

A Comparative Study of Human Development Index of Major Indian States

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ABSTRACT

The purpose of human development is creating conditions in which its people can live a long and healthy life. The Human Development Index is a composite index to measure the development of human resources in each country. The current paper attempts to examine the human development achievements of sixteen major Indian states for the period 1992-93 to 2005-06. For the calculation of Human Development Index (HDI) we have used six variables namely, Gross State Domestic Product (GSDP) for income index, literacy rate of seven years and above for education index and, a composite index of four variables; life expectancy at birth, infant mortality rate, complete immunization (Immunization of Child between 12-23 months old), and malnourishment (nutritional status of children under age three) for health index. Our study limits to only three time periods because the data for malnourishment is available only for 1992-93, 1998-99 and 2005-06. In computation of the HDI our main focus is on the health dimension because improvements in health and nutrition improve productivity and incomes and it also has positive effects on economic growth. Our results confirm the well establish findings of several other studies that states such as Kerala are amongst the best performing while the so-called BIMARU states (Bihar, MP, Rajasthan and UP) are laggards.

Keywords--- Immunization, Malnourishment, and HDI.

I. INTRODUCTION

The term economic growth is associated with economic progress and advancement. But what is actually meant by this progress, is it the growth of GDP, growth in per capita incomes, increase export earnings, low inflation, reduce the debt burden etc. Improvement in all these macroeconomic indicators leads to higher economic growth of any country. Economic growth is not just associated with this only; it also has dissimilar effect on different segments (health, education, infrastructure, employment, and poverty) of the economy (DFID, 2005).

It is the quality and not just the quantity of economic growth that matters for the improvement in the

quality of life by addressing the challenges of poverty, inequality, poor health and educational infrastructure; and the quality of life is better measured by the human development indicators (Pandya, 2015). The Human Development Index has become one of the most widely used indices of well-being and has succeeded in broadening the measurement and discussion of well-being beyond the important income growth criteria of well being (Khodabakhshi, 2011).

The purpose of human development is creating conditions in which its people can live a long and healthy life. The Human Development Index is a composite index to measure the development of human resources in each country. It includes four indicators namely, life expectancy for longevity index, per capita GDP for GDP index and, adult literacy rate and gross enrolment ratio for education index.

II. METHODOLOGY

Measurement of variables

The current paper attempts to examine the human development achievements of sixteen major Indian states for the period 1992-93 to 2005-06. For the calculation of Human Development Index (HDI) we have used six variables namely, Gross State Domestic Product (GSDP) for income index, literacy rate of seven years and above for education index and, a composite index of four variables; life expectancy at birth, infant mortality rate, complete immunization (Immunization of Child between 12-23 months old), and malnourishment (nutritional status of children under age three) for health index.

III. THE COVERAGE

Our study limits to only three time periods because the data for malnourishment is available only for 1992-93, 1998-99 and 2005-06. In computation of the HDI our main focus is on the health dimension because improvements in health and nutrition improve productivity and incomes and it also has positive effects

on economic growth. We used four variables for the measurement of health dimension because these variables will be better captured the disparity across states as all four variables covered one to three years time period of infant's age.

IV. DATA SOURCES

Data for GSDP have been taken from Statistical Abstract of India, the Reserve Bank of India and the Planning Commission of India. Statistics on infant mortality has been taken from SRS Bulletin published by the Registrar General of India and National Family Health Survey. Data for nutritional level and immunization is also taken from NFHS. Since the data for state wise literacy rates and life expectancy at birth is not available on yearly basis, it has been constructed for the time periods being observed in the study on the basis of compound annual growth during the period.

V. INDEX CONSTRUCTION

Normalization method has been used to calculate HDI. The normalization is done by dividing the difference between the actual and the minimum value of any

variable to the difference between the maximum and the minimum value of the same variable. Two variables (IMR and malnourishment) in the health index are negative as an upward movement leads to deterioration in the health condition. In order to make the health index unidirectional, we have taken the difference between the maximum and the actual value in the numerator.

