GROWTH AND DEVELOPMENT IN INDIA
REGIONAL DIMENSIONS

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ECONOMIC GROWTH AND INEQUALITY – A STUDY ON PRE AND POST REFORM TRENDS IN INDIA AND STATES

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India witnessed an extensive income inequality during the segment of acceleration in economic growth after the economic reforms period. This paper analyzes the concerns by using different types of inequality measurements like Theil Index and Gini Co-efficient. This paper tries to investigate the trend of growth and inequality in India and Indian states. It also seeks to examine the relationship between the trends of regional growth and inequality among different states. Although some states have perceived rapid and phenomenal growth, the rest lagged behind the other states in growth rate. The most enlightening finding of this paper is that the income inequality among the Indian states increased slightly. This Paper further indicates that advanced industrial states have tended to jump in the reform years, while other states have lagged behind.

INTRODUCTION

The piercing increase in remunerations and regional inequality in India in the last 22 years is a well-predictable fact. Various economists have found that diffusions of Indian household remunerations and incomes have a strong skyward trend, attributable to rise in the income. If one concentrates upon the positive impact of these changes, though, the spread of income might not remain an adequate measurement. The distribution of per capita income might not measure well how economic well-being is distributed among the Indian states. Furthermore the same change in the regional disparity might have a very dissimilar impact on welfare distribution, depending on the assembly of credit and protection markets available to agents for levelling income variations. The scope of the study is limited to an analysis of 22 major Indian states during the period from 1980-81 to 2012-13. The choice of time period is determined by two factors. First, the initial 1991s were a turning point for the rate of economic growth in India. Second, the time period under consideration represents a period of economic reform in India. After three decades of lackluster growth of about 3.5 percent per annum in the post-independent period, the Indian economy achieved an extraordinary growth rate of nearly 6 percent over the 1980s and the 1990s The 1980s were known as the period when India stimulated from the Hindu rate of growth to a higher growth path. Fascinatingly, although the average growth rate of NSDP for the two decades was almost identical, the strategy paradigm during the 1980s was distinctly different from that of 1990s.The strategy during the 1980s depended on the public sector as the engine of growth. While the administration systematized the private sector and its activities with the industrial licensing requirements, licensing determined the scale. Technology and location of investment projects and any plan to prolong, dislocate or change the output or inputs mixes needed earlier agreement from the government. The nitty-gritty of these changes was a greater prod on privatization and globalization of the Indian economy. It has also been supposed that when economy is enlightened, particularly after controls on investment are eminent, regions with better infrastructure invite more investment, particularly foreign capital through market mechanisms. Besides, this in turn leads to provincial discrepancy, at least in the earlier phase of reforms. The provincial discrepancy in China after the economic reforms is a classic example of this.

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The structure of the paper is as follows. Section 1 provides a brief review of literature. Section 2 illuminates the research methodology, which provides the foundations for the econometric analysis. Section 3 provides economic explanation for the results of the econometric analysis. Section 4 discusses policy implications and provides conclusion.

REVIEW OF LITERATURE

Future studies of regional disparities during the period of economic planning in India observed that the impulses of growth were more widely dispersed than before but confirmed the persistence of wide disparities in development levels. A number of studies (for instance, Ahluwalia, 2000 and 2002; Nagaraj, Varoudakis and Veganzous, 1998; Rao, Shand and Kalirajan, 1999; and Shand and Bhide, 2000) have observed that the regional disparity in India widened, especially during the 1990s.

