Is there any relationship between Economic Growth and Human Development? Evidence from Indian States

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Abstract

The paper attempts to analyse the relationship between economic growth and human development for 28 major Indian States during four time periods ranging over last two decades: 1983, 1993, 1999-00 and 2004-05. To construct Human Development Index for Indian States, we consider the National Human Development Report 2001 Methodology. The objective of this exercise to understand at what degree and extent the per capita income (as an indicator of economic growth) has influenced the human development across Indian States. To understand the rural – urban disparity in the achievement of human development, the Human Development Index is constructed for rural and urban areas separately for each of the States. The result shows that that per capita income is not translating into human well being. This perhaps in another way might signify the rising influence of other variables in determination of the HD achievements of a state. The result shows the need for further investigation to determine the underlying factors (other than per capita income) which influence HD achievements of a State.

Keywords: *Economic Growth, Human Development, Human Development Index Methodology, Economic Liberalisation, Indian States.*

JEL Classification Codes: *O47, O15, E21, H75, C01,*

 # - views expressed in this paper are personal and do not reflect the official policy or position of the organisations

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1. Introduction

The economic reform process initiated since 1991 has played a major role in determining India's overall economic growth path. Among the major changes undertaken during this period, shift in emphasis on export-oriented economic philosophy, encouragement to FDI inflow, unshackling of industrial licensing, ongoing tariff reforms (unilaterally as well as part of WTO obligation) need to be mentioned. The collective influence of these measures has ensured a steady growth path for the country over the last decade.

The enhanced economic growth (EG), thus generated, is also likely to create important repercussion effects in the economy, which would further propel the growth trajectory in the long run. For instance, the rising income level would be instrumental in expanding the capacity of the government to raise the general level of human development (HD) in the current period (through provision of health and educational achievements), which in turn would influence the future EG potential positively.

Over the last decade, India has initiated a number of policy measures for augmenting HD achievements. For instance, the *Sarva Shiksha Abhiyan* (SSA) started for

universalising elementary education among children aged 6-14 across the states has been a commendable initiative. Similarly, on the health front the goals of National Rural Health Mission (NRHM, 2005-12) includes: reduction in Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR), universal access to public health services such as women's health, child health, water, sanitation & hygiene, immunisation, and nutrition, prevention and control of communicable and non-communicable diseases, including locally endemic diseases etc. The introduction of National Rural Employment Guarantee Act (NREGA) in rural areas and initiation of provisions like Right to Education Act and Food Security Act in the Parliament are geared for empowering the people with right to employment, food and education. All these measures are expected to enable India to move closer to fulfillment of the related Millennium Development Goals by the stipulated deadline, 2015. On the economic front, the growing size of the healthy and educated population in the working age group, resulting from the aforesaid policy measures, is expected to enable the country to reap the benefits of *Demographic Dividend* more vigourously.

In this background, on the basis of a secondary data analysis, the current paper attempts to analyse the relationship between EG and HD for 28 major Indian States during four time periods ranging over last two decades: 1983, 1993, 1999-00 and 2004-05. The objective of this exercise to understand at what degree and extent the per capita income (as an indicator of economic growth) has influenced the human development across Indian States. To understand the rural – urban disparity in the achievement of human development, the Human Development Index is constructed for rural and urban areas separately for each of the States. While 1983 marks the pre-liberalisation era, 1993 captures the scenario shortly after initiation of the reform exercises. Though the reform process was almost a decade old during 1999-00, the EG in the preceding period was influenced by several external and internal events (e.g. Southeast Asian Crisis during 1997-98, three General Elections over 1996-99 etc.). On the other hand, 2004-05 marked a period of relative stability.

The paper is organised as follows. A brief literature survey on the relationship between EG and HD is followed by a discussion on the methodology adopted in this paper, the empirical results and the policy observations respectively.

2. Economic Growth and Human Development

The existing literature suggests the presence of a two-way relationship between EG and HD, implying that nations / states may enter either into a virtuous cycle of high growth and large HD gains, or a vicious cycle of low growth and low HD improvement (Ranis, 2004; 2000). Higher initial level of HD may also lead to positive effects on institutional quality and indirectly on EG (Costantini and Salvatore, 2008). It has been observed that India displays a two-way causality between EG and HD, indicating possibilities of vicious cycles (Ghosh, 2006).

The existing governance mechanism or institutions in a country can play a key role in strengthening the EG-HD relationship. Amin (undated) noted that institutions contribute significantly in EG by expanding the capabilities and by creating an conducive environment, which ensures proper functioning of the socio-politico-economic life of societies and economies. Similarly Joshi (2007) concludes that good governance explains more of HD outcomes (in education, health and longevity) than EG, per capita investment or per capita income for Indian states during 1980s to the early 2000s. The study also noted that though there exist positive relationships between HD and EG, they may not be automatic in either direction.

The relationship between Per Capita GDP (in PPP USD) and HDI score (obtained from UNDP 2009) across countries is presented in Figure 1. The figure shows that, from cross-country perspective, as per capita income increases the HDI score increases upto a level and then reaches a plateau. The result indicates that in a multi-country framework,

per capita income is necessarily an ingredient for achieving a higher level of human wellbeing. The cross-country analysis of Mukherjee and Chakraborty (2010) noted that HD is positively and linearly related to both democracy and income level, indicating that the countries characterised by higher levels of income and better democratic set up are likely to witness higher HD achievements.[1]

An extensive analysis of global HD situation as well as country rankings can be obtained from the UNDP annual publication of Human Development Report (HDR), from where India's achievements on HR front can be ascertained. While India remained in the low HD category throughout nineties, in 2002 it graduated to medium HD category. In 2005 it secured a composite HDI score of 0.619, as compared to the corresponding figure of 0.439 in 1990. India's global HDI rank has also changed from 132 in 1999 to 134 in 2007, while the number of countries covered also increased during this period. Recently in association with UNDP, the Government of India has started analysing the State-wise HD status. The National Human Development Report 2001 (Government of India, 2002), brought out by the Planning Commission, is worth mentioning in this regard. While the report ranked Kerala, Punjab and Tamil Nadu as the toppers; Bihar, Madhya Pradesh and Uttar Pradesh were at the other extreme in HD scale. The alternate index developed by Guha and Chakraborty (2003), in line with Nagar and Basu (2001), however showed that inclusion of other socio-economic variables changes the State rankings to some extent.

3 Methodology and Data

3.1 Human Development Index (HDI)

Following the principle of the NHDR 2001 methodology, for calculation of the Human Development Index (HDI) for Indian States, the current paper consider three

[1] The regression results on the relationship between HD and corruption confirms presence of a non-linearity and suggests that with decline in corruption, HD level rises, but declines marginally for a few countries characterised by a less corrupt regime (Mukherjee and Chakraborty, 2010).

variables, namely - per capita consumption expenditure; composite index of educational attainment and health attainment respectively. With this formulation, following the HDI method, the HDI score for the j^{th} State is given by the average of the normalised values of the three indicators, namely - inflation and inequality adjusted per capita consumption expenditure (X_1); composite indicator on educational attainment (X_2) and composite indicator on health attainment (X_3). The normalisation is done by dividing the difference between any variable (X_{ij}) within these categories and the minimum value of X_i to the difference between the maximum and the minimum value of X_i.

Although UNDP considers Real GDP Per Capita in PPP USD for generating the HDI, the NHDR 2001 has preferred inflation and inequality adjusted average monthly per capita consumption expenditure (MPCE) of a State over that for the analysis. Here the monthly per capita consumption expenditure data, obtained from National Sample Survey Organisation (NSSO)'s quinquennial surveys (38^{th} Round: 1983, 50^{th} Round: 1993-94, 55^{th} Round: 1999-2000 and 61^{st} Round: 2004-05), first adjusted for inequality using State-wise *Gini* Ratios (also provided in the quinquennial rounds), and further adjusted for inflation to bring them to 1983 prices by using deflators derived from State specific poverty line (Government of India, 2002).

For average MPCE it is not only the level of expenditure for a State that is important to assess the economic attainment, but also the distribution of average MPCE across population of the State (which is captured through Gini Ratio). A State with high average MPCE with lower Gini Ratio is better than a State with higher average MPCE with higher Gini Ratio. Therefore, average MPCE for a State is adjusted for inequality to make correction for prevailing level of inequality in consumption expenditure of the population even at sub-regional level of a State. The adjustment is carried out for rural and urban population separately. The inequality adjusted MPCE is further adjusted for

inflation, by considering State-specific poverty line, for the period of our consideration to make it amenable to inter-temporal and inter-spatial comparisons.