VI. ANALYSIS

The present analysis is going to explain only the overall achievement in the HDI score across states rather than the sub indices of HDI. We don't find much variation in the sub indices over time due to the small period of study. However, to understand the size of the economy and growth pattern of each of the States, the present analysis classifies states into three categories with respect to their GSDP in the following manner: high income States (GSDP: greater than 2nd Quartile or median), medium income States (GSDP: 1st to 2nd Quartile) and low income States (GSDP: less than or equal to 1st Quartile). Then we compare that whether the high income states achieve the higher level of human development or not.

Table – 1 GSDP Absolute (Rs. Crore) 1999-2000 prices

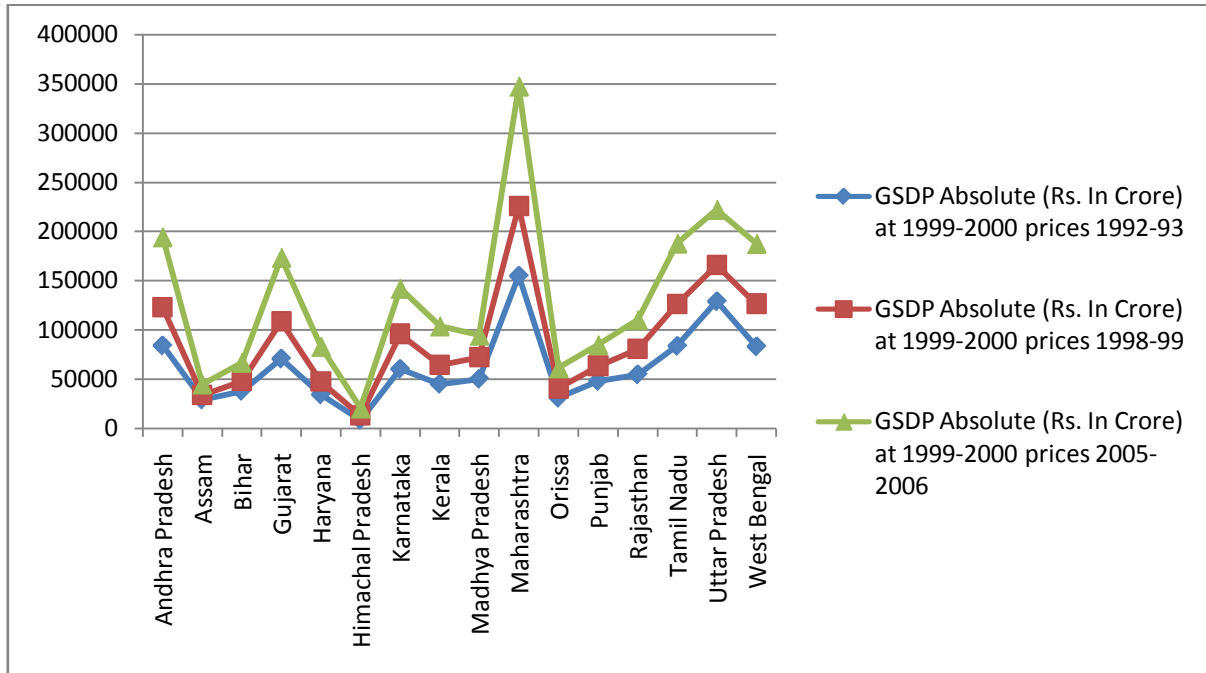
States	1992-93	Rank	1998-99	Rank	2005-2006	Rank
Andhra Pradesh	84483	H	123152	H	194437	H
Assam	29558	L	33760	L	45282	L
Bihar	38348	M	48394	M	67243	L
Gujarat	71145	H	108749	H	173654	H
Haryana	34721	L	47725	M	83436	M
Himachal Pradesh	8941	L	13237	L	20916	L
Karnataka	60683	H	96124	H	142241	H
Kerala	45468	M	64316	M	104104	M
Madhya Pradesh	50645	M	72517	M	94777	M
Maharashtra	155370	H	225825	H	347187	H
Orissa	31323	L	40872	L	61594	L
Punjab	48363	M	63581	M	85125	M
Rajasthan	55086	H	81008	H	110293	H
Tamil Nadu	84040	H	126455	H	188076	H
Uttar Pradesh	129444	H	166036	H	222242	H
West Bengal	83518	H	126662	H	187709	H
Min	8941		13237		20916	
Median Q2	52865		76763		107199	
Q1	36535		48059		75340	
Q3	83779		124804		187893	
Max	155370		225825		347187	
IQ (Q3-Q1)	47244		76744		112553	

