

## **Regional Disparity in India with reference to Liberalization**

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**ABSTRACT:** *The effect of liberalization on the Indian economy is very much debated about. It was introduced in 1990 to the country's economy with the objectives of bringing economic growth and to bring micro stabilization and structural adjustment in the economy. Liberalization and privatization has limited the state's control in the economy and gave the private player much of the power. Also that the regional disparity in economic growth in India has substantially increased over time. This paper tests the convergence and divergence of regional disparity in economic growth after liberalization. This paper also validates the Inverted-U relationship between economic growth and interregional inequality given by Kuznets. The convergence test suggest of increasing divergence after liberalization. And the Kuznets's Inverted-U hypothesis is not applicable in India after liberalization.*

**Keywords:** *Regional Disparity, Liberalization, Regional Convergence, Regional Divergence, Kuznets Inverted-U Curve*

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### **I. INTRODUCTION**

The affect of economic liberalization on the Indian economy is questionable. This is a controversial issue to assign liberalization with increased or decreased in the degree of the disparity in the regional growth. Some scholars believe that the pattern of regional disparity that existed in India today is greatly related to the process initiated by economic liberalization. Thus, there is a strong need for analyzing the role of liberalization in the regional growth.

Economic liberalization is a recent phenomenon in Indian economy. It was fully developed only after 1990, while the idea has entered during 1960's. It was initiated by the work of Manmohan Singh in 1990s, before that there was huge restriction in the economic condition, as a whole. The state power was dominant at that time, there were many restrictions on the private sector, but with the liberalization all these restrictions were withdrawn. This greatly affects the functions and structure of Indian economy.

Economic liberalization is the adaptation of policies which removes all earlier restrictions on private sectors, trade and opening market for foreign capital and goods in precise terms. It was introduced with the objectives of bringing economic growth and to bring micro stabilization and structural adjustment in the economy with the advice of the World Bank. The police of liberalization impacted the performance of the agricultural, industrial and service sector in the economy. The share of agriculture in the Net State Domestic Product gradually declined, that of the manufacturing or industrial sector rises gradually and that of the service sector increased quickly [1,2].

Liberalization after a prolonged restriction led to increased in disparity among the states. The states with better infrastructural facilities attract firms whereas the other does not. Instead of economic growth liberalization has raised the problem of microeconomic instability by accumulating capital in the richer regions [3]. It has resulted divergence in regional growth among the states. The industrialized rich states grow faster and the traditional poor states remained poor and with the time become poorer [4]. Rich get further rich at the expense of poorer [5]. The increase in disparity in regional growth is due to the loss of degree of state control on the economy after liberalization [6].

Economic Growth is associated with increase in inequality at the beginning followed by a decrease in inequality. There is some king of Inverted-U type of relationship between economic growth and interregional inequality [7]. According to the convergence theory, the poorer states grow faster than the average but the richer states grow slower than the average [8]. Absolute divergence with conditional convergence is the characteristic of Indian Economy [9].

This paper is an effort to understand the impact of economic liberalization in the regional disparity in India. The major objectives of this paper are:-

- a) Test of regional convergence in Per Capita Net State Domestic Product.
- b) Test of Kuznets Inverted-U curve relationship between the economic growth and interregional disparity.

The different states of India are considered as different region as per the availability of data. The period from 1990 to 1994 is considered as the period of adaptation of policies of economic liberalization.

## II. DATA BASE AND METHODOLOGY

Data on Per Capita Net State Domestic Product (PCNSDP) at factor cost (At Constant Price) (Base: 1993-94) have been collected from *Statistical Handbook on Indian Economy*, 2006-2007, for the period 1980-2006. For the understanding the impact of liberalization, the data are divided in two time periods, one before and the other after the adaptation of policies of liberalization.

Disparity in per capita income is analyzed on the basis of compound bar graph prepared for within a difference of two decades. The convergence and divergence is tested with the help of alpha, beta and sigma convergence trends. The negative trend results convergence whereas the positive trend results divergence. The trend of logarithm of standard deviation of per capita income gives sigma convergence.

$$\log(SD) = \log \sqrt{\sum(x-\bar{x})^2/n} \quad \text{----- 1}$$

Where, SD is the standard deviation,  $\bar{x}$  is per capita income,  $\bar{x}$  is the mean of per capita income and n is the number of observations. The trend of coefficient of variation of per capita income is the alpha convergence.

$$C V = (SD/\bar{x}) \times 100, \quad \text{----- 2}$$

where CV is coefficient of variation.

