CHAPTER SIX
SUMMARY, CONCLUSION AND SUGGESTIONS

The present study examined the issue of regional growth dynamics in the context of northeastern state economics in India that has received limited attention so far in the literature. The answers for the primary questions that have been searched in this study were: Do economies of northeastern states could perform as per national economy in the era of liberalisation? And secondly, has there been any sign of economic convergence among the state economies of NER? In order to answer the first question, we investigated the performance of each of the state economies in terms of SDP and its sectoral distribution both at reform and pre-reform periods. And then we compared these performances with that of national economy. The second question has been captured by examining the relationship between growth of per capita NSDP and initial per capita NSDP and other conditional variables. Here also we divided the analysis in three periods: one covering the entire study period, second covering the pre-reform period and third covering post-reform period. In addition to these two broad issues, this study has also explored some related issues such as inter-sectoral linkage, growth-linkage among the state economies, and finally the linkage between economy of NER and Rest of India, which are thought to be crucial for a comprehensive analysis of those two broad issues. The investigation in this study was conducted at both theoretical and empirical levels.

In the remainder of this chapter, first, a summary of the study is provided. The key findings of the study are presented next. Then, the policy implications of the findings are discussed. Next, the chapter discusses the limitations of this study. Finally, some suggestions for further research have been provided.

6.1: A Summary of the Study

The literature review on economic reforms and growth presented in Chapter- Two demonstrated that while some studies found economic reforms as detrimental to stable
economic growth and social justice to the people (Taylor; 1983, Pastor; 1987, and Eshang; 1989) Hoeven; 1987, Horton et al.; 1991, and Ginneken; 1990), there are some other studies (Bhagavati & Srinivasan; 1993, Sachs and Warner; 1995, Misra; 1998) which are very optimistic about economic reforms. Similarly, economic theory has an ambiguous message concerning the relationship between growth and regional inequality. While proponents of the neoclassical paradigm argue that disparities in per capita income are bound to diminish with growth, endogenous growth economists argued that disparities will diminish only within same group of economies. The message derived from empirical analyses is also not clear. While some claim that the growth rate in per capita income is converging in India (Cashin and Sahay’s 1996) there are others who argued that growth pattern of per capita income has followed a divergent tendency in absolute term (Marjit and Mitra; 1996, Ghosh, Marjit and Neogi; 1998, Rao et al.; 1999, Nagaraj et al.; 1998, Aiyar (2001). However, most of the studies agreed upon conditional convergence. Studies in the context of NER are very limited. And what limited studies have been done on regional disparity that too only analyze the income trends or movements in the rankings of states income according to various criteria, and do not statistically test the convergence hypothesis predicted by neoclassical growth theory.

Chapter Three portrayed the general profile of the economy of the northeastern region. The historical, geographic and other related aspects has been analysed in this chapter. It has been observed that the regional composition of the North East at the time of independence consisted of the Assam plains of the old Assam Province, the hill districts, the North Eastern Frontier Tracts (NEFT) of the North Eastern borderland, and the princely states of Manipur and Tripura, both of which opted for merger with India in 1949. The region is home of extremely diverse mosaic of ethnic groups having distinctive social, cultural and economic identity. The economy of NER is predominantly agricultural based with more than 65% population dependent for earning their livelihood from this sector. Having noted this, one can not deny the importance of small scale and cottage industries, and tourism in economic development of the region. The burning problem in the region is that people do not have access to basic services in
adequate measure. The standard development indicators such as road length, access to healthcare, and power consumption in the region are below the national average. The problem of insurgency has become the stumbling block in the course of development. It soured every development strategy and hampered all the developmental works.

The econometric and statistical models that have been used in the present study have been presented in Chapter-Four. The methods used in the literature for calculating growth rates have been described in details in this chapter. Accordingly, the methodologies in relation to stability tests have been discussed. The relative merits and demerits of different stability test procedures such as Chow Test (Chow 1960), Quandt Likelihood Test (Quandt, 1960) etc have also been documented here. The method of decomposing growth rate of an aggregate variable into its constituents has been detailed in this chapter. This chapter also devoted to develop the methodology in order to test convergence hypothesis. Methodology regarding both the concepts of convergence viz beta convergence and sigma convergence has also been analysed. Steps have been taken to use the econometric methodology for testing inter-linkage among variables. Models for testing stationarity property of time series and panel data series and co-integration have been detailed in this chapter.