Source: Statistical Abstract of India, Office of Registrar General

The GSDP figure of the States is explained with the help of Table 1. The income quartiles for the period under observation are defined at the bottom. The table reveals that while Maharashtra, Tamil Nadu, Gujarat and

West Bengal remained in the high income category throughout the period, Orissa, Assam and Himachal Pradesh could not cross the low income group.

Chart 1- Gross State Domestic Product of Indian States



Haryana is the only state that managed to reach the middle income group in 1998-99 while Bihar fall into the category of low income states from the middle income group in 2005-06. Overall an increase in differences of GSDP (between LIS and HIS) is observed across the States (see Inter Quartile Range in Table 1).

VII. HDI RESULTS

The composite index of human development for sixteen major Indian states is presented in Table (2) which reveals that states like Kerala, Maharashtra, Tamil Nadu and West Bengal achieved the highest level of human development during the whole period of study. Bihar performed worse in terms of human development

achievements and remain among the bottom liners for the entire time period.

Looking at the situation, one could notice that Kerala has the highest HDI score in the first two periods with a value of (0.733) and (0.734) respectively and it was followed by Maharashtra and Tamil Nadu. During the third period, Kerala and Maharashtra exchange their position but Tamil Nadu has been consistently remained at the same position. Bihar was at the bottom most level with a value of (0.110) in 1992-93 and Orissa (0.198) was the state second to it followed by Madhya Pradesh (0.209). In 1998-99, Bihar again performed worst having a HDI value of (0.088). This time Orissa (0.229) replace Madhya Pradesh (0.215) and get a slight improvement in their position.

Table – 2 State-wise HDI score and rank 1992-93 to 2005-06

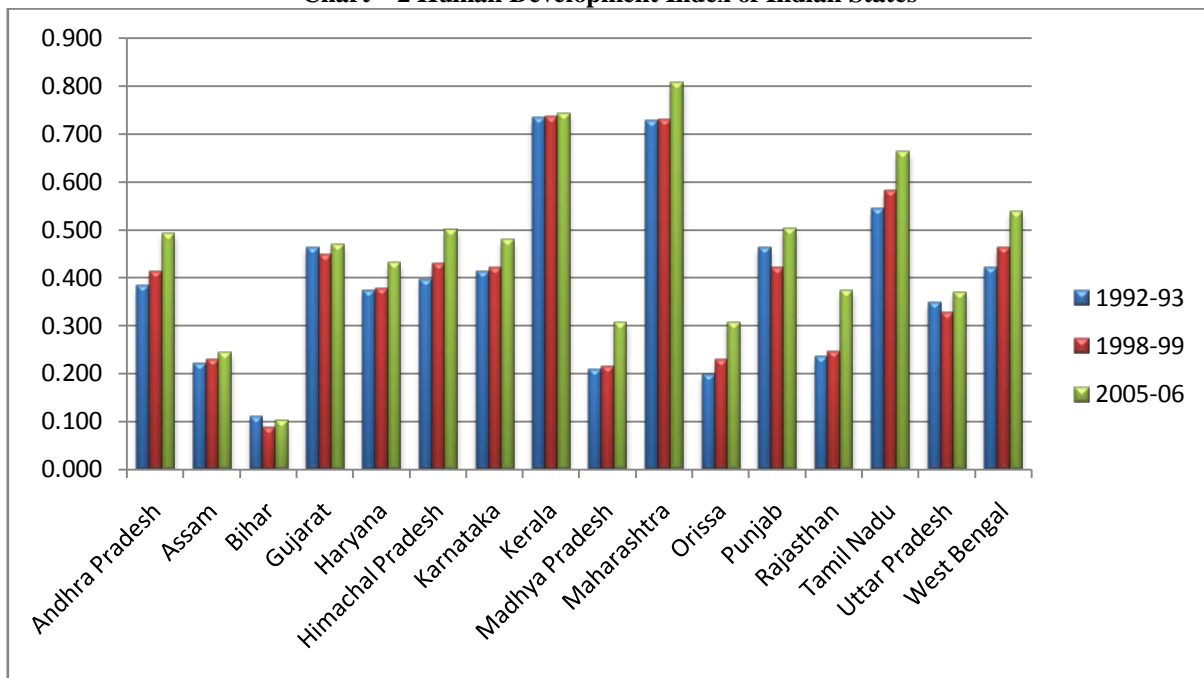
States	HDI 1992-93	RANK 1992-93	HDI 1998-99	RANK 1998-99	HDI 2005-06	RANK 2005-06
Andhra Pradesh	0.383	9	0.414	9	0.493	7
Assam	0.223	13	0.229	13	0.244	15
Bihar	0.110	16	0.088	16	0.102	16
Gujarat	0.462	5	0.449	5	0.471	9
Haryana	0.373	10	0.378	10	0.431	10
Himachal Pradesh	0.396	8	0.430	6	0.502	6
Karnataka	0.413	7	0.421	8	0.480	8
Kerala	0.733	1	0.737	1	0.744	2