The relation between the growth of income and the logarithmic base year income gives beta convergence. It basically shows growth with respect to the base. A scattered diagram will be made, the x-axis will have the logarithmic value of the base year income and the y-axis will show the growth, the difference between the logarithmic value of observed year and the base year. The dots in the diagram will show the position of the different states.

The test of Inverted-U pattern relationship between economic growth and the inequality is done by drawing a curve by taking Gini Coefficient of inequality on the y-axis and the per capita income on the x-axis. Here, Gini coefficient is used as a measure of inequality.

$$\text{Gini coefficient} = (N+1)/(N-1) - 2/(N(N-1)U) \sum RX \quad \text{----- 3}$$

Where, N is the number of observations, U is the Mean per capita income, R is the rank of the observation (states) and X is the per capita income.

## III. ANALYSIS OF REGIONAL DISPARITY

Regional convergence indicates the lowering of disparity among the regions. In this paper the Indian states are considered as regions and the disparity is analyzed in terms of PCNSDP, as an indicator of economic growth. Regional divergence indicates increase in regional disparity.

The absolute deviation of PCNSDP of all states of India in different interval of time is shown in Figure. 1. The close analysis of the deviation of per capita income the poor states such as Bihar, Uttar Pradesh, Orissa, Assam, Manipur, Madhya Pradesh, Rajasthan which have negatively deviated from the average in the period 1984-1985, have further deviated downward in the next two decades. This suggests the states with lower per capita income in the years before liberalization have witnessed further lowering of per capita income with respect to the average. The States of Jammu and Kashmir and Arunachal Pradesh had a better condition in 1984-85, but the per capita negatively deviated from the average in the subsequent decades. The states like Meghalaya, West Bengal, Andhra Pradesh, Himachal Pradesh, Karnataka, Kerala and Tamil Nadu were showing very less deviation in the negative direction in the period 1984-85, but they have improved their position in the subsequent decades in 1994-95 and 2004-05. The states of Gujarat, Haryana, Maharashtra, Punjab, Goa and Delhi were the states with per capita income more than the average in the 1984-85, their per capita income has deviated further up in the positive direction in the subsequent two decades. Andaman and Nicobar Islands are showing per capita income above average in 1984-85 and 1994-95 but it has declined in 2004-05. The more per income was basically due to the inclusion of the well employed persons in the island and exclusion of indigenous people. The positive trend of the standard deviation of PCNSDP from 1980-81 to 2005-06, shows that the deviation has increased over time. The inequalities of income between the Indian states and Union Territories have increased over the time.

### 3.1 Test of Sigma Convergence

A negative trend of logarithmic value of Standard Deviation of PCNSDP is an indication of regional convergence. There is a positive trend of logarithmic value of Standard Deviation of PCNSDP in India for the period from 1980-81 to 2005-06, it is shown in Figure 2. Thus, the test of regional convergence gives a negative result. There is a regional divergence in the studied period in terms of PCNSDP.

### 3.2 Test of Alpha Convergence

A negative trend of logarithmic value of the Coefficient of Variation of PCNSDP (Alpha convergence) is an indication of regional convergence. The positive trend of the Coefficient of Variation from 1980-81 to 2005-06 is an indication of increased in inequality among the states (Figure 3). Thus, the test of the Alpha convergence also gives negative results, so, regional divergence is observed in the studied period. Conditional

convergence has been witnessed from 2003-04 and after that there is neither significantly converging nor diverging. This indicates a tendency of no further increase or decrease in disparity

**3.3 Test of Beta Convergence or Absolute Convergence**

The test of Absolute convergence is done by dividing the data with respect to liberalization. For regional convergence, the states with lower base should grow faster and the states with a larger base should grow slower. The test of absolute convergence for the period 1981 to 1991 gives a scattered picture. The growth was very low on an average, and all most all the states were growing at the similar rates irrespective of their base. There was no particular pattern of growth. Bihar being the state with the lowest base shows a growth similar to that of Delhi which is one of the regions with a large base. With the exception of Orissa, Jammu and Kashmir and Andaman and Nicobar other states were growing in an equal level. States like Arunachal Pradesh Rajasthan with a lower base were showing a higher growth. There no significant increase or decrease in convergence, the states were retaining their position with respect to each other. The test of convergence in the period from 1991-2005, giving a particular pattern. The average growth was higher in this period compared to the previous one. The states with lower base growing much slower as compared to the states with larger base. Assam is an exception, which have a higher base compared to many other states but showing least growth in the period. This significant increase in divergence means the richer states getting richer and the poor getting poorer. The test of Absolute convergence is negative in the period after liberalization.