6.2: Findings of the Study

First, The present study confined to seven out of eight states of NER. Meghalaya is excluded due to paucity of data and inconsistency observed in the available dataset. Four of the NE economies viz Assam, Manipur, Meghalaya, Nagaland experienced structural instability in NSDP in the post reforms era. Arunachal Pradesh is the only state experienced stability during the same period. The NSDP data of Tripura also reflects a structural instability in the pre reform era. Similarly, Sikkim witnessed structural instability in NSDP in the pre reform era. In case of primary sector SDP, the results shows that five of the NE states experienced structural instability and that too in the post 90s. These states are Assam, Manipur, Meghalaya, Nagaland and Tripura. Only Arunachal Pradesh experienced stability in primary sector SDP in the post 90s, though
Sikkim also share the same fate but that occurred in the pre 90s. The number of states having structural instability in Secondary sector SDP is four. They are Arunachal Pradesh, Manipur, Meghalaya, and Tripura. The occurrence of instability in respect of tertiary sector is almost equally distributed between pre and post reform era. Assam, Manipur, Nagaland and Sikkim are the states experienced instability in the late 90s while Arunachal Pradesh, Meghalaya and Tripura experienced instability in late 80s and early 90s.

Second, During the entire study period four of the NE states viz Arunachal Pradesh, Nagaland, Sikkim and Tripura, have grown at a rate higher than all India standard. The picture is even better in the pre-reform period. Here all the states grown at a higher rate than all India average except Assam. But the picture is awful in the post reform period. In this period only three states viz Nagaland, Sikkim and Tripura could manage to grow at a higher rate than all India average.

Third, Agricultural sector SDP has an increasing trend in all the states irrespective of the time periods concerned. During the entire study period four of the NE states viz Arunachal Pradesh, Meghalaya, Nagaland, and Sikkim have grown at a rate higher than all India standards. The picture is a bit gloomy in the pre-reform period. In this period, only three states viz Arunachal Pradesh, Nagaland and Sikkim could manage to overtake the national standards. However, the picture gets a positive change in the post reform period. Here again four states viz Manipur, Meghalaya, Nagaland and Tripura have grown at a rate higher than all India average. Within NER Nagaland has been diagnosed as the top growing state in terms of income generating from agricultural sector followed by Sikkim and Arunachal Pradesh during the entire study period, where as Assam secured the bottom place in this list. In the pre reform period, Arunachal Pradesh secured the top position in terms of agricultural sector growth followed by Sikkim and Nagaland while Assam, Manipur, Meghalaya and Tripura have been found to be growing at a lower rate than NER average. In the post reform period, Nagaland has been again identified as the top growing state followed by Meghalaya and Tripura while Assam has been identified as the least growing state.
Industrial sector SDP has also shown an increasing trend irrespective of the regime concerned in all the state economies. During the entire study period all of the NE states except Assam have grown at a rate higher than all India standards. The picture is all most similar in the pre-reform period. In this period, all the states except Tripura could manage to overtake the national standards. However, the picture gets a negative change in the post reform period. Here only four states viz Arunachal Pradesh, Meghalaya, Nagaland and Tripura have grown at a rate higher than all India average.

In respect of service sector, three of the NE states viz Arunachal Pradesh, Sikkim and Tripura have grown at a rate higher than all India standards during the entire study period. The image is even better in the pre-reform period. In this period, Arunachal Pradesh, Manipur, Meghalaya Sikkim and Tripura could manage to grow at a higher rate than national standards. However, in the post reform period only one state (Sikkim) could cross that standard.

