



EVOLUTION OF DEVELOPMENT POLICY AND ITS IMPACT ON REGIONAL DISPARITY IN INDIA SINCE 1980: IN SEARCH OF CONVERGENCE OF REAL PER CAPITA INCOMES

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ABSTRACT

After three decades of quantitative control regime, development policy in India had a liberalized mold in the 1980s. Unleashing of full-fledged reform process since 1991 was followed by significant step-up in the rate of economic growth in the country. But as the evidence of unequal distribution of gains of higher growth started surfacing, the development strategy was further modified to make the growth process more inclusive. The present paper is motivated by the question whether regional disparities in development attainment in India tended to increase or decrease during these three phases of development policy in the period since 1980. The analysis has been carried out in terms of beta convergence of real per capita income of states of India. The results suggest divergence in the early years but a moderation of the divergent tendencies in the subsequent period. However a convergence process has yet to be set in motion.

KEY WORDS: Regional disparity, Convergence, Divergence, Development attainments.

1. INTRODUCTION

In a vast country like India regional disparities in development attainments can be naturally present. However persistent and widening regional disparities are undesirable as such disparities not only go against the idea of equity but can also be source of destabilizing discontent. It is therefore necessary to examine the extent and trend of regional disparities in the country and design appropriate policy for convergence in the levels of economic development across regions of the country.

Economic theory is not unanimous regarding whether regional disparities tend to get reduced, sustained or widened in course of economic growth of nations. Neo-classical school suggests convergence. The neo-classical school is a believer in market forces and flexible prices. Its perspective on regional developmental disparities is drawn from Solow's growth model. One implication on Solow's growth model is that the countries

with different levels of per capita income over time tend to converge to one level of per capita income. The conclusion is based on the assumption that output per labor is subject to diminishing returns to capital per labor. By this assumption in developed countries with higher capital per labor, per capita income tends to grow at a slow rate than in developing countries which have lower capital per labor. Although the convergence hypothesis was originally about international disparities in per capita income, the hypothesis is often tested for disparities of inter regional development levels especially within large countries like India, China etc. Lack of unanimity of empirical support for the convergence hypothesis lead to emergence of two alternative interpretation of convergence: Unconditional convergence and conditional convergence, technically also referred to as α convergence and β convergence. Conditional

convergence is based on the idea the full convergence may not be attained because of differences in socio economic, cultural and other initial conditions among country's/regions. But once such differences are controlled for convergence may be seen. Unconditional convergence can be observed, when economies are converging to the same level of steady state, (Barro and Sala-I-Martin, 1995). It also means that disparities will diminish, as countries with lower income per capita are catching up automatically. At the same time, initial conditions may also exist, which determine steady states. Economies, which have the same initial conditions, will only converge. In this case convergence clubs (Galor, 1996) exist. Bernard and Durlow (1966) capture the hypothesis as "differences in contemporaneous per capita income between any pair of regions will be transitory so long as the two regions contain identical technologies, preferences and population growth". The neo-classical pro-convergence view is bolstered by Samuelson (1948) by bringing in the role of factor mobility and trade, the movement of labor from low-wage regions to high wage regions should narrow wage differences by reducing labor supply in the depressed regions and increasing labor supply in more prosperous regions. Likewise the movement of labor from high unemployment regions to low unemployment regions should narrow unemployment differences. The migration of capital should have the same equilibrating tendency, moving to, or locating in, regions where wage rates are low and the rate of profit high, assuming an inverse relation between the wage rate and the profit rate. Trade between regions is a substitute for migration and will lead to factor price equalization.

In contrast to neo-classical perspective of disappearance of regional disparity through operation of natural economic forces there are number of school of thought which argue that regional disparities tend to persist or addressed reduce too slowly and hence policy interventions are needed to address such disparities. In contrast theories of cumulative causation, neocolonial dependence models and the new economic geography school predict at least persistence of regional disparities if left unaddressed by policy measures. Myrdal (1957) provides the counter argument, in the form of his cumulative causation hypothesis. He argues that due to industrialization and gain in productivity, rich regions benefit more. He does not deny that growth spreads to poor regions through access to larger markets and trade opportunities. However, he insist that gains are offset by stronger backwash effects generated by deteriorating terms of trade resulting from high productivity gains in

industrialization in rich regions. Therefore, the theory predicts divergence in regional incomes.