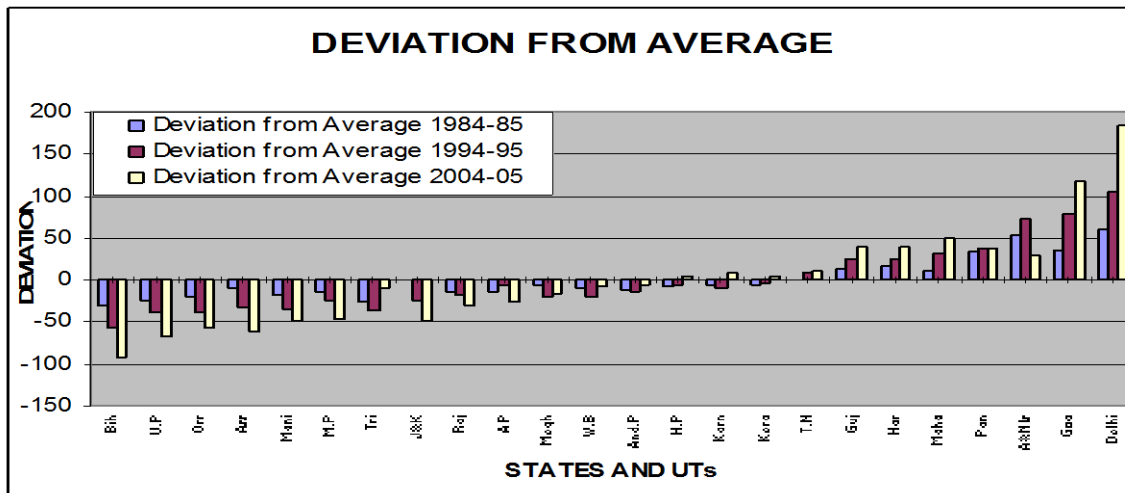


Figure 1: Deviation of Per Capita Net State Domestic Product from Average.

