among selected states.

Table 1 provides insights into the education expenditure of selected states for the years 2000-01, 2010-11, and 2020-21, measured in rupees in crores.

The average Education expenditure increased significantly from Rs.3500 crores in 2000-01 to Rs.10723 crores in 2010-11, and further to Rs.27941 crores in 2020-21. The SD values show a notable increase across the three time periods (2022.49 in 2000-01, 6142.04 in 2010-11, and 14833.25 in 2020-21). This reflects the growing disparity between states' education expenditure. Despite the increase in the absolute value of education expenditure, the CV has slightly decreased from 57.79 per cent in 2000-01 to 53.09 per cent in 2020-21. This suggests a marginal reduction in relative disparities between states' economic sizes over time.

Top Performing states:

Maharashtra consistently held the top spot across all three periods, with the expenditure increasing from Rs.9420.25 crores in 2000-01 to Rs.62322.25 crores in 2020-21. The state saw moderate growth rates of 2.86 and 2.31.

Uttar Pradesh (UP) and West Bengal (WB) maintained their positions in the top five throughout the periods, with UP in second and WB in third place in 2020-21.

Tamil Nadu (TN) also consistently ranked fourth in all three periods, showing a strong and steady economic performance.

Fastest Growing States:

Rajasthan showed the most dramatic growth during both periods. The state moved from 9th place in 2000-01 to 3rd place in 2020-21, with growth rates of 3.11 and 3.83, the highest in the second phase. Bihar had an impressive growth in the second phase (3.32), showing substantial economic progress despite being ranked 5th in 2000-01 and dropping to 7th in 2020-21. Madhya Pradesh (MP) also showed high growth, particularly in the second phase with a growth rate of 3.52, rising from 10th place in 2000-01 to 6th place in 2020-21.

Slow Growth States:

Haryana had the highest growth rate in the first period (4.48), but its growth slowed significantly to 2.42 in the second phase. Despite this, Haryana maintained its position in the 13th to 15th range. Kerala and Punjab experienced relatively slower growth rates. Kerala saw growth rates of 2.63 and 2.43, while Punjab's growth was slower, with rates of 2.33 and 2.80.

Ranking Changes:

Rajasthan made the most notable leap in rankings, from 9th in 2000-01 to 3rd in 2020-21. Andhra Pradesh (AP) saw a decrease in ranking despite growth, moving from 6th in 2000-01 to 10th in 2020-21. Bihar and Assam improved their rankings, with Bihar moving from 5th in 2000-01 to 7th in 2020-21, while Assam moved from 12th in 2000-01 to 12th again in 2020-21 but showed significant growth in education expenditure.

Growth Rate Comparison (Change 1 vs Change 2): The overall growth rate slowed slightly in the second period for most states. For example, states like Maharashtra, Tamil Nadu, UP, and Gujarat showed faster growth in the first period (Change 1) compared to the second (Change 2).

A few states, such as Bihar, Rajasthan, and Madhya Pradesh, saw higher growth rates in the second phase compared to the first.

TABLE 2
HEALTH EXPENDITURE OF SELECTED STATES

States	2000-01 (Rs.Crores)	2010-11 (Rs.Crores)	2020-21 (Rs.Crores)	Change 1 2000-01 to 2010-11	Change 2 2010-11 to 2020-21
AP	1334.03 (4)	4151.7 (4)	9510.89 (9)	3.11	2.29
Assam	355.51 (14)	1349.49 (12)	6249.6 (13)	3.80	4.63
Bihar	996.43 (7)	1667.18 (11)	9152.35 (10)	1.67	5.49
Gujarat	918.92 (8)	3010.45 (6)	10987.81 (7)	3.28	3.65
Haryana	298.27 (16)	1086.9 (15)	5847.42 (14)	3.64	5.38
HP	299.1 (15)	829.26 (16)	2497.07 (16)	2.77	3.01
Karnataka	1005.33 (6)	2796.52 (7)	11867.9 (6)	2.78	4.24
Kerala	690.67 (11)	2063.63 (10)	8802.36 (11)	2.99	4.27
MP	861.59 (10)	2154.2 (9)	9686.84 (8)	2.50	4.50
Maharashtra	1634.28 (1)	4656.96 (2)	17091.86 (3)	2.85	3.67

Odisha	458.94 (13)	1272.35 (13)	7874.57 (12)	2.77	6.19
Punjab	640.14 (12)	1230.05 (14)	3853.35 (15)	1.92	3.13
Rajasthan	902.99 (9)	2561.6 (8)	12619.99 (5)	2.84	4.93
TN	1187.38 (5)	4401.31 (3)	17394.24 (2)	3.71	3.95
UP	1459.57 (3)	6476.43 (1)	21629.32 (1)	4.44	3.34
WB	1506 (2)	3502.32 (5)	12831.26 (4)	2.33	3.66
Average	909	2701	10494	-	-
SD	421.073	1536.142	4924.748	-	-
CV	46.31	56.88	46.93	-	-

Source: State Finances: A study of Budgets, RBI Publication, various years.

Note: Figures in brackets are ranks among selected states.

