

HUMAN DEVELOPMENT; CONVERGENCE ACROSS INDIAN STATES

SATINDERPAL SINGH & PREETI SHARMA

Research Scholar, Chandigarh Business School, Landran, Sahibzada Ajit Singh Nagar, Punjab, India

ABSTRACT

The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives."The Human Development Index (HDI) is a composite index that measures the average achievements in a country in three basic dimensions of human development healthy life, knowledge and a decent standard of living. This paper analyze the issue of convergence of human development among major Indian States as there is high degree of inequality in human development across Indian States. By using convergence analysis, we attempt to find the answer that whether low HDI states will be able to catch up the high HDI states.HDI data from 1991 to 2011 of fifteen major states has been examined. It is important to know whether the distribution of income and output across states is increasingly becoming equal over time, resulting in equality in Human development or the low human development index (HDI) states will remain lower for many generations and those states are having high HDI will be higher for ever. However, for HDI, convergence analysis one has to consider the states as the relevant units of analysis. Our result of convergence analysis shows that HDI states are actually growing at a faster rate than high HDI states leading to convergence in terms of HDI.

KEYWORDS: Human Development, Convergence, Inequalities

INTRODUCTION

The basic purpose of development is to enlarge people's choices. In principle, these choices can be infinite and can change over time. People often value achievements that do not show up at all, or not immediately, in income or growth figures: greater access to knowledge, better nutrition and health services, more secure livelihoods, security against crime and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives."The Human Development Index (HDI) is a composite index that measures the average achievements in a country in three basic dimensions of human development healthy life, knowledge and a decent standard of living. The following indicators measure the above-mentioned dimensions.

Each component of the HDI is measured in the following way:

- Health -Measured by **life expectancy at birth**.
- Education -Measured as a combination of **adult literacy** (with two-thirds weight) and **gross enrollment** (with one-third weight).
- Wealth -Measured by **GDP per capita**

From the second half of the last century, there has been a growing school of thought that material prosperity on its own does not necessarily amount to overall equitable growth. Economic improvement both in the developed nations and in

the developing nations did not, reduce on its own poverty levels; improve health or end gender and social community-based discrimination. In 1990, the United Nations Development Program brought out the first global Human Development Report, a report produced under the leadership and inspiration of Mahbub-UL-Haq. These reports, apart from becoming a regular feature, attracted international and national attention towards the concept of “human development”. They set in motion a debate on “people-centered” human development, which was a radical conceptual change from previous models. The reports talked about whom development was for and how it was affecting target groups. Only if the ‘how’ satisfied the criteria of human development, was it considered positive. The concept of “human development” derives its philosophical underpinnings from the works of Nobel laureate Prof. Amartya Sen., whose writings have given rise to a new vocabulary of development. The Human Development Report of the United Nations states “the process of human development must transmit itself, essentially by means of enlarging the choices of all persons concerned...” The most critical of these wide-ranging choices are to live a long and healthy life, to be educated and to have access to resources required for a decent standard of living. Hence, to measure development, the most crucial indicators that were considered were quality of health, extent of education, level of employment and real income levels.

The real aim of development is to improve the overall quality of human life. In this line

Human Development is a process that enables human beings to realize their potential and lead lives of self-respect and accomplishment. However, economic growth is an important component of development, but it cannot be a goal in itself. Real development in building a long and healthy life, education, political freedom, guaranteed human rights, freedom from violence along with a decent standard of living. The most basic capabilities for human development are living a long and healthy life, being educated, having a decent standard of living and enjoying political and civil freedoms to participate in the life of one’s community (UNDP, 2003).

The Human Development Index represents a suitable synthesis between the economic value of a person seen in terms of per capita income on one hand and social valuation as seen in terms of health status measured through life expectancy at age one and educational status assessed through enrollment rates. (HDR, Punjab, 2004). Human development index for 1981, 1991 and 2001 has been calculated from life expectancy index, education index and income index, and 2011 HDI has been estimated from given data.

The degree of inequality in Human Development across Indian states is in sharp contrast to each other. “Regional disparity in human development is often a source of political tension and dissatisfaction in a federal system. Although the theory and measurement of such disparities never received adequate attention in India, both the planning Commission and Finance Commissions have given very high wattage to this aspect in deciding the allocation of resources among states. Every time such allocation is made to address the issue of regional disparity. What is disturbing is very often the choices are made without proper validation and verification of these theories in Indian context. Of late, the theory finding favor among policymakers is that human capital is the prime determinant of economic growth and disparity. Tequila model by achieving a high level of human development without corresponding high achievement in economic front, by emphasizing the role of public investment in social sectors, has impressed policy makers at the Centre and states” (Dholakia R. H, 2003). A major objective of the planned economic development strategy in India since independence has been to accelerate economic and achieve a balanced regional spread. The planned allocation of resources in independent India was expected to rectify inter - regional disparities and imbalances in development (Rao, Govinda et al 1999). From the perspective of

evaluating welfare implications and redistributive policies of the policy makers and to achieve social equality, a question that naturally arises: Whether the poor HDI states are doing something so either they will leave behind or will at least match the high HDI states.