The adjustment was done in the following manner. If GR_{ij} is the Gini Ratio for the jth State for the ith period and $MPCE_{ij}$ is the average monthly per capita consumption expenditure for the jth State for the ith period, inequality adjusted average monthly per capita expenditure for the jth state for the ith period ($IMPCE_{ij}$) is expressed as $(1-GR_{ij})\,\mathrm{X}\,MPCE_{ij}$, where $0 \le GR_{ij} \le 1$. After adjustment for inequality for each of the states, we carried out adjustment for inflation. If PL_{ij} is the poverty line (in Rs. per capita per month) for the jth State for the ith period and $PL_{1983\,j}$ is the poverty line of the jth State for 1983, then inflation and inequality adjusted average monthly consumption expenditure for the jth State for the ith period ($IIMPCE_{ij}$) is expressed as $(PL_{1983\,j} / PL_{ij})\,\mathrm{X}\,IMPCE_{ij}$.[2] Hence inflation and inequality adjusted MPCE of a state is considered as an indicator of consumption (X_1) to construct HDI. The analysis carried out for rural and urban areas of a State separately.

The composite indicator on educational attainment (X_2) is arrived at by considering two variables, namely: literacy rate for the age group of 7 years and above (e_1) and adjusted intensity of formal education (e_2). The idea is that literacy rate being an overall ratio alone may not indicate the actual scenario, and the drop-out rate, needs to be incorporated in the formula. We consider the data on literacy rate for three periods – 1981, 1991 and 2001 corresponding to the Population Census. The adjusted Intensity of Formal Education data is used for four periods – 1978 (4th All India Educational Survey, NCERT, 1982); 1993 (6th All India Educational Survey: NCERT, 1999), 2002 (7th All India Educational Survey: NCERT, 2002) and 2005-06. For 2005-06, we have

[2] State-specific poverty lines for the three periods (1983, 1993-94 and 1999-00) have been taken from Government of India (2002) and for 2004-05 we referred the estimates provided by Himanshu (2009).

taken the Intensity of Formal Education (IFE) from NCERT (2002) and used the Total Enrolment Figures as given in Government of India (undated).[3] The entire analysis is carried out for rural and urban separately. Estimation of State-wise population between 6 to 18 age group (rural and urban separately) has been taken from the data released by the Registrar General of India and Census Commissioner (RGI&CC 2006) for 2001. It is to be mentioned here that RGI&CC (2006) data does not provide population data for 6-18 age group for rural and urban separately, so we used the rural and urban 6-18 age group population ratio in 2001 and estimated the state-wise projected rural and urban 6-18 age group population for 2002 and 2005. The current analysis assigns weightage of 0.35 to e_1 and 0.65 to e_2 to estimate X_2, in line with the NHDR 2001 methodology.

The Intensity of Formal Education (IFE) is estimated as a ratio between Weighted Average of Enrollment (WAE) of students from class I to class XII (where weights being assigned 1 for Class I, 2 for Class II and so on) to the Total Enrolment (TE) in Class I to Class XII. IFE is multiplied with the proportion of Total Enrolment to Population in the age group 6-18 (P_C) (Government of India, 2002). According to the formula suppose E_i be the number of children (rural and urban combined) enrolled in ith standard in 2002, i = 1 for Class I to 12 for Class XII). Then Weighted Average of the Enrolment (WAE) from Class I to Class XII is calculated as the weighted average of enrolment (E_i) in a particular Class where weights are i = 1 for Class I to 12 for Class XII.

Now, suppose TE_i is the total enrolment of Children from Class I to Class XII in 2002. Then the Intensity of Formal Education (IFE) for children (rural and urban combined) in 2002 becomes WAE expressed as a percentage of TE. Suppose P_C represents the Population of Children (rural and urban combined) in the age group 6 to 18 years in 2001. Then we can determine the Adjusted Intensity of formal education

[3] For 2005-06, we estimated the adjusted intensity of formal education as on September 30, 2005.

(AIFE) for children (for rural and urban separately) in 2002, as the ratio of IFE multiplied by TE and the Population of Children in the age group 6 to 18 years in 2001.

Finally the Composite indicator on health attainment (X_3) is arrived at by considering two variables, namely Life Expectancy (LE) at age one (h_1) and the inverse of Infant Mortality Rate (IMR) as the second variable (h_2). For h_1 , which measures the life expectancy at age 1 (Person – rural and urban separately), the four data periods considered for our analysis are: 1981-85 (for 1983), 1991-95 (for 1993-94), 2000-04 (for 1999-00) and 2001-06 (for 2001-05). For the first two periods we have taken data (rural and urban separately) from Government of India (2002) and for other two periods we have taken data from Ministry of Health & Family Welfare and the Office of the Registrar General (1999). The data on IMR (per thousand) for rural and urban is considered for four data points, namely – 1981 (for 1983), 1991 for (1993-94), 1999 for (1999-00) and 2004 (for 2004-05). The IMR data for 1981 and 1991 are taken from Government of India (2002) and for other two data points we have taken data from SRS Bulletins (RGI 2001). The current analysis assigns weightage of 0.65 and 0.35 to h_1 and h_2 respectively to determine the composite indicator (X_3), in line with the NHDR 2001 methodology. The entire analysis is carried out for rural and urban separately.

3.2 Economic Growth (EG)

EG in the current analysis is measured by the Per Capita Gross State Domestic Product (PCGSDP) at constant (1999-00) prices (Comparable 1999-2000 Series), as reported by EPW Research Foundation database (EPWRF 2009). To understand the size of the economy and growth pattern of each of the states, we have classified them in three categories with respect to their PCGSDP at constant prices in the following manner: high income States (PCGSDP: greater than 3rd Quartile), medium income States (PCGSDP: 1st to 3rd Quartile) and low income States (PCGSDP: less than 1st Quartile).

To even out the yearly fluctuations in per capita GSDP, we have taken three years' average per capita GSDP in our analysis. For 1981 it is average of 1981-82 to 1983-84, for 1993 it is average of 1992-93 to 1994-95, for 1999-2000 it is average of 1998-99 to 2000-01, and for 2004-05 it is average of 2003-04 to 2005-06.

4. Results and Policy Observations

State-wise Consumption Index (X_1), generated by following the methodology described earlier is reported in Table 1. It is observed from the table that Kerala, Goa, Himachal, Tamil Nadu and Gujarat are among the toppers in terms of urban consumption in 2004-05, while Arunachal Pradesh, Bihar, Manipur and Sikkim are at the bottom. The stark difference in terms of consumption pattern within states becomes quite clear from the table. For instance in 2004-05, while Arunachal Pradesh ranks 26^{th} in terms of urban consumption, it is ranked 5^{th} in terms of rural consumption scores. On the other hand in the same year, while Tamil Nadu ranks 4^{th} in terms of urban consumption, it is ranked 13^{th} in terms of rural consumption scores. The comparison of rankings of the states over the period reveals that the relative position of the states has witnessed varying changes over the period. For instance, while Kerala's ranking has improved and the same for Haryana has deteriorated over 1983-2005.

Table 2 reports the state-wise scenario on education index (X_2). Like the case of consumption, the states have witnessed differing level of success in the urban and rural belt. For instance in 2004-05, Assam obtains 9^{th} ranking in terms of urban educational achievements, but it is in 20^{th} position in terms of performance in the rural belt. On the whole, Mizoram, Kerala, Himachal Pradesh, Tripura etc. are among the toppers, while UP, Bihar, Jammu and Kashmir are at the other end of the spectrum. It is observed that states like Tamil Nadu slide down the ladder over 1983-2005.

Table 3 shows the state-wise health Index (X_3) for the four periods under consideration. Intra-state divergence in terms of achievements is found to be the defining feature in this front as well. For instance in 2004-05, while Gujarat ranks 23rd in terms of urban health achievements, it is ranked 12th in terms of rural health scores. Looking at the overall performance in 2004-05, it is observed that Kerala, Goa, Punjab are among the toppers, while Chhattisgarh and Madhya Pradesh are at the bottom. By comparing the 1983 and 2004-05 performance of the states, it is observed that Himachal Pradesh and Jammu and Kashmir have improved their performance commendably, while Gujarat has witnessed a declined both in the terms of rural and urban rankings.