Table 2 represents data of health expenditure of various Indian states for three time periods —2000-01, 2010-11, and 2020-21 — and also provides growth rates in two phases: Change 1 (2000-01 to 2010-11) and Change 2 (2010-11 to 2020-21).

The average health expenditure increased substantially from Rs.909 crores in 2000-01 to Rs.2701 crores in 2010-11, and further to Rs. 10494 crores in 2020-21. This shows a clear focus on increased health spending across the states. The SD values increase notably across the three periods (from 421.073 in 2000-01 to 4924.748 in 2020-21). This reflects growing disparity in health expenditure between states over time. The CV shows an increase between 2000-01 (46.31 per cent) and 2010-11 (56.88 per cent), indicating a rise in the relative disparity of health spending. However, by 2020-21, the CV slightly decreases to 46.93 per cent, suggesting that the disparity narrowed somewhat, although it remains significant.

Top Performing States:

Uttar Pradesh tops the list in 2010-11 and 2020-21, with health expenditure rising from Rs.1459.57 crores in 2000-01 to Rs.21629.32 crores in 2020-21, showing strong growth in health sector spending. Growth rates were 4.44 in Change 1 and a slightly slower 3.34 in Change 2.

Tamil Nadu climbed the rankings, reaching second place by 2020-21 with an expenditure of Rs.17394.24 crores. Tamil Nadu experienced strong growth in both periods: 3.71 and 3.95. Maharashtra consistently ranks high, with an expenditure of Rs.17091.86 crores in 2020-21, ranking third overall.

Fastest Growing States:

Odisha saw the largest growth in health expenditure between 2010-11 and 2020-21, with a growth rate of 6.19 the highest in Change 2. Odisha's health expenditure went from Rs.458.94 crores in 2000-01 to Rs.7874.57 crores in 2020-21.

Bihar experienced significant growth during Change 2, with a 5.49 increase in health expenditure, despite a relatively modest growth rate of 1.67 in the earlier period. Bihar's health expenditure surged from Rs.996.43 crores in 2000-01 to Rs.9152.35 crores in 2020-21. Haryana also saw a sharp rise in its health expenditure growth rate in Change 2, increasing by 5.38 times between 2010-11 and 2020-21.

Slow Growth States:

Punjab and Himachal Pradesh had relatively slower growth rates. Punjab's health expenditure growth was only 1.92 during Change 1 and 3.13 during Change 2, making it one of the slowest-growing states in terms of health spending. Himachal Pradesh had a growth rate of 2.77 (Change 1) and 3.01 (Change 2), showing modest increases over the periods.

Assam and Rajasthan, while growing rapidly in the second phase, had much lower expenditures in the earlier phase, indicating they were starting from a lower base.

Ranking Changes:

Rajasthan made significant strides, rising from 9th in 2000-01 to 5th in 2020-21, with health expenditure growing from Rs.902.99 crores to Rs.12619.99 crores. Rajasthan's strong growth rates (2.84 in Change 1 and 4.93 in Change 2) reflect increased attention on healthcare spending.

West Bengal, although it started strong in 2000-01 (ranked 2nd), slipped slightly to 5th place by 2020-21. However, it maintained consistent growth with 2.33 in Change 1 and 3.66 in Change 2.

Karnataka, despite showing solid growth (2.78 in Change 1 and 4.24 in Change 2), maintained a stable rank of 6th place throughout the period.

Growth Rate Comparison (Change 1 vs Change 2):

The second phase (2010-11 to 2020-21) generally saw faster growth in health expenditure than the first phase (2000-01 to 2010-11), indicating increased prioritization of health spending post-2010. States like Bihar (5.49), Odisha (6.19), and Haryana (5.38) show a significant acceleration in the second phase.

States such as UP and TN, although still high in spending, experienced slower growth in the second phase compared to the first.

Findings:

Health and Education Spending in 2000-01: States had relatively low expenditure levels in 2000-01, with Maharashtra leading the group in both sectors, while states like Himachal Pradesh and Haryana lagged significantly behind.

Increase in Spending by 2010-11: All states demonstrated significant increases in both health and education expenditure during the period 2000-01 to 2010-11. Haryana and Odisha recorded some of the highest growth rates in health expenditure, while Tamil Nadu and Karnataka also saw marked improvements in education spending.

Expenditure in 2020-21: By 2020-21, the gaps in spending among the states widened, with states like Uttar Pradesh, Maharashtra, and Tamil Nadu substantially increasing their investments in health and education. On the other hand, Punjab, Odisha, and Assam, despite increased spending, still ranked lower in absolute term.

CONCLUSION

The comparative analysis of health and education expenditure among Indian states shows significant improvement over the last two decades, with notable progress in states like Bihar, Rajasthan, and Gujarat. However, there remains considerable variation in spending across states. Variations in health and education expenditure highlight regional disparities among the states, with some states showing relatively higher growth rates, suggesting a greater focus on improving educational infrastructure and quality and more targeted fiscal policies. As India continues to prioritize human capital development, equitable distribution of resources to improve health and education outcomes will be critical.

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