We propose to answer this question by using the convergence analysis, which is well known in the macro economic analysis.

However, for HDI, convergence analysis one has to consider the states as the relevant units of analysis. It is imperative to discuss first the classical approach to convergence analysis. This methodology is classical in its approach because it uses the traditional techniques of classical Econometrics, a characteristic shared by almost all the alternative approaches. Like other classical theories, it is the basis of reference and target of criticism of other methodologies. It is also like classical theories has survived and will keep surviving the challenges of the modern age.

Study of Convergence

The concepts of convergence have been studied by various authors, which opened a new dimension for research. Robert Solow suggested the growth model of the convergence. There are two concepts of convergence that are σ convergence and β convergence (Martine, Xavier-sahi-1995). If state having low HDI is growing faster than high ones one can say it is absolute β convergence. Let us suppose that we have data on HDI for a cross section of states between two periods that is t and $t+T$. Then the following regression equation;

$\gamma_{i,t,t+T} = \alpha - \beta \cdot \log(Y_{i,t}) + \varepsilon_{i,t}$, where $\gamma_{i,t,t+T} \equiv \log(Y_{i,t+T}/Y_{i,t})/T$ is growth rate of HDI between t and $t+T$, and $\log(Y_{i,t})$ is the logarithm of economy. Now if $\beta > 0$, so we conclude that the data has sufficient evidence for absolute beta convergence.

Now if the dispersion of HDI that is σ tends to decrease for countries or states over time, then this will be σ convergence that is if $\sigma_{t+T} < \sigma_T$. Where σ_{t+T} is the time $t+T$ standard deviation of $\log(Y_{i,t})$ across me. The concept of σ convergence and absolute β convergence are related to each other.

It is also natural to understand that when a low HDI state grows faster than high HDI states, too

States will become similar over time. In other words the existence of β convergence will tend to generate σ convergence. Therefore, it would appear that these two convergences are similar. However, it is possible for low HDI states to grow faster than high HDI states without observing cross-sectional disparity decrease over time. Thus, we can find β convergence without having σ convergence. In certain cases, there may be σ divergence, though there is β convergence. Not necessarily, these two convergences always show up together because they imply two different things: σ convergence relates, whether cross state distribution HDI falls over time or not. Whereas β convergence refers to, the mobility of different states within the given distribution of HDI.

Sample of States Chosen for HDI Analysis:

Fifteen major states for the purpose of our convergence analysis have been taken because of non availability of state level HDI data for all the states. These states are a good representation of the population of Indian states. We found three clusters of states as per existing notion and belief as we can classify them as high HDI states, medium HDI states and

low HDI states. Table -1 show that HDI of every state is increasing over the period. Kerala remained highest HDI state in all three decades and Bihar was lowest HDI state in 1991 and 2001 and in 2011 Orissa is having lowest HDI.

Table 1

Human Development Index of India and Major States, 1991-2011			
States	HDI	HDI	HDI
	1991	2001	2011
Andhra Pradesh	0.377	0.416	0.485
Assam	0.348	0.386	0.474
Bihar	0.308	0.367	0.447
Gujarat	0.431	0.476	0.514
Haryana	0.443	0.509	0.545
Karnataka	0.412	0.478	0.508
Kerala	0.591	0.638	0.625
Madhya Pradesh	0.328	0.394	0.451
Maharashtra	0.452	0.523	0.549
Orissa	0.345	0.404	0.442
Punjab	0.475	0.537	0.569
Rajasthan	0.347	0.424	0.468
Tamil Nadu	0.466	0.531	0.544
Uttar Pradesh	0.314	0.388	0.468
West Bengal	0.404	0.472	0.509

Source: Planning Commission, National Human Development report 2011, Government of India, and New Delhi.

Table 2

Descriptive Statics					
	N	Minimum	Maximum	Mean	Std. Deviation
HDI 91	15	0.31	0.59	0.4027	0.07659
HDI 01	15	0.37	0.64	0.4631	0.07547
HDI 11	15	0.44	0.62	0.5065	0.05208
Valid N (list wise)	15				

We observe that minimum values of HDI are increasing and maximum values of HDI have increased in 2001 but there is a slight fall in 2011. Standard deviation in 2011 has decreased, which means relative dispersion is decreasing over time among the states with respect to HDI. Hence there is σ convergence.