Mathur (1983) investigated the pattern of spatial economic condition in India from the period spanning 1950-51 to 1975-76. The study found that there was sufficient evidence of narrowing down of regional income disparities, in the first half of the total 25-year period studied, while the latter half was characterized by a reverse trend, suggesting a broadly U-shaped curve for regional inequality. From sectoral point of view, primary and tertiary sectors had displayed U-shaped behaviour for regional disparities. But secondary sector disparities revealed an inverted U shaped movement. During the first period in the 1950s, the convergence in the agriculture and tertiary sector was powerful enough to swamp the divergence tendencies in the secondary sector. While in the second period, convergence tendencies in the secondary sector were strong. Dholakia (2003) examined the trends in regional disparity in economic and human development in India over the last two decades. They applied an intuitively appealing and robust method to examine trends in regional disparity in the average per capita SDP (PCI) and human development indicators. PCI did not show any significant trend in regional disparity over the last two decades. Jha (2004) measured the rural and urban disparity in India. Gini coefficients improved between 1993-1994 and 1997 both for rural and urban, and deteriorated between 1997 and 1999-2000. However, as Jha pointed out, changes in the approach used in the 55th round National Sample Survey meant that the results for 1999-2000 were not comparable to earlier rounds. Nayyar (2008) scrutinized performance of sixteen Indian states for the period 1978-79 to 2002-03, and concluded that (a) the states were not converging to identical levels of per capita income in the steady-state; (b) factors that once affected steady-state levels of income were controlled, and the poor states grew faster on average than the rich ones; and (c) there was an increase in the spread of per capita income over time across states. This revealed that Indian states were converging to increasingly divergent steady-states, which may be accredited to increasing inter-state disparities in levels of private and public investment. Sengupta et al (2008) inferred that Indian economy witnessed a higher growth in the gross domestic product (GDP) associated with rising concentration of income and wealth.

Solow (1956), in a seminal article, provides the basic framework for explaining this negative correlation between initial levels of income and subsequent growth rates. The key assumption driving such a convergence result in the Solow model is a standard neoclassical production function with diminishing returns to physical capital. The poorer economy has lower levels of physical capital, and hence, higher marginal productivity of capital. Thus, for any given rate of investment, it will achieve a higher rate of growth in transition to the steady-state. The steady-state growth rate for each economy, however, is determined by an exogenously given rate of technological progress. Moreover, assuming the technology is freely available to everyone, the model predicts that all countries will eventually attain the same steady-state growth rate. Perssona and Tabellini (1991) and Alesina and Perotti (1993) proposed that inequality is harmful to growth because greater inequality leads to greater political instability and lower capital formation. But Fishlow (1995) finds no such link in the case of Latin American countries. On the other hand, Bruno, Ravallion and Squire (1996) do conclude that "initial distribution matters to the extent and nature of subsequent growth". Deininger and Squire (1997) showed that the initial distribution of assets (in their case, land) had an influence on future income growth. Chandrasekhar and Ghosh (2007) argues that with increased investment, trade and output, more and better employment opportunities would emerge and labour mobility would increase, leading to narrowing down of horizontal wage differences among workers with similar skills and with same type of jobs. On the other hand, as the demand for skilled labour would increase, wage differential between skilled and unskilled labour is expected to rise. The overall impact would depend on how broad based the labour market in the economy is, whether movement across skill-barriers is relatively easy, and whether institutions for retraining and redeployment are in place.

Other scholars looking at growth and inequality in Indian context include Sachs et al 2002; Ahluwalia 2001; Shetty 2003; Bhattacharya and Sakthivel 2004a; Bagchi and Kurian 2005, among others. Most of these have focused on the disparities in per capita income and reported a tendency for divergence. However, studies of interstate disparities in employment opportunities or labour market outcomes were very few and deserved equal attention. Thus the objective of the present research are as follows:

1. To assess the performance of the states in terms of NSDP growth rate.
2. To assess the income inequality in India
3. To compare the growth of the NSDP in different base years.

RESEARCH METHODOLOGY

In this paper the researcher used the data of Net State Domestic Product for different base year. Calculation of the growth rate at a common base year is done with the help of splicing method. Data has been taken from Ministry of Statistics and Planning Implementation. Initially the data has been arranged with respect to financial year for all states and the growth rate has been calculated with the help of Econometrics and statistical tools in different base years. Gini coefficient and Theil indices are used for measuring inequality.

RESULTS AND FINDINGS

The pattern of growth across states has always remained as a subject of interest both to academicians as well as policy makers. The existence of wide inter-regional variations in a vast country like India is well recognized. Regional disparity in India is now a matter of serious concern. Reducing such disparities is essential for the success of a federal structure. This has been really an important challenge in India. No doubt, considerable disparities in the level of development across the regions existed even before independence. One of the principal justifications for introduction of five year plans and the establishment of the Planning Commission was to ensure a process of regionally balanced and socially equitable development. Through public and directed private investment as well as various other interventions and public policies, balanced development across the regions was pursued during the first four decades of planning. But the role of government in the economic activities of the nation changed substantially since the initiation of economic reforms in 1991.Economic reforms have been initiated at different levels across states. Most of the economic reforms have been pursued in the industrial sector, the spread and growth of which showed considerable regional variations. In the post-reform period, due to deregulation, the degree of control of the central government declined in many sectors. The private sector, which was controlled and contained in various ways, has since then been encouraged to play a more important role. Now, market forces, rather than government directions, decide the investment decisions like where to invest, what to produce, whom to sell to, and so on. Also, the role of private sector is becoming more important as compared to the public sector. In the changed economic scenario, it would be interesting to examine the economic performance of states in the post-reform period.