The overall HD scores for the states generated following the above methodology is presented in Table 4. It is observed from the table that HD level is consistently high for states like Kerala, Goa, Mizoram, Himachal Pradesh etc., who are otherwise performing well in constituent categories. On the other hand, Chhattisgarh, Uttar Pradesh, Uttarakhand, Bihar, Orissa etc. have always been among the bottom liners. Some interesting movement across the states is noticed over the period of analysis. For instance, Punjab and Haryana start with an appreciable HD scenario in 1983, but their performance in the urban areas decline considerably during the last period. A similar worsening effect is noticed for Arunachal Pradesh at the bottom as well. On the other hand, Jammu & Kashmir and West Bengal has managed to improve their HD level to some extent over the period. Interestingly Jharkhand has shown marked improvement in terms of HD achievements after separation from Bihar.

The changing income scenario across the states is explained with the help of Table 5. The income quartiles during the years under observation are defined and the states falling under different income categories during a period are mentioned in the parenthesis. It is observed from the table that while Punjab, Haryana, Goa, Gujarat and Maharashtra remained in the high income category throughout the period, Bihar, Orisa

and Uttar Pradesh stayed on the other extreme. States witnessing a growth in the service sector of late, i.e., Andhra Pradesh, Karnataka, Tamil Nadu and West Bengal remained in the mid-income category. The position of Kerala kept fluctuating between high and middle-income category. A fluctuating trend between low and middle-income category is noticed for some Northeastern states as well. It becomes clear that liberalisation exercise has affected the growth path of the states in different manner.

Before exploring the relationship between HD and EG, a deeper analysis on the quality of income growth across Indian states would not be irrelevant here. The concern here is that the inequality in the growth process may adversely influence the pace of HD formation in a state. Table 6 compares the HD level of the states in the rural and the urban belt with the respective Gini ratios. It is observed from the table that the rise in income level over the study period is associated with rise in inequality in the high income states during 1983 to 1993 (both for rural and urban). For high income states, the inequality marginally fall (both for rural and urban) during 1993 to 1999-00, but again gone up during 1999-00 to 2004-05. Except for urban areas under low income states during 1993 to 1999-00, the inequality (both for rural and urban) gradually declined during 1983 to 1999-00. However, urban inequality is found to be gone up for low income States during 1993 to 1999-00. For all income states, both for rural and urban, the inequality has gone up during 1999-00 to 2004-05.

Understandably, the increase in the HDI score for the low income states over 1983 to 2004-05 has been moderate as compared to the corresponding figures for the high-income states. Average HDI score of the States is significantly different across income categories. The existing literature suggests that the rising inequality has affected the growth process and livelihood of the citizens of different states differently, though HD level has improved across all income groups. However, the improvement is not smooth. For middle income States, both for rural and urban, HDI score in 1993 is lower than 1983. For lower income States, for urban areas, HDI score in 1999-00 is lower than

1993 and for high income States, for rural and urban, the HDI score in 1999-00 is lower than 1993.

Finally, in order to understand the relationship between EG and HD, a regression analysis has been undertaken, involving the logarithm of the HDI score as dependent variable and the logarithm of the PCGSDP of the states as independent variable. The cross-section regressions are separately estimated for the four periods under study. In addition to capture the rural-urban divergence, separate regression models are estimated on that account as well.

It is observed from the results reported in Table 7 that the HDI formation process of the states is positively influenced by the growing income levels, as reflected from the positive value and significance level of the coefficients of logarithms of Per Capita GSDP for all four periods and for rural and urban areas. However, a point of concern is that the value of the coefficients of the log (PCGSDP) (which measures the income elasticity of human development), both for rural and urban areas, is declining over the period. The result implies that per capita income (as an indicator of economic growth) is not translating into human well being. This perhaps in another way might signify the rising influence of other variables in determination of the HD achievements of a state. The result shows the need for further investigation to determine the underlying factors (other than per capita income) which influence HD achievements of a State. Another interesting observation is worth mention here. For all the years the income elasticity of human development is higher for rural areas as compared to urban areas. This implies that an increase in per capita income results higher human development in rural areas as compared to their urban counterparts, which underlines the importance of the schemes like NREGA in no uncertain terms.

A second set of regression is undertaken involving the logarithm of PCGSDP as dependent variable and the logarithm of the HDI score of the states as independent

variable, to understand the dependence pattern the other way round. The regression results reported in Table 8 shows that HD significantly influences EG level of a state. Looking at the coefficients of the logarithmic transformation of HDI, it is observed that before 1999-00, the HD elasticity of EG was smaller and the rural HD is found to influence EG in a more significant manner as compared to urban HD. However, in 2004-05, urban HD surpasses the rural HD level in influencing EG. Larger influence of HD on EG in recent period suggests that investment in HD will have larger impact on EG, and hence the long run implications of introducing SSA and NRHM becomes all the more important.

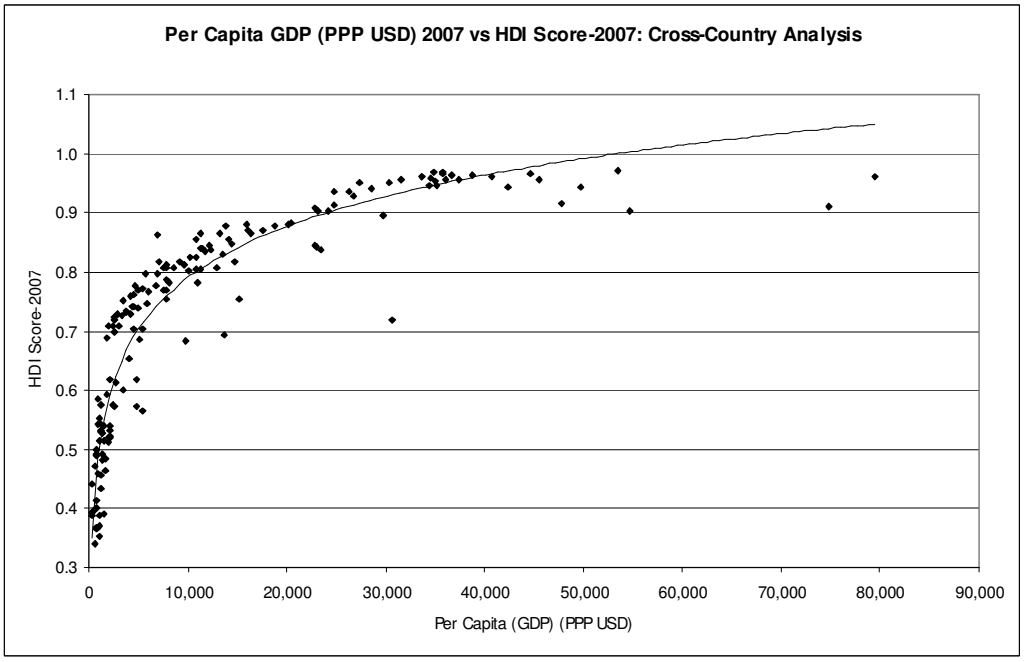
Figures 2-5 pictorially depict the cross-state relationship between HD and EG during the four periods under observation across the states. The rural and urban income levels and HD achievements are considered separately in the diagrams. A couple of observations emerge from the figures. First, the positive relationship between EG and HD holds good for all four periods under consideration. Second, the relationship between EG and HD is non-linear in nature; rising level of income is associated with lesser degree of increase in terms of HD achievements beyond a critical level. Third, despite rising income inequality in the last period under consideration (2004-05), as reflected from the divergence of the rural and urban curves, this non-linear structural relationship is not affected in any significant manner. Except for a few States, the urban HDI score is generally higher than rural HDI score for all the periods of our analysis. For instance in case of Goa, a high income State, rural HDI score is higher than urban HDI score for 1983, 1993 and 1999, but an opposite scenario emerges in 2004-05. On the other hand, for high income states like Punjab and Haryana (1999-00, 2004-05), rural HDI score is higher than urban HDI score. The same is true for middle income States like Kerala, Jammu & Kashmir, Andhra Pradesh (1993, 1999-00) as well as low income States Uttar Pradesh and Uttarakhand.