Fourth, There is no homogeneity regarding the sectoral contribution to growth acceleration/deceleration among the states of northeast India. However, taking the seven states as a whole, the contribution of the tertiary sector overwhelms the contribution of the other sectors and it is consistent with the national picture.

Fifth, the empirical findings from the analysis confirmed that the different sectors of northeastern states are interlinked in the short-run only. In the long run causality is unidirectional running from both real agricultural growth and real industrial growth to real service sector growth. This implies agricultural growth and industrial growth are weakly exogenous.

Sixth, there is a significant difference in the level of per capita income among different states of the region. During the pre-reform period two of the NE states viz Assam and Nagaland enjoyed PCNSDP which was greater than all India average. In the post reform era though there has been some improvement in the level of per capita income in NE states, but none of the state economies could reach the height of all India average. When we looked at NER as a whole, it has been observed that the average per capita income
level in the region during pre-reform period was significantly below the average of the country. In the post reform period the average per capita income level in the region has increased but this increase was less than the per capita GDP growth of national economy. Thus the divergence in per capita income between the country and the region has shown a steady increase over the years.

Within NER Sikkim has been diagnosed as the top growing state in terms of PCNSDP during the entire study period, where as Assam secured the bottom place in this list. The position of Sikkim remains unaffected in the pre reform period. In the post reform period, Tripura has occupied the top place in this list followed by Sikkim and Arunachal Pradesh, and Assam being the least growing state. In is interesting to note that Tripura, which was among the lowest growing state in the NE region in the pre-reform period, has secured the top position in the list during post-reform period.

PCNSDP series for all the state economies have undergone structural shift. Out of seven, four state economies viz Assam, Manipur, Meghalaya, and Tripura experienced positive structural instability in PCNSDP. Among them, three states experienced this instability in the post reforms era. Only Tripura experienced this acceleration in 1987-88. Arunachal Pradesh, Nagaland and Sikkim are the state economies experienced stability in PCNSDP and this all in the post reform era.

Like growth of SDP, one can also observe variation in the growth rate of PCNSDP across the state economies in the region. During the entire study period three of the NE states viz Arunachal Pradesh, Sikkim and Tripura have grown at a rate higher than all India standards. The picture is bit better in the pre-reform period. In this period, though the same number of states viz Arunachal Pradesh, Nagaland, and Sikkim could manage to overtake the national standards, but NER as whole also crossed that national standard. However, the picture gets a negative change in the post reform period in comparison to national standard. Here only two states viz Tripura and Sikkim have grown at a rate higher than all India average.

Seventh, There is no evidence for unconditional convergence among the states of NER. However, after calculating variables for educational human capital, central
assistance, economic structure, and population growth; the study found evidence in support of convergence. The addition of fixed effects reinforces the conditional convergence effect, and highlights the importance of initial conditions to the future growth experiences across states, though the speed of convergence is found to be relatively higher in the pre-reform period. In addition, we also observed presence of sigma convergence during the entire study period and one of the sub periods i.e., pre-reform period. In the post-reform period, there is no evidence in support of sigma convergence.

Thus population growth, growth of central grants, literacy rate, and share of agricultural sector to total SDP are the four major variables that determine the steady state Per Capita Income and hence economic growth in NER.

Eighth, There is no evidence of growth linkage between better-off and worse-off states in NER. Economic activity of better-off states did not influence the economic activity of worse-off states in NER. This clearly demonstrates poor spillover affects of economic activity among the states of NER.

Ninth, Economic activity in the NE economy is linked to economic activity in rest of India. There is strong evidence for unidirectional growth acceleration linkage between NE economy and the economy of rest of India.

6.3: Policy Suggestions:
The analysis suggests that the growth prospects in NER could be enhanced by promoting the share of non-agricultural sectors in SDP, by raising the per capita central grants, improving the educational level, and by controlling population growth. All of these factors have shown to exert a significant impact on growth.