Table 1

Trends of Average Decades Growth Rates of NSDP

States	1980-1990	1993-2003	2000-2010	2004-12
Arunachal Pradesh	19.08	7.22	10.35	11.73
Ander Pradesh	13.71	13.98	10.48	15.35
Bihar	13.51	9.45	8.85	13.56
Chhattisgarh	N/A	9.08	7.73	7.54
Delhi	13.84	16.14	9.92	15.58
Goa	11.31	17.06	9.767	15.24
Gujarat	14.65	15.56	9.20	16.18
Haryana	12.87	14.11	12.46	15.72
Himachal Pradesh	11.52	15.79	9.89	16.18
Karnataka	13.01	13.90	7.86	15.29
Kerala	10.58	15.74	8.33	13.60
Maharashtra	11.20	12.66	7.60	11.18
Madhya Pradesh	10.86	10.53	4.58	15.04
Meghalaya	13.08	6.19	10.35	7.33
Nagaland	17.98	13.31	14.19	11.58
Orissa	11.10	13.17	7.92	13.94
Punjab	13.29	11.42	8.02	13.72
Rajasthan	13.93	15.98	5.64	14.22
Tamil Nadu	13.06	13.67	4.31	16.22
Uttrakhand	N/A	12.12	12.43	12.43
Uttar Pradesh	10.87	12.44	6.36	13.05
West Bengal	11.92	14.62	8.19	12.23

Source: Calculated By author

Note: N/A – Not Available

Table 1 depicts the results of data in form of average decade growth rate with respect to different decades and states respectively. NSDP growth rates have shown a fair degree of variation. While some states have witnessed rapid and phenomenal growth, the rest lagged behind the other states in terms of growth rate. It is evident that some states such as Haryana, Uttar Pradesh, Himachal Pradesh, Madhya Pradesh, Tamil Nadu and Delhi attained higher rate of growth due to strong economic Parameter during 2004 -12. On the other hand, some states like Arunachal Pradesh, Meghalaya and Nagaland lagged behind their neighbouring states due to many reasons. Inflation is one of the important factors that adversely affected the poor growth rate. In the decade prior to the reforms Maharashtra witnessed a high growth rate in net state domestic product (NSDP) followed by Rajasthan, Haryana, Andhra Pradesh. On the other hand Bihar, Assam, Orissa, Kerala, Madhya Pradesh and West-Bengal recorded growth rates lower than the average growth rate. In the post-reform decade, i.e. 1992-93 to 2004-05 West-Bengal, Karnataka, Haryana, Rajasthan, Gujarat, Andhra-Pradesh and Kerala were the states whose growth rates exceeded the average growth. On the other hand Assam, Bihar, Orissa, Madhya Pradesh and Uttar Pradesh experienced less than average growth rate in both the decades. In the second decade growth rate of Punjab and Tamil Nadu decelerated below the average growth rate. Maharashtra also experienced deceleration in growth rate in the second decade. The performance of the states was thus not uniform, with some states performing better than others in the different time periods. Per capita income is an important indicator to measure the regional disparities in economic development. In terms of per capita NSDP Punjab retained the highest position in the pre-reform period. The states of Punjab, Maharashtra, Haryana and Gujarat have had higher per capita NSDP throughout the whole period. While the states such as Assam, Bihar, Uttar Pradesh and Madhya Pradesh remained at the bottom and categorized as poorer states. These states are poorer because per capita plan outlays and investment level of the poorer states have always been much lower than those of the better-off states. These states also suffered from high population growth rates and low economic growth rates, and preponderance of tribal areas in the eastern and central states. On the other hand many states showed increased per capita NSDP such as West Bengal and Andhra-Pradesh which moved closer to the national average and even crossed it in the later post-reform period (2001-02). These states can be included in the category of intermediate states.