Results of Convergence Analysis of HDI in case of Indian States

We estimate the following regression equations.

$$\text{Growth}_{91\ 01i} = \alpha - \beta \cdot \log(\text{HDI}_{91i}) + \epsilon_i \quad (2)$$

$$\text{Growth}_{01\ 11i} = \alpha - \beta \cdot \log(\text{HDI}_{01i}) + u_i \quad (3)$$

Where $\log(\text{HDI}_{91i})$ and $\log(\text{HDI}_{01i})$ is the logarithm of state i , HDI at time 1991 and 2001 respectively. And $\text{Growth}_{91\ 01i} \equiv \log(\text{HDI}_{01i} / \text{HDI}_{91i}) / 10$ are the growth rate of HDI of the state between 1991 and 2001. Similar interpretation is for $\text{Growth}_{01\ 11i}$. ($i=1,2,\dots,15$). Hence going by the classical convergence analysis as described earlier section, if we find $\beta > 0$, so we say that the data set exhibit absolute β convergence. It is observed that β is positive and significant for both the time periods considered for analysis (0.697, 924) which support that there is β convergence. Thus the first condition for convergence i.e. β convergence is fulfilled in case of HDI four Indian states. However,

investigating the second condition for convergence $\sigma_{t+T} < \sigma_t$, in Indian states it is found that though the sample estimate of σ_{t+T} is less than the sample estimate of σ_t ($t=1981,1991;T=10$ years) but they are not (statistically) significantly different. Levene's test fails to reject the null hypothesis of equality of variances.

CONCLUSIONS

Thus, it is observed that the low HDI states growing faster than higher HDI states. At the same time, dispersion of their cross-sectional HDI is decreasing over time. Therefore, the paper ends up with the observation that convergence of human development across Indian States is present, which is a good sign of development. Further investigation can be worked out about the causes, which influence Human Development in a significant manner, which remain to be a future research agenda.

Model Summary

Table 3

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.697 ^a	0.486	0.447	0.001252
3	.924 ^a	0.854	0.842	0.001138
a. Predictors: (Constant), X				

Coefficient For first Regression equation (2)

Table 4

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.000	.002		.170	.867
	X	-.015	.004	-.697	-3.508	.004
a. Dependent Variable: Y						

Coefficient For first Regression equation (3)

Table 5

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	-.009	.002		-5.801	.000
	X	-.039	.004	-.924	-8.708	.000

a. Dependent Variable: Y

Table 6

ANOVA for Regression (2)					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.001	1	0	12.304	.004 ^a
Residual	0.007	13	0		
Total	0.008	14			
a. Predictors: (Constant), X					
b. Dependent Variable: Y					

Table 7

ANOVA for Regression (3)					
Model	Sum of Squares	Def	Mean Square	F	Sig.
Regression	0.0012	1	0	75.831	.000a
Residual	0.0011	13	0		
Total	0.0023	14			
a. Predictors: (Constant), X					
b. Dependent Variable: Y					

Levene's Test

Table 8

Group	Count	Mean	Std. Deviation
1	15	0.40273	0.07659
2	15	0.46307	0.07547
3	15	0.50653	0.05207
Levene's Statistic	1.287		
Degree of Freedom	2,42		
P-value	.287		

REFERENCES

1. Bose, Ashish (2004): HDRs: Some Reflections, Economic and Political Weekly, January 24-30.
2. Center for Economic and Social Studies (CESS) (2007): Human Development Report, Hyderabad.
3. Dholakia, R. H (2003): Regional Disparity in Economic and Human Development in India, Economic and Political Weekly, September 27- October 3, Vol. 38, No. 39, pp-4166-4172.
4. Fukuda-Parr, Sakiko, Kate Raworth and A.K. Shiva Kumar (2002), 'Using the HDI for Policy Purposes', in Sakiko Fukuda-Parr and A.K. Shiva Kumar (Eds.) Readings in Human Development, Oxford University Press.
5. Government of India (2011), National Human Development Report,
6. Govt. Assam (2003), Human Development Report.
7. Govt. of Kerala (2005), Human Development Report.
8. Govt. of Madhya Pradesh (2007): Human Development Report.
9. Kumar, A.K. Shiva (1991): UNDP's Human Development Index: A Computation for Indian states, Economic and Political Weekly, Bombay, October 12.
10. Kumar, A.K. Shiva and Rohde, Jon (1995): The Progress of Indian States, UNICEF New Delhi
11. Marjit, Sugata and Mitra, Sandip (1996): Convergence in Regional Growth Rates Indian Research Agenda, Economic and Political Weekly, Vol. 31, No. 33, pp. 2239-2242
12. Martin, Xavier-Sala-i (1995): Economics Working Paper 117, Yale University and Universitat Pompeu Fabra,

June.

13. Planning Commission (2002): National Human Development Report 2001, Government of India, New Delhi
14. 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, pp. 769- 778
15. Roy, Hiranmoy and Kaushik, Bhattacharjee (2009), Convergence of Human Development across Indian States, IGIDR Proceedings/Project Reports Series, PP-062-22
16. UNDP (1990): Human Development Report, Oxford University Press.
17. UNDP (1996): Human Development Report, Oxford University Press
18. UNDP (2008): Human Development Report, Oxford University Press.
19. UNDP (2011): Human Development Report, Oxford University Press