Over the last decade the contribution of the service sector in India's GDP has increased tremendously. Health and education sector are part to that growth trajectory in a two-way process: on one hand they form part of the service sector, and on the other hand healthy and educated population stand to augment the GDP in a more productive manner not only in the service sector but also within agriculture and manufacturing segment. It is observed from the current analysis that EG and HD levels in India are positively related, and the relationship works in both directions. While this is a comforting observation, indirectly implying that the HD formation process resulting from the rising income level in the current period would continue to provide growth impetus in the subsequent period, the rising inequality level in the recent period is a major area of concern. One important policy response for the Government would therefore be to ensure a balanced growth process across the states on one hand, and to bridge the gap between the rural and urban areas within a state on the other. Only then the benefits of the EG and HD augmentation process would cumulatively lead to sustainable economic development path.

Last but not the least, the role of governance and institutions is important to translate the economic growth into economic development. There are several routes through which economic growth could influence economic development, but the most obvious route where government policies and institutions could play an important role is through economic growth – tax revenue generation of the governments and expenditure on social sector and developmental activities. Higher economic growth will result in larger tax revenue generations to the State governments which could provide larger fiscal space for State governments to spend on social sector programmes and developmental activities. It is expected that States having higher tax-GSDP ratio have larger fiscal space to translate economic growth into economic development. However, States having larger outstanding debt leave with eroded fiscal space as a substantial part of revenue goes to debt-financing (Chakraborty et al., 2009). It is the low per capita income States who have larger outstanding public debt as compared high and middle

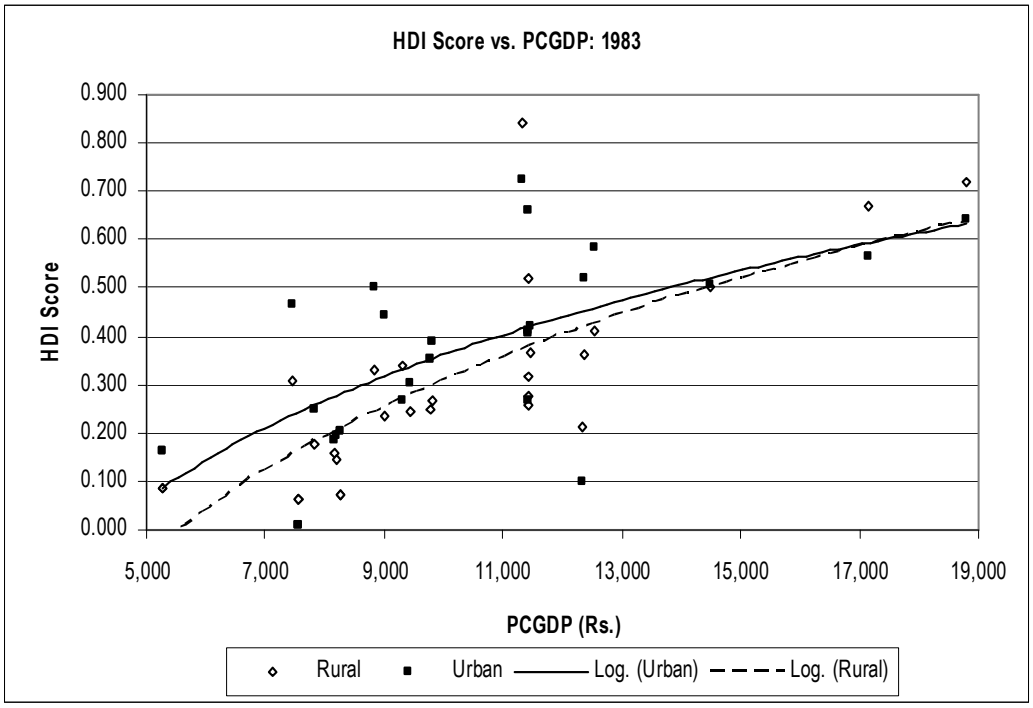
income States (see Chakraborty et al., 2009). Apart from State governments' expenditure on social sectors, there are several centrally sponsored schemes are running on social sectors which could help substantially to translate economic growth into economic development. A recent study shows that transferred to fund under centrally sponsored schemes to states is regressive (Chakraborty et al., 2010). As a result, in absence of adequate fiscal space to States it would be over ambitious to expect automatic translation of economic growth into economic development.

Figure 1: The Relationship between Per Capita GDP and HDI Score: 2007



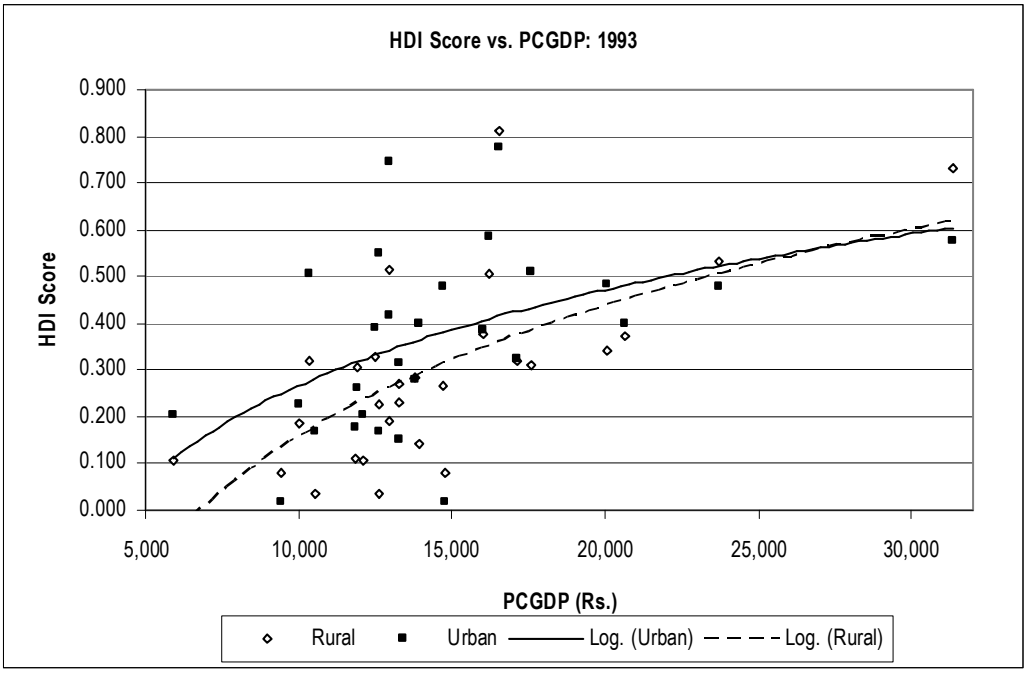
Source: Generated by Authors based on UNDP (2009) data

Figure 2: Relationship between HDI and PCGSDP (1983)



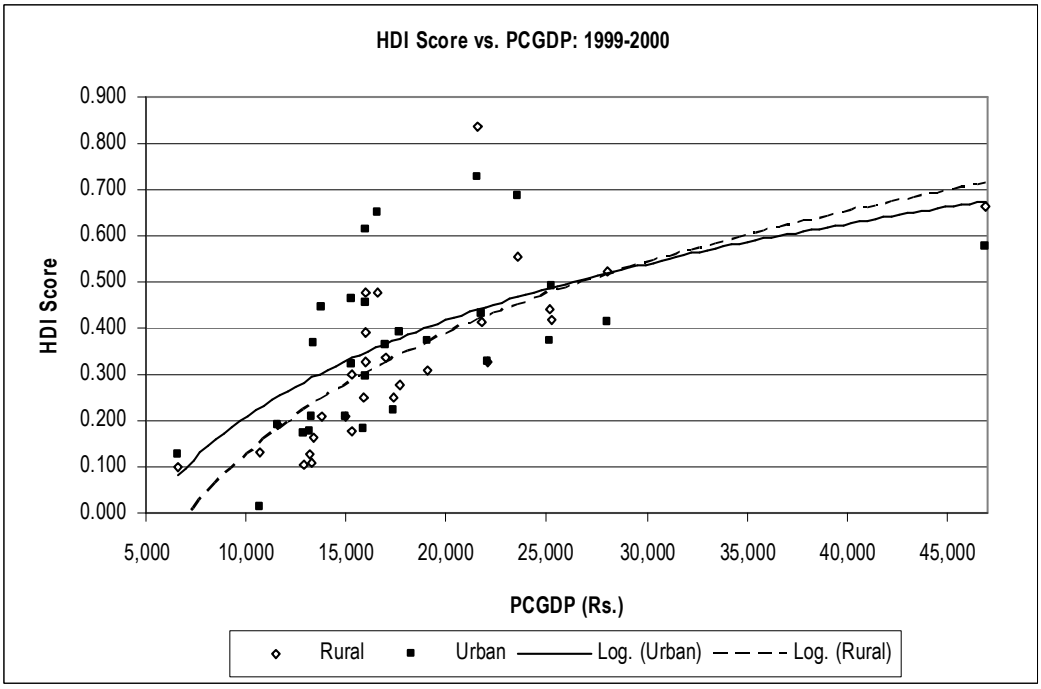
Source: Generated by Authors

Figure 3: Relationship between HDI and PCGSDP (1993)