Fig

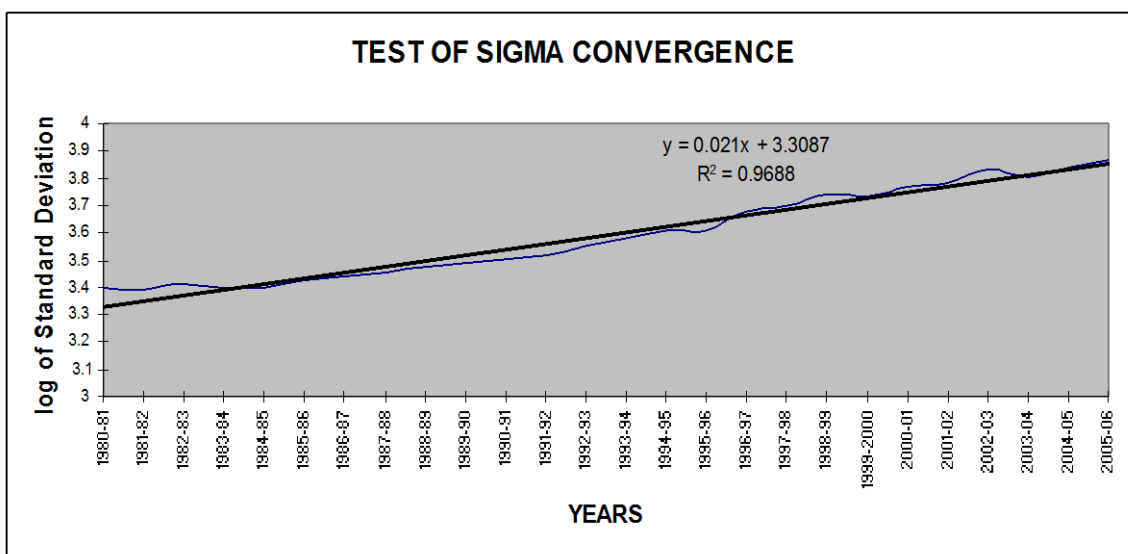


Figure 2: Test of Sigma Convergence

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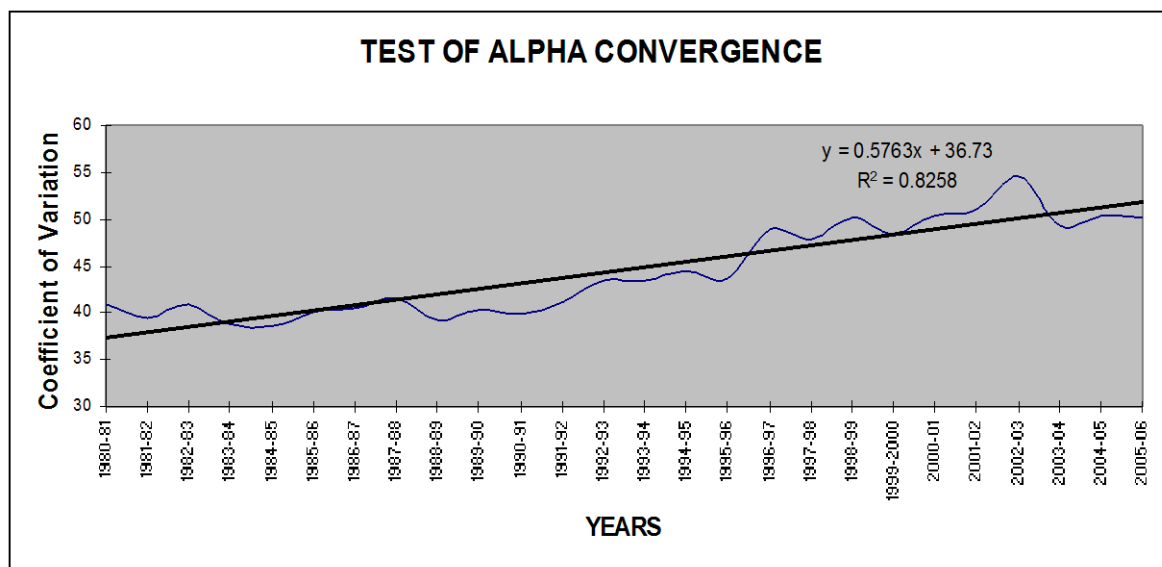