The new economic geography school takes the argument further and explains the role of growth engines like external economies of scale, agglomeration effects and technological advancements in clustering growth to a few highly competitive regions in the economy (Krugman, 1991). According to Krugman, in a world of imperfect competition, international trade is driven as much by increasing returns and external economies as by comparative advantage. Furthermore, these external economies are likely to be realized at the local and regional scale than at the national or international level. To understand trade, therefore, Krugman argues that it is necessary to understand the processes leading to the local and regional concentration of production.

An alternative perspective of persistence of development disparities has been put forward in the form neo-colonial dependence theories. This school of thought is an outgrowth of Marxist thinking. According to this school rich nations/regions are intentionally exploitative or unintentionally neglectful or development aspirations of the poorer nations/regions.

Another strand of literature on this subject is build around the observation that regions endowed richly with natural resources sometimes tend to lag behind in development relative to the regions that are not so well endowed. Some of the faster growing economies over recent decades are regions with little natural resource endowments, whereas some countries with enormous natural resource endowments suffer from poor economic performance. This phenomenon of the negative correlation between resource abundance and economic growth is called the resource curse. It was formally presented by Auty in 1993. Some economist argues that whether resource abundance is a curse or not depends on the institutional quality of the resource-rich region. According to them, economic development will not be cursed in the presence of higher institution quality.

Development strategies adopted in India after independence and consequent growth experience of the country can be broken up into a number of phases. The public sector predominated industrialization focused strategy of 1950s extended well into the 1970s. India experienced a moderate but fairly steady growth rate of around 3.5% during this entire period. Disparities in economic conditions across section of population were expected to be taken care of by trickle-down effect of growth during this period. Since the growth rate itself was moderate, the trickle-down effect, if any, was also not

discernible. During the 1980s, apart from imitating economic reforms in a limited scale, special programmes were adopted for addressing problems of poverty and unemployment especially in rural areas. The period also witnessed an improvement in the rate of growth of the economy. The growth rate further accelerated in the 1990s as India embarked upon a process of wide ranging market oriented economic reforms. As the economy stabilized on the higher growth trajectory by the late 1990s, measures were adopted to make the growth process more inclusive so that the fruits of higher growth are more widely shared across income strata and regions.

A pertinent question from the perspective of regional disparities in the development attainment is whether income levels of people in different regions tended to converge or diverge during these four distinct development policy regimes. Induced by this query, the proposed paper attempts to examine the nature and extent of convergence in real per capita income across 20 major Indian states during the different sub-periods of the Indian growth story. These 20 states jointly explain 90% (in 2011 census) of total population of India and 3.0 million sq kms, accounting for 89% of India's total land area. They are: Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Orissa, Punjab, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal.

The paper is organized in four sections. Section two outlines the model, materials and methods used. Results are presented and discussed in section three. Broad findings and conclusions are summarized in section four.

2. MODELS, MATERIALS AND METHODS

Barro and Sala-i-Martin (1995) and Sala-i-Martin (1996) draw a useful distinction between two types of convergence: β -convergence and σ -convergence. When the dispersion of real per capita income across a group of economies falls over time, there is σ -convergence. When the partial correlation between growth in income over time and its initial level is negative there is β -convergence. Still β -convergence remains a primary focus of growth empires, perhaps because, intuitively, it seems to be necessary for σ -convergence.

To test the convergence of per capita income of Indian states, the basic convergence equation for testing β -convergence has been applied. This equation was used in the convergence analysis by Salai-I-Martin (1996).

$$\log(y_t/y_{t-1}) = \alpha - \log(y_{t-1}) + u_t \quad (1)$$

Where, y_t is per capita output of a country in period t .

u_t is the random disturbance term, has zero mean, finite variance and is independent over t .

α is the speed of convergence. $\alpha > 0$ implies a negative correlation between growth and initial log income.