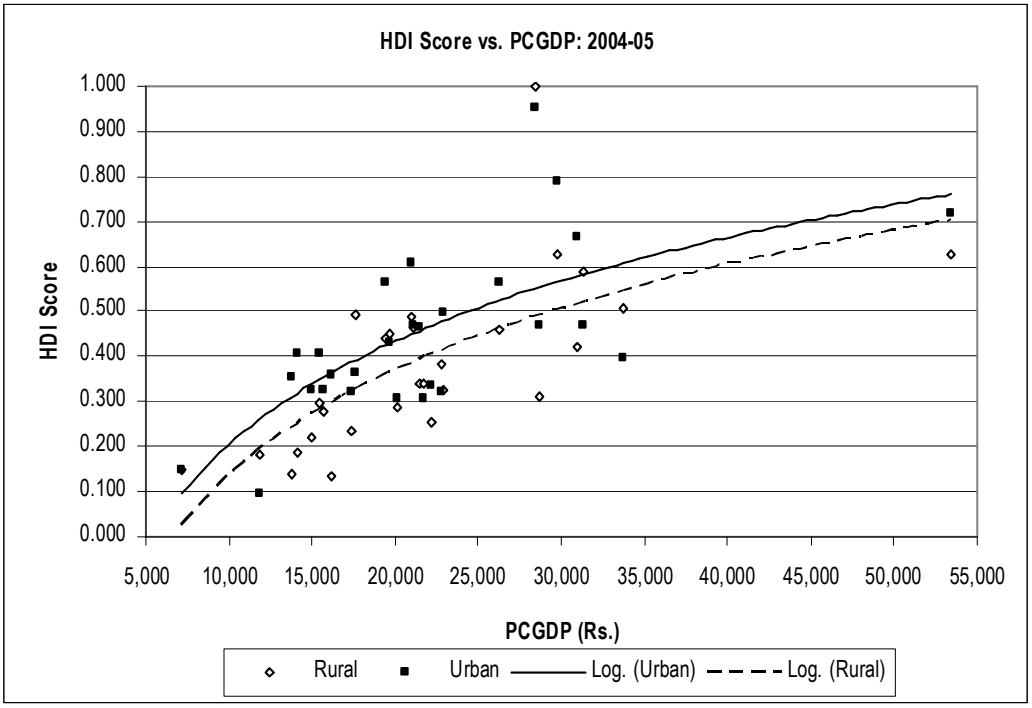
Source: Generated by Authors

Figure 4: Relationship between HDI and PCGSDP (1999-00)



Source: Generated by Authors

Figure 5: Relationship between HDI and PCGSDP (2004-05)



Source: Generated by Authors

Table 1: State-wise Consumption Index (X_1) Scores and Ranks

State Name	1983				1993-94				1999-2000				2004-05			
	Rural		Urban		Rural		Urban		Rural		Urban		Rural		Urban	
Andhra Pradesh	0.223	(18)	0.163	(20)	0.221	(15)	**0.000**	**(28)**	0.104	(20)	0.053	(21)	0.130	(26)	0.422	(19)
Arunachal Pradesh	0.406	(9)	0.269	(10)	0.201	(17)	0.571	(6)	0.315	(10)	0.225	(15)	0.634	(5)	0.197	(26)
Assam	0.406	(9)	0.269	(10)	0.153	(19)	0.435	(9)	0.074	(22)	0.265	(13)	0.452	(14)	0.376	(21)
Bihar	**0.000**	**(27)**	0.044	(25)	0.004	(25)	0.080	(22)	0.055	(23)	0.033	(26)	0.201	(21)	0.093	(27)
Chhattisgarh	0.038	(24)	0.110	(23)	0.011	(23)	0.005	(26)	**0.000**	**(27)**	0.037	(24)	**0.000**	**(28)**	0.584	(11)
Goa	0.959	(2)	0.758	(2)	0.988	(2)	0.384	(11)	0.750	(2)	0.499	(5)	0.628	(6)	0.973	(2)
Gujarat	0.357	(15)	0.506	(5)	0.220	(16)	0.278	(15)	0.217	(15)	0.301	(10)	0.171	(24)	0.756	(5)
Haryana	0.734	(4)	0.391	(6)	0.302	(10)	0.300	(13)	0.384	(7)	0.275	(12)	0.582	(8)	0.413	(20)
Himachal Pradesh	0.768	(3)	**1.000**	**(1)**	0.229	(14)	0.628	(5)	0.335	(9)	0.590	(4)	0.550	(11)	0.966	(3)
Jammu & Kashmir	0.565	(6)	0.295	(9)	0.390	(8)	0.455	(8)	0.425	(6)	0.366	(7)	0.721	(4)	0.596	(10)
Jharkhand	**0.000**	**(27)**	0.044	(25)	0.004	(25)	0.080	(22)	0.055	(23)	0.033	(26)	0.274	(18)	0.600	(9)
Karnataka	0.236	(17)	0.218	(17)	0.126	(21)	0.087	(21)	0.153	(18)	0.182	(19)	0.206	(19)	0.602	(8)
Kerala	0.520	(7)	0.214	(18)	0.436	(5)	0.356	(12)	0.502	(4)	0.290	(11)	**1.000**	**(1)**	**1.000**	**(1)**
Madhya Pradesh	0.038	(24)	0.110	(23)	0.011	(23)	0.005	(26)	**0.000**	**(27)**	0.037	(24)	0.061	(27)	0.485	(15)
Maharashtra	0.181	(19)	0.368	(8)	0.105	(22)	0.259	(16)	0.153	(17)	0.206	(17)	0.152	(25)	0.749	(6)
Manipur	0.496	(8)	0.253	(15)	0.375	(9)	0.177	(17)	0.266	(11)	0.255	(14)	0.423	(15)	**0.000**	**(28)**
Meghalaya	0.406	(9)	0.269	(10)	0.403	(7)	0.774	(3)	0.357	(8)	0.632	(3)	0.752	(3)	0.341	(23)
Mizoram	0.626	(5)	0.754	(3)	0.745	(3)	**1.000**	**(1)**	0.574	(3)	0.690	(2)	0.562	(10)	0.495	(14)
Nagaland	0.406	(9)	0.269	(10)	**1.000**	**(1)**	0.806	(2)	**1.000**	**(1)**	**1.000**	**(1)**	0.853	(2)	0.729	(7)
Orissa	0.032	(26)	0.154	(22)	0.165	(18)	0.109	(19)	0.083	(21)	**0.000**	**(28)**	0.173	(23)	0.441	(16)
Punjab	**1.000**	**(1)**	0.381	(7)	0.533	(4)	0.402	(10)	0.427	(5)	0.309	(9)	0.613	(7)	0.497	(13)
Rajasthan	0.265	(16)	0.210	(19)	0.135	(20)	0.154	(18)	0.147	(19)	0.147	(20)	0.206	(20)	0.432	(17)
Sikkim	0.406	(9)	0.664	(4)	0.279	(11)	0.710	(4)	0.224	(14)	0.460	(6)	0.519	(12)	0.238	(25)
Tamil Nadu	0.113	(20)	0.159	(21)	0.268	(13)	0.104	(20)	0.257	(12)	0.198	(18)	0.453	(13)	0.811	(4)
Tripura	0.406	(9)	0.269	(10)	0.416	(6)	0.548	(7)	0.254	(13)	0.365	(8)	0.352	(16)	0.351	(22)
Uttar Pradesh	0.081	(22)	**0.000**	**(27)**	**0.000**	**(27)**	0.058	(24)	0.044	(25)	0.046	(22)	0.183	(22)	0.290	(24)
Uttarakhand	0.081	(22)	**0.000**	**(27)**	**0.000**	**(27)**	0.058	(24)	0.044	(25)	0.046	(22)	0.301	(17)	0.429	(18)
West Bengal	0.092	(21)	0.248	(16)	0.275	(12)	0.281	(14)	0.185	(16)	0.215	(16)	0.568	(9)	0.541	(12)