Figure 3: Test of Alpha Convergence

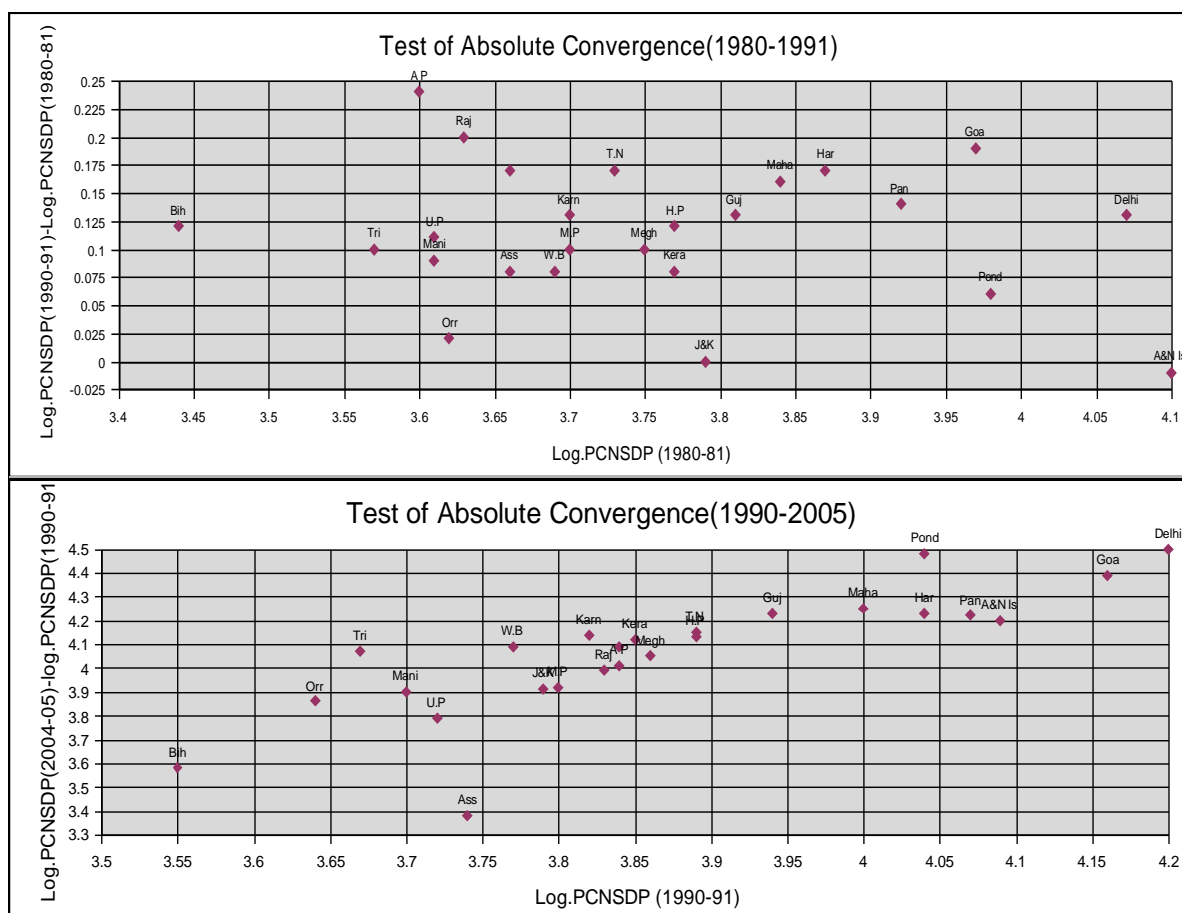


Figure 4: Test of Beta Convergence or Absolute Convergence in period between 1980-1991 and 1990-2005.

#### IV. KUZNETS'S INVERTED-U PATTERN

The Kuznets's Inverted-U pattern of regional growth is represented by an Inverted-U curve representing relationship between economic growth and the inequality is done by drawing a curve by taking Gini Coefficient of inequality on the y-axis and the per capita income on the x-axis. An Inverted-U pattern indicates an increasing disparity in the beginning and in later stage there is a decrease in regional disparity. Economic growth is represented by the increase in average PCNSDP. The test of Kuznets's Inverted-U pattern has given an erect U pattern (Figure 5). When the average PCNSDP was low the measure of inequality was high

in 1984-85. The inequality has reduced with further increase in PCNSDP from 1990-91 through 1994-95 till 2000-01. But after 2000-01 regional disparity has increased till 2004-05. This show a decrease disparity in the first decade after liberalization then there is a tendency for further increase on the regional disparity. The result of the test is totally opposite to the Kuznets's assumption of Inverted-U shape.

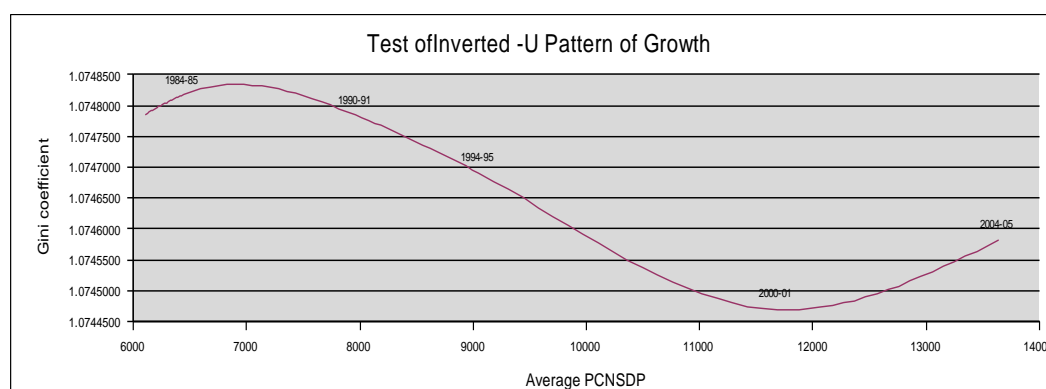


Figure 5: Test of Kuznets's Inverted -U Pattern of Regional Growth

## V. CONCLUSION

The tests of regional convergence show divergence in general, with slight convergence in few occasions. The rich states have grown richer and poor poorer more significantly after liberalization, this was not so sharp before liberalization. In 1980s, the similar kind of growth was witnessed by almost all the states, this was checking the further increase in regional disparity. This was possible because of the government intervention. But with liberalization, with the coming of private players the after 1990s the disparities among the states have further increased substantially. The Kuznets's Inverted-U pattern of relationship between inequity and better economic condition is a failure in Indian context after liberalization. The inequality has reduced in the beginning but it is showing a tendency of increase in the future which is just opposite of Kuznets's idea.

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