The test for β -convergence hypothesis is performed by estimating the equation (1) by the Ordinary Least Square (OLS). If the coefficient on initial level of per capita income bears a statistically significant negative sign (i.e. $\alpha < 0$), then we can say that there exists β -convergence. The negative coefficient on initial level of per capita income signifies that the regions with lower initial level of per capita income grow faster than the regions with higher initial per capita income.

We have estimated the equation for the whole period as well as for different sub-periods for two measures of growth rate of per capita income: (i) annual average growth rate and (ii) decadal growth rate. In the first case, the log-linear trend in per capita income is first estimated for each state, and then the test for β -convergence is performed by regressing the estimated $\log(y_t/y_{t-1})$ for each state on the initial level of per capita income. In the second case, the test for β -convergence is performed by regressing the decadal growth rate of per capita income on the initial level of per capita income. In both the cases, the hypothesis of β -convergence holds if the coefficient on initial level of per capita turns out to be significantly negative.

The study is based on secondary data on Per capita net state domestic product (PCNSDP) have been taken from various sources. We generally use two data sets to check the β -convergence- (i) Per capita NSDP at factor cost at constant prices of the major 20 states of India, data source- CSO. Here data is available from 1980-81 to 2012-13, and we divide the data into three sub period- pre reform period (1980-81 to 1993-94), immediate post reform period (1991-92 to 2004/05) and 10th and 11th five year plan period of India (2001-02 to 2012-13) and (ii) Per capita NSDP at 1993-94 prices of the major 20 states of India and their decadal growth rate, data source- Directorate of Economics & Statistics of respective state government. Here data is available from 1980-81 to 20012-13. Here compare the decadal growth rate with the initial level of per capita NSDP for the period of (1980-91), (1991-2001) and (1980-2013).

3. RESULTS AND DISCUSSIONS

Table 1: Results of Regression for checking of β -convergence in Per Capita Income of Indian States

Period	Constant	Coefficient on initial Per Capita Income $\ln(y_{t-1})$	R ²
1980/81-1993/94	-2.342 (0.659)	2.667* (0.707)	0.523
1991/92-2004/05	-1.355 (1.454)	0.203 (0.164)	0.105
2001/02-2012/13	-0.047 (0.424)	0.100 (0.101)	0.055

Number of observations (N)= 20

Dependent variable $\log(y_t/y_{t-1})$

*- denote significant at 1% level

Table 2: Results of Regression for checking of β -convergence in Per Capita Income of Indian States

Period	Constant	Coefficient on initial Per Capita Income $\ln(y_{t-1})$	R ²
1980/81-1991/92	0.129 (0.107)	3.439*** (0.000)	0.206
1991/92-2001/02	0.293 (0.198)	0.203 (0.164)	0.105
1980/81-2012/13	1.200 (0.820)	0.000 (0.000)	0.145

Number of observations (N)= 17

Dependent variable: Decadal Growth Rate

***-denote significance at 10% level

For the pre-reform period, the co-efficient has a positive sign and it is significant at 1% level. This result implies that during the period 1980-1994, the per capita income of Indian states in general tended to diverge.

The immediate post reform period of 1992-2004 the co-efficient is positive but not significant in other words we cannot reject the null hypothesis that the is equal to zero. It seems that the divergence tendencies of pre-reform period may have stopped during these years, though the convergence process has not started.

The third period coincides with India's 10th and 11th Five Year Plan. During this period there was a conscious effort for inclusive development. Hence it is interesting to see if the per capita income of Indian states started converging during this period. The estimated co-efficient for this period is still positive but statistically not significant.

4. CONCLUSION

This study indicates the divergence in per capita income across the major Indian states during the pre-reform period and also shows that there is no evidence of convergence in per capita income during the post reform period.

Balanced regional development was accepted as an important objective of the planning process in India since the Second Five Year Plan but not much has been done in achieving this objective. So far as regional development is concerned new economic policies are not seen successes too much. Therefore government has to play an important role to solve the problem of regional disparities through proper policies and their proper implementations.

Large improvement on human resources would help in reducing regional disparities in India. Investment must be made in such a way to which would help in reducing disparities among states in terms of per capita income. It is a high time for the government to start separate development programmes for reducing regional developmental disparities. There is also urgent need for re-examination of pattern of development and to check the governments present policy for inclusive growth or for regional development, whether they are properly implemented or not?

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