Note: Figure in the parenthesis shows the rank

Source: Calculated by the Authors

Table 2: State-wise Education Index (X_2)[4] Scores & Ranks

State Name	1978				1993				2002				2005			
	Rural		Urban		Rural		Urban		Rural		Urban		Rural		Urban	
Andhra Pradesh	0.087	(23)	0.165	(22)	0.088	(25)	0.139	(26)	0.263	(22)	0.255	(23)	0.260	(23)	0.232	(25)
Arunachal Pradesh	0.000	(27)	0.238	(20)	0.128	(20)	0.391	(15)	0.137	(26)	0.415	(13)	0.153	(26)	0.391	(16)
Assam	0.290	(13)	0.296	(17)	0.323	(15)	0.586	(8)	0.341	(19)	0.518	(9)	0.351	(20)	0.518	(9)
Bihar	0.084	(24)	0.140	(23)	0.047	(26)	0.155	(23)	**0.000**	**(28)**	0.013	(27)	**0.000**	**(28)**	0.020	(27)
Chhattisgarh	0.109	(21)	0.259	(18)	0.100	(21)	0.368	(19)	0.382	(15)	0.396	(16)	0.398	(15)	0.404	(14)
Goa	0.683	(3)	0.566	(7)	0.737	(2)	0.709	(6)	0.746	(3)	0.566	(7)	0.752	(3)	0.508	(10)
Gujarat	0.363	(10)	0.470	(10)	0.392	(11)	0.537	(11)	0.406	(14)	0.437	(12)	0.408	(14)	0.416	(13)
Haryana	0.254	(15)	0.333	(14)	0.337	(13)	0.394	(14)	0.439	(12)	0.341	(19)	0.435	(12)	0.294	(22)
Himachal Pradesh	0.467	(4)	0.746	(4)	0.565	(4)	0.900	(3)	0.737	(4)	**1.000**	**(1)**	0.734	(4)	0.940	(2)
Jammu & Kashmir	0.077	(26)	**0.000**	**(28)**	0.317	(16)	0.380	(16)	0.166	(25)	0.049	(26)	0.164	(25)	0.027	(26)
Jharkhand	0.084	(24)	0.140	(23)	0.047	(26)	0.155	(23)	0.039	(27)	0.251	(24)	0.050	(27)	0.294	(21)
Karnataka	0.254	(16)	0.381	(12)	0.299	(17)	0.421	(13)	0.368	(16)	0.402	(15)	0.368	(17)	0.375	(17)
Kerala	**1.000**	**(1)**	**1.000**	**(1)**	**1.000**	**(1)**	0.978	(2)	**1.000**	**(1)**	0.893	(3)	**1.000**	**(1)**	0.863	(3)
Madhya Pradesh	0.109	(21)	0.259	(18)	0.100	(21)	0.368	(19)	0.310	(20)	0.373	(18)	0.353	(19)	0.490	(11)
Maharashtra	0.391	(8)	0.591	(6)	0.447	(5)	0.550	(10)	0.608	(5)	0.598	(6)	0.614	(5)	0.574	(8)
Manipur	0.396	(6)	0.311	(16)	0.444	(6)	0.376	(18)	0.279	(21)	0.751	(4)	0.331	(21)	0.655	(5)
Meghalaya	0.213	(18)	0.553	(8)	0.185	(19)	0.642	(7)	0.540	(8)	0.405	(14)	0.523	(9)	0.625	(7)
Mizoram	0.804	(2)	0.994	(2)	0.701	(3)	**1.000**	**(1)**	0.777	(2)	0.934	(2)	0.820	(2)	**1.000**	**(1)**
Nagaland	0.413	(5)	0.719	(5)	0.420	(10)	0.717	(5)	0.353	(18)	0.514	(10)	0.380	(16)	0.637	(6)
Orissa	0.259	(14)	0.226	(21)	0.261	(18)	0.308	(22)	0.364	(17)	0.339	(20)	0.361	(18)	0.311	(20)
Punjab	0.348	(11)	0.319	(15)	0.387	(12)	0.320	(21)	0.456	(11)	0.255	(22)	0.462	(10)	0.235	(24)
Rajasthan	**0.000**	**(28)**	0.051	(25)	**0.000**	**(28)**	0.141	(25)	0.258	(23)	0.210	(25)	0.278	(22)	0.255	(23)
Sikkim	0.237	(17)	0.334	(13)	0.421	(9)	0.491	(12)	0.521	(9)	0.388	(17)	0.544	(8)	0.393	(15)
Tamil Nadu	0.394	(7)	0.546	(9)	0.436	(8)	0.581	(9)	0.516	(10)	0.561	(8)	0.459	(11)	0.350	(18)
Tripura	0.385	(9)	0.896	(3)	0.440	(7)	0.736	(4)	0.568	(6)	0.707	(5)	0.587	(6)	0.720	(4)
Uttar Pradesh	0.110	(19)	0.030	(26)	0.100	(23)	**0.000**	**(27)**	0.208	(24)	**0.000**	**(28)**	0.214	(24)	**0.000**	**(28)**
Uttarakhand	0.110	(19)	0.030	(26)	0.100	(23)	**0.000**	**(27)**	0.560	(7)	0.497	(11)	0.572	(7)	0.488	(12)
West Bengal	0.294	(12)	0.391	(11)	0.332	(14)	0.379	(17)	0.435	(13)	0.333	(21)	0.435	(13)	0.316	(19)

Note: Figure in the parenthesis shows the rank
Source: Calculated by the Authors

[4] Where X_2=0.65*AIFE+0.35*LR(>7 Yr).