Madhya Pradesh	0.209	14	0.215	15	0.307	13
Maharashtra	0.729	2	0.731	2	0.808	1
Orissa	0.198	15	0.229	14	0.307	14
Punjab	0.464	4	0.422	7	0.502	5
Rajasthan	0.236	12	0.246	12	0.374	11
Tamil Nadu	0.544	3	0.583	3	0.663	3
Uttar Pradesh	0.347	11	0.328	11	0.371	12
West Bengal	0.422	6	0.463	4	0.539	4

All states made efforts to increase their level of human development but the situation become worst for Gujarat, Assam and Uttar Pradesh in 2005-06. The HDI

value of Gujarat is deteriorated from (0.449) to (0.471) and it falls into the category of bottom ten states from the top five states.

Chart – 2 Human Development Index of Indian States



In the year 2005-06, Bihar and Orissa remains in the same position as in previous period and performed as bottom two states in terms of human development. Assam couldn't maintain their position and slipped to the fifteenth rank from the thirteenth rank. Orissa, Madhya Pradesh, Uttar Pradesh, and Rajasthan have hardly been able to bring about much of a change in their positions in this regard.

Now we explain the HDI performance of Indian states according to their different income categories. According to income criteria, states have registered interesting movements in their position. Among the high income states Andhra Pradesh and West Bengal have an encouraging improvement in their position from the first period to the last period. All other states belongs to high income categories except Gujarat have remained nearly the same place. It is surprising that Gujarat belongs to high income category but its performance was worsened during 2005-06.

On the other hand, a middle income state Madhya Pradesh and a low income state Himachal Pradesh have enhanced their human development level during the period of study. Bihar, Punjab and Kerala also belong to middle income category. The performance of Bihar is all time worst for human development attainment. Punjab slipped down during 1998-99 but improve their position to some extent in 2005-06. Kerala is the all time best performer in human development attainment and occupied the first position.

Assam, Haryana, Himachal Pradesh and Orissa come into the category of low income states. Haryana have no change in their position over the period of study and placed in the bottom three states in human development achievements. Assam and Orissa couldn't get much of change in their position and also remained in the bottom liners.

VIII. CONCLUSION

The level of human development achievement is vary significantly across Indian states and confirm the well establish findings of several other studies that states such as Kerala are amongst the best performing while the so-called BIMARU states (Bihar, MP, Rajasthan and UP) are laggards. But when we compare the HDI performance of states on their GSDP basis it shows some differences. For example, Kerala is the best performer in human development attainment but fall into the category of middle income states while Bihar is all time laggard in the context of HDI and also comes into the category of middle income states. On the other hand Uttar Pradesh is a high income category state but its performance was not satisfactory for human development achievements. Our results confirm that quality of human development is highly affected by the changes in the quality of human capital such as health and education rather than GSDP.

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