EXTENT OF INCOME INEQUALITY ACROSS INDIAN STATES

Gini coefficient is the summary measure which comes first in providing an intuitive interpretation. Indeed, this is the main reason why Gini coefficient remains by far the most popular inequality Index. It has found wide application in the study of inequalities in economics. Gini coefficient can be used to indicate how the distribution of income has changed within a country over a period of time, and thus it is possible to see if inequality is increasing or decreasing. A low Gini coefficient indicates a more equal distribution, with 0 corresponding to complete equality, while higher Gini coefficients indicate more unequal distribution, with 1 corresponding to complete inequality.

Table 2 depicts the computation of Gini measure and Theil Index based on NSDP per capita data. Table shows that inequality of NSDP increased slightly during the study period. It is demonstrated in Table 2 that Gini coefficient has decreased from 0.56 (in the year 1993-94) to 0.54 (in the year 1997-98); however, this decrease is marginal and after 1997-98 Gini coefficient was continuously increasing. It is also evident that value of Theil is quite fluctuating during the period of analysis. The value of Theil based on NSDP has decreased marginally, up to (1999-00). After 1999-00 value of Theil Index slightly increased during the study period. In terms of NSDP and its growth rate, Gini coefficient shows that regional disparity increased over time.

Table 2

Gini Measure and Theil Inequality of NSDP

Years	GINI C. of NSDP	Theil Index

1980-81	0.5727	0.4808
1985-86	0.5668	0.4704
1990-91	0.5608	0.4791
1991-92	0.5593	0.4716
1992-93	0.5575	0.4707
1993-94	0.5625	0.4673
1994-95	0.5598	0.4636
1995-96	0.5623	0.4648
1996-97	0.5509	0.4621
1997-98	0.5467	0.4586
1998-99	0.5631	0.4547
1999-00	0.5519	0.4552
2000-01	0.5570	0.4642
2001-02	0.5651	0.4563
2002-03	0.5606	0.4565
2003-04	0.5507	0.4578
2004-05	0.5595	0.4542
2005-06	0.5876	0.4540
2006-07	0.5878	0.4962
2007-08	0.5648	0.4542
2008-09	0.5518	0.4788
2009-10	0.5725	0.4812
2010-11	0.5803	0.4905

Source:- Calculated By author

POLICY IMPLICATIONS AND CONCLUSION

The objective of this research was to measure the unequal development of Indian states the most enlightening finding of this paper is that the regional inequalities among the Indian states increased slightly .This finding is quite consistent with the conclusions from previous studies. Finally, the inequality in the regional distribution of all states remained quite stable across India. The conclusions drawn in this paper closely echo those of other studies, with inter-area inequality being the primary factor causing India's regional inequality in regional NSDP. This study additionally indicates that advanced industrial states have tended to leapfrog in the reform years, while other states have lagged behind. Regional inequality in the growth rates has become sharper in terms of NSDP. The poorer states have not only performed poorly but their failure to stem population growth has left them in even worse position. The growing regional inequality in the post reform period is now a matter of serious concern. With deregulation of private investment, faster growth, in turn, would induce more investment, and this, in turn, would further accentuate regional inequality. The problem is compounded by the negative relationship between population growth and income growth during the 1990s. Unfortunately, backward states with higher population growth are not able to attract investment – both public and private – due to a variety of reasons, like poor income and infrastructure and probably also due to poor governance. Simultaneously, efforts should be made to restrain population growth, especially in backward states. The inverse relationship between population growth and income growth at the state level in the recent years can become an explosive issue not only economically but also politically. States with higher population growth and lower income growth would tend to have higher unemployment rate. Migration can only partially mitigate this thorny problem. Besides, largescale migration in a country with wide diversities in religion, language, caste and education levels can create socio-political problems. This is already evident in some states and regions. In India, democracy is very vibrant. If the inverse relationship between income and population growth persists longer, then sooner or later there would be a serious conflict between states in terms of sharing of resources. It is already evident in the allocation of resources through the Planning Commission and the Finance Commission. The social consequences of migration could become an additional source of conflict. The solution, however, does not lie in curbing growth in fast growing and market friendly states, but in accelerating reforms in backward states to attain a balanced regional growth.

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