Table 3: State-wise Health Index (X_3)[5] Scores & Ranks

State Name	1983				1993				1999-00				2004-05			
	Rural		Urban		Rural		Urban		Rural		Urban		Rural		Urban	
Andhra Pradesh	0.424	(7)	0.583	(8)	0.379	(8)	0.315	(11)	0.377	(11)	0.361	(11)	0.375	(11)	0.354	(11)
Arunachal Pradesh	0.126	(20)	0.233	(22)	0.096	(26)	0.234	(19)	0.080	(23)	0.328	(14)	0.081	(24)	0.328	(14)
Assam	0.126	(19)	0.233	(20)	0.096	(25)	0.234	(20)	0.080	(26)	0.324	(21)	0.081	(26)	0.326	(19)
Bihar	0.172	(12)	0.311	(11)	0.268	(11)	0.371	(9)	0.240	(13)	0.342	(13)	0.237	(14)	0.326	(21)
Chhattisgarh	0.066	(23)	0.243	(14)	**0.000**	**(27)**	0.129	(23)	0.000	(27)	0.102	(25)	0.000	(27)	0.093	(25)
Goa	0.520	(3)	0.602	(7)	0.470	(4)	0.638	(3)	0.492	(6)	0.667	(3)	0.498	(6)	0.672	(2)
Gujarat	0.379	(8)	0.282	(13)	0.348	(10)	0.161	(22)	0.365	(12)	0.241	(23)	0.358	(12)	0.233	(23)
Haryana	0.515	(5)	0.796	(4)	0.475	(3)	0.500	(6)	0.502	(5)	0.499	(8)	0.502	(5)	0.484	(8)
Himachal Pradesh	**0.000**	**(28)**	0.000	(25)	0.141	(14)	0.000	(25)	0.588	(4)	0.472	(9)	0.594	(4)	0.466	(9)
Jammu & Kashmir	0.000	(25)	0.000	(25)	0.141	(14)	0.000	(25)	0.588	(3)	0.471	(10)	0.594	(3)	0.466	(10)
Jharkhand	0.172	(12)	0.311	(11)	0.268	(11)	0.371	(9)	0.240	(14)	0.342	(12)	0.237	(13)	0.326	(18)
Karnataka	0.505	(6)	0.903	(3)	0.389	(7)	0.436	(8)	0.405	(9)	0.528	(7)	0.404	(9)	0.521	(7)
Kerala	**1.000**	**(1)**	0.952	(2)	1.000	**(1)**	**1.000**	**(1)**	**1.000**	**(1)**	**1.000**	**(1)**	**1.000**	**(1)**	**1.000**	**(1)**
Madhya Pradesh	0.066	(23)	0.243	(14)	**0.000**	**(27)**	0.129	(23)	**0.000**	**(28)**	0.102	(26)	**0.000**	**(28)**	0.093	(26)
Maharashtra	0.520	(4)	0.602	(6)	0.470	(5)	0.637	(4)	0.491	(7)	0.666	(4)	0.496	(7)	0.671	(3)
Manipur	0.127	(15)	0.234	(16)	0.097	(19)	0.235	(14)	0.081	(20)	0.325	(17)	0.083	(19)	0.327	(15)
Meghalaya	0.126	(17)	0.233	(19)	0.096	(24)	0.235	(14)	0.080	(25)	0.324	(18)	0.081	(25)	0.326	(20)
Mizoram	0.126	(16)	0.234	(17)	0.096	(21)	0.235	(16)	0.081	(20)	0.326	(15)	0.082	(21)	0.328	(12)
Nagaland	0.126	(18)	0.234	(18)	0.096	(20)	0.234	(17)	0.081	(19)	0.326	(16)	0.082	(20)	0.328	(13)
Orissa	0.187	(11)	0.175	(24)	0.126	(18)	0.258	(12)	0.125	(18)	0.231	(24)	0.121	(18)	0.223	(24)
Punjab	0.656	(2)	**1.000**	**(1)**	0.672	(2)	0.718	(2)	0.685	(2)	0.675	(2)	0.687	(2)	0.670	(4)
Rajasthan	0.167	(14)	0.320	(10)	0.192	(13)	0.242	(13)	0.228	(15)	0.277	(22)	0.225	(15)	0.270	(22)
Sikkim	0.126	(20)	0.233	(23)	0.096	(22)	0.234	(18)	0.080	(24)	0.324	(18)	0.081	(22)	0.327	(16)
Tamil Nadu	0.298	(10)	0.456	(9)	0.429	(6)	0.476	(7)	0.462	(8)	0.536	(6)	0.462	(8)	0.531	(6)
Tripura	0.126	(22)	0.233	(21)	0.096	(23)	0.234	(21)	0.080	(22)	0.324	(18)	0.081	(22)	0.326	(17)
Uttar Pradesh	0.000	(26)	**0.000**	**(27)**	0.141	(16)	**0.000**	**(27)**	0.148	(17)	**0.000**	**(28)**	0.150	(17)	**0.000**	**(28)**
Uttarakhand	0.000	(26)	**0.000**	**(27)**	0.141	(16)	**0.000**	**(27)**	0.148	(16)	0.001	(27)	0.150	(16)	0.001	(27)
West Bengal	0.323	(9)	0.690	(5)	0.374	(9)	0.516	(5)	0.394	(10)	0.545	(5)	0.393	(10)	0.549	(5)

Note: Figure in the parenthesis shows the rank

Source: Calculated by the Authors

[5] Where X_3=0.65*LE@Birth+0.35*(1/IMR).

Table 4: State-wise Human Development Index (HDI) Scores & Ranks

State Name	1983				1993				1999-00				2004-05			
	Rural		Urban		Rural		Urban		Rural		Urban		Rural		Urban	
Andhra Pradesh	0.245	(17)	0.303	(16)	0.229	(17)	0.151	(26)	0.248	(18)	0.223	(20)	0.255	(21)	0.336	(20)
Arunachal Pradesh	0.178	(20)	0.247	(19)	0.142	(21)	0.399	(12)	0.177	(22)	0.322	(18)	0.289	(19)	0.305	(26)
Assam	0.274	(13)	0.266	(17)	0.191	(19)	0.418	(11)	0.165	(23)	0.369	(15)	0.294	(18)	0.407	(15)
Bihar	0.085	(23)	0.165	(24)	0.106	(23)	0.202	(21)	**0.098**	**(28)**	0.129	(27)	0.146	(26)	0.146	(27)
Chhattisgarh	0.071	(25)	0.204	(20)	**0.037**	**(27)**	0.167	(24)	0.127	(25)	0.179	(25)	**0.133**	**(28)**	0.360	(18)
Goa	0.721	(2)	0.642	(3)	0.731	(2)	0.577	(4)	0.663	(2)	0.578	(5)	0.626	(3)	0.718	(3)
Gujarat	0.366	(7)	0.419	(11)	0.320	(10)	0.325	(16)	0.329	(12)	0.326	(17)	0.312	(17)	0.468	(10)
Haryana	0.501	(5)	0.507	(7)	0.371	(7)	0.398	(13)	0.442	(7)	0.372	(13)	0.506	(5)	0.397	(16)
Himachal Pradesh	0.412	(6)	0.582	(4)	0.312	(12)	0.509	(6)	0.553	(3)	0.687	(2)	0.626	(2)	0.791	(2)
Jammu & Kashmir	0.214	(19)	0.098	(26)	0.283	(14)	0.279	(18)	0.393	(10)	0.295	(19)	0.493	(6)	0.363	(17)
Jharkhand	0.085	(23)	0.165	(24)	0.106	(23)	0.202	(21)	0.111	(26)	0.209	(22)	0.187	(24)	0.407	(14)
Karnataka	0.332	(10)	0.501	(8)	0.271	(15)	0.315	(17)	0.309	(14)	0.371	(14)	0.326	(16)	0.500	(8)
Kerala	**0.840**	**(1)**	**0.722**	**(1)**	**0.812**	**(1)**	**0.778**	**(1)**	**0.834**	**(1)**	**0.728**	**(1)**	**1.000**	**(1)**	**0.954**	**(1)**
Madhya Pradesh	0.071	(25)	0.204	(20)	**0.037**	**(27)**	0.167	(24)	0.103	(27)	0.171	(26)	0.138	(27)	0.356	(19)
Maharashtra	0.364	(8)	0.520	(6)	0.341	(8)	0.482	(8)	0.417	(8)	0.490	(6)	0.421	(12)	0.665	(4)
Manipur	0.340	(9)	0.266	(18)	0.305	(13)	0.262	(19)	0.208	(20)	0.444	(9)	0.279	(20)	0.327	(21)
Meghalaya	0.249	(16)	0.352	(15)	0.228	(18)	0.550	(5)	0.325	(13)	0.454	(8)	0.452	(10)	0.431	(13)
Mizoram	0.519	(4)	0.661	(2)	0.514	(4)	0.745	(2)	0.477	(6)	0.650	(3)	0.488	(7)	0.608	(5)
Nagaland	0.315	(11)	0.407	(13)	0.505	(5)	0.586	(3)	0.478	(5)	0.613	(4)	0.438	(11)	0.565	(6)
Orissa	0.159	(21)	0.185	(23)	0.184	(20)	0.225	(20)	0.191	(21)	0.190	(23)	0.219	(23)	0.325	(22)
Punjab	0.668	(3)	0.567	(5)	0.531	(3)	0.480	(9)	0.522	(4)	0.413	(11)	0.587	(4)	0.467	(11)
Rajasthan	0.144	(22)	0.193	(22)	0.109	(22)	0.179	(23)	0.211	(19)	0.211	(21)	0.236	(22)	0.319	(24)
Sikkim	0.257	(15)	0.410	(12)	0.265	(16)	0.478	(10)	0.275	(16)	0.391	(12)	0.382	(13)	0.319	(23)
Tamil Nadu	0.268	(14)	0.387	(14)	0.378	(6)	0.387	(15)	0.412	(9)	0.432	(10)	0.458	(9)	0.564	(7)
Tripura	0.306	(12)	0.466	(9)	0.317	(11)	0.506	(7)	0.301	(15)	0.466	(7)	0.340	(15)	0.466	(12)
Uttar Pradesh	**0.064**	**(27)**	**0.010**	**(27)**	0.080	(25)	**0.019**	**(27)**	0.133	(24)	**0.015**	**(28)**	0.182	(25)	**0.097**	**(28)**
Uttarakhand	**0.064**	**(27)**	**0.010**	**(27)**	0.080	(25)	**0.019**	**(27)**	0.251	(17)	0.181	(24)	0.341	(14)	0.306	(25)
West Bengal	0.237	(18)	0.443	(10)	0.327	(9)	0.392	(14)	0.338	(11)	0.364	(16)	0.465	(8)	0.469	(9)

Note: Figure in the parenthesis shows the rank

Source: Calculated by the Authors

Table 5: Per Capita Gross State Domestic Product (at Constant 1999-00 Prices) (1999-2000 Series) (Rs.)

State Name	1981-82 to 1983-84		1992-93 to 1994-95		1998-99 to 2000-01		2003-04 to 2005-06	
Andhra Pradesh	9,439	(M)	13,252	(M)	17,358	(M)	22,247	(M)
Arunachal Pradesh	7,836	(L)	13,935	(M)	15,246	(M)	20,119	(M)
Assam	11,441	(M)	12,983	(M)	13,335	(L)	15,413	(L)
Bihar	**5,259**	**(L)**	**5,929**	**(L)**	**6,553**	**(L)**	**7,208**	**(L)**
Chhattisgarh	8,275	(M)	12,600	(M)	13,168	(L)	16,225	(M)
Goa	**18,782**	**(H)**	**31,315**	**(H)**	**46,919**	**(H)**	**53,485**	**(H)**
Gujarat	11,467	(H)	17,101	(H)	22,068	(H)	28,719	(H)
Haryana	14,501	(H)	20,662	(H)	25,182	(H)	33,728	(H)
Himachal Pradesh	12,554	(H)	17,567	(H)	23,573	(H)	29,749	(H)
Jammu & Kashmir	12,332	(H)	13,815	(M)	15,992	(M)	17,644	(M)
Jharkhand	**5,259**	**(L)**	12,101	(M)	13,245	(L)	14,192	(L)
Karnataka	8,832	(M)	13,253	(M)	19,090	(M)	22,858	(M)
Kerala	11,336	(M)	16,520	(H)	21,592	(M)	28,447	(H)
Madhya Pradesh	8,275	(M)	10,572	(L)	12,911	(L)	13,777	(L)
Maharashtra	12,368	(H)	20,050	(H)	25,278	(H)	31,011	(H)
Manipur	9,296	(M)	11,922	(L)	13,800	(M)	15,712	(L)
Meghalaya	9,787	(M)	12,634	(M)	15,963	(M)	19,679	(M)
Mizoram	11,441	(M)	12,983	(M)	16,562	(M)	21,014	(M)
Nagaland	11,441	(M)	16,196	(M)	15,992	(M)	19,467	(M)
Orissa	8,164	(L)	10,042	(L)	11,629	(L)	14,924	(L)
Punjab	17,134	(H)	23,697	(H)	28,016	(H)	31,273	(H)
Rajasthan	8,202	(M)	11,842	(L)	14,979	(M)	17,337	(M)
Sikkim	11,441	(M)	14,687	(M)	17,648	(M)	22,794	(M)
Tamil Nadu	9,800	(M)	15,999	(M)	21,783	(H)	26,222	(M)
Tripura	7,456	(L)	**10,351**	**(L)**	**15,255**	**(M)**	21,487	(M)
Uttar Pradesh	7,543	(L)	9,460	(L)	10,734	(L)	11,797	(L)
Uttarakhand	**7,543**	**(L)**	**14,786**	**(M)**	15,877	(M)	21,738	(M)
West Bengal	9,009	(M)	12,487	(M)	17,010	(M)	21,126	(M)
Quartile 1	*8,193*		*12,056*		*13,684*		*16,097*	
Quartile 3	*11,448*		*16,277*		*21,640*		*26,778*	

Note: (H) implies High Income State (PCGSDP is higher than third quartile); (M) implies Middle Income State (PCGSDP lies between first and second quartile); and (L) implies Low Income State (PCGSDP lies below First Quartile).

Source: Authors' own estimation based on EPWRF (2009)

Table 6: Average Per Capita GSDP and Average HDI Score across Income Groups

Year	Criteria		Low Income	Middle Income	High Income	F-stat	
1983	PCGDP (Rs.)		7,008	9,858	14,163	29.354	*
	Gini Ratio of	Rural	0.272	0.279	0.266	0.180	
	MPCE (Rs.)	Urban	0.307	0.299	0.284	0.292	
	HDI Score	Rural	0.134	0.297	0.464	6.541	*
		Urban	0.178	0.380	0.477	6.017	*
1993	PCGDP (Rs.)		10,017	13,694	20,988	26.731	*
	Gini Ratio of	Rural	0.238	0.241	0.279	2.150	
	MPCE (Rs.)	Urban	0.284	0.284	0.320	1.085	
	HDI Score	Rural	0.163	**0.254**	0.488	8.434	*
		Urban	0.223	**0.363**	0.507	4.774	**
1999-00	PCGDP (Rs.)		11,654	16,597	27,546	21.519	*
	Gini Ratio of	Rural	0.227	0.214	0.247	2.503	
	MPCE (Rs.)	Urban	**0.313**	0.273	0.311	3.122	***
	HDI Score	Rural	**0.133**	0.345	**0.477**	11.868	*
		Urban	0.180	0.408	**0.471**	8.278	*
2004-05	PCGDP (Rs.)		13,289	20,711	33,773	31.065	*
	Gini Ratio of	Rural	**0.236**	**0.251**	**0.302**	4.633	**
	MPCE (Rs.)	Urban	**0.329**	**0.315**	**0.365**	1.435	
	HDI Score	Rural	0.206	0.364	0.583	13.633	*
		Urban	0.295	0.422	0.637	10.854	*

Note: *, ** and *** - implies F-stat for Mean Equality Test is significant at 0.01, 0.05 and 0.10 level

Source: Calculated by the Authors

Table 7: Regression Results on the Relationship between HDI and PCGSDP

Dependent Variable:	**Log (Human Development Index Score)**							
	1983		**1993**		**1999-00**		**2004-05**	
Independent Variable	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Constant	-19.724 *	-17.301 *	-15.901 *	-11.773 *	-13.835 *	-12.957 *	-10.889 *	-9.663 *
	(2.150)	(5.274)	(2.822)	(4.169)	(1.729)	(3.952)	(1.462)	(1.820)
Log (Per Capita GSDP)	1.988 *	1.737 *	1.510 *	1.103 **	1.290 *	1.209 *	0.987 *	0.882 *
	(0.229)	(0.560)	(0.289)	(0.429)	(0.178)	(0.399)	(0.147)	(0.182)
Number of observations	28	28	28	28	28	28	28	28
Adjusted R2	**0.607**	**0.212**	**0.331**	**0.117**	**0.634**	**0.311**	**0.571**	**0.522**
Durbin-Watson statistic	2.142	1.667	2.24	1.471	1.847	1.75	1.859	1.541
F-statistic	42.724	8.256	14.372	4.591	47.828	13.192	36.927	30.53
Prob(F-stat)	0.000	0.008	0.001	0.042	0.000	0.001	0.000	0.000

Note: Figure in the parenthesis shows the White heteroscedasticity-consistent standard error for the corresponding estimated coefficient
*, ** -implies estimate coefficient is significant at 0.01 and 0.05 level respectively

Table 8: Regression Results on the Relationship between PCGSDP and HDI

Dependent Variable:	**Log (Per Capita GSDP)**							
	1983		**1993**		**1999-00**		**2004-05**	
Independent Variable	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Constant	9.644 *	9.375 *	9.892 *	9.711 *	10.380 *	10.067 *	10.578 *	10.486 *
	(0.090)	(0.075)	(0.117)	(0.099)	(0.145)	(0.126)	(0.145)	(0.129)
Log (HDI Score)	0.313 *	0.139 *	0.236 *	0.136 **	0.502 *	0.278 *	0.595 *	0.612 *
	(0.057)	(0.043)	(0.072)	(0.067)	(0.101)	(0.100)	(0.124)	(0.137)
Number of observations	28	28	28	28	28	28	28	28
Adjjusted R2	**0.607**	**0.212**	**0.331**	**0.117**	**0.634**	**0.311**	**0.571**	**0.522**
Durbin-Watson statistic	2.151	2.26	1.987	1.983	1.581	1.628	1.377	1.428
F-Statistic	42.724	8.256	14.37	4.591	47.828	13.192	36.927	30.530
Prob(F-stat)	0.000	0.008	0.001	0.042	0.000	0.001	0.000	0.000

Note: Figure in the parenthesis shows the White heteroscedasticity-consistent standard error for the corresponding estimated coefficient
*, *** -implies estimate coefficient is significant at 0.01 and 0.05 level respectively

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