1. Negative association, which has been found from the analysis, between growth and share of agricultural sector in total SDP asks for lifting the share of non-agricultural sector. One way to increase the share of non-agricultural sector
would be increasing share of service sector and of industrial sector. Tourism can be an important sector that can increase the share of service sector in the region. It has tremendous income and employment ripple effects that spread far beyond the actual tourism activity itself, so that benefits disburse quite naturally to owners of small shops, peripheral services, and even to construction, banking and handicrafts. To derive the benefits from the tourism sector, marketing of the state as a tourist destination particularly to national and international operators who largely determine a tourist circuit is utmost necessary. Other pre-requisites for the emergence of tourism business are the availability of good lodging facilities to attract tourists of all income classes; well-organized tourism circuits and good transport infrastructure, peaceful law and order situation and administrative restrictions.

2. Small industries dominate the industrial scenario in NER and special efforts need to be made for their expansion and growth (NER Vision 2020). In the short run, the productivity of existing small industries can be raised by improving physical infrastructure and efficiency of the units. The distinctive potentialities that the region has in handloom, handicraft and sericulture should be explored which in turn provide jobs for a sizeable proportion of the labour force and have tremendous export potential.

3. Due to physiographic and geographical isolation of the northeastern states, it requires special attention from the government. The fact that the development of NER to a large extent still depends on the central assistance is evident from the study. The significant positive impact of grants from the centre on growth clearly speaks about importance of nurturing NER by the central government for her development. Thus without completely surrendering on the market oriented economic development, the government need to continue with special assistance programme for the overall economic development of the region.

4. The strategy for human capital formation in the region should be based on a manpower planning perspective. The policy framework should encompass interventions that begin at the school level and continue beyond to draw in people from all levels of education, and provide them options for training and
skill formation. The emphasis should be given to minimise dropout children from the schools at different levels in the region.

5. Since agricultural growth and industrial growth have been found to be weakly exogenous, there is a need for setting up of those industries which use locally produced agricultural goods as inputs. This suggestion might seem impractical as government hardly has any control upon the input use of industries, especially in the present days of liberalization and privatization. However, special care for the small-scale and cottage industries in the form of incentive scheme and assistance (which have been upset by the new policy measures and facing stiff competition in the market) could be a policy option for the decision makers.

6. The present study clearly shows poor growth inter-linkage among the state economies in the region. This is perhaps one of the important reasons responsible for poor performance of the economies. Given the fact that NER is geographically isolated therefore more emphasis should be given on interstate trading within NER rather than emphasising on strengthening trading activities with mainland India. Growth impulses should originate within NER rather than outside. The construction of roads and railway lines, with a view to connect the state capitals of all northeastern states, accompanied by much needed coordination and unity among the northeastern states governments will be the first step towards this end. Emphasis should be given to form a common market for entire region.

7. High rate of growth of population has been found to be detrimental for economic growth in the region. As such policy initiative should be undertaken for remedial measures to control high rate of population growth. Effective family planning measures should be given due emphasis in the policy framework. At the same time government should take measures for control of influx of people from neighbouring countries. Considering the very high rate growth of population, which is biologically impossible in almost all the states of the region, influx of people might be a causal factor in this regard. Infact the Registrar General of Census of India remarked the high growth of population in
case of Assam as “Biological Miracle” (Census of India, 1961). However the issue of influx needs to be considered and quantified in proper perspective by the administrative machinery of different states.

6.4 Limitations of the Study

This study excludes Mizoram in the estimation of all models due to insufficient observations of some data series such as NSDP, and per capita NSDP at source (EPWRF). Therefore, NER is narrowly defined, which includes Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Sikkim, and Tripura, particularly in respect of estimation of models.

In conditional convergence model, we were unable to distinguished use of central grants to states between development and consumption purposes. It is not hard to understand that the use of grants for development purpose such as on education, improvement of social skills, and on infrastructure etc largely determine the quality of those grants that they bring with them, which in turn influences economic growth. Similarly, annual time series data on literacy rate, which has been used in conditional convergence model, have been generated through interpolation from decade wise data assuming those data follow a linear trend over time.

The empirical evidence on β-convergence in the present study is based on the assumption that the observations are geographically independent. While this assumption can adapt well to cross-sections of countries, it becomes little strong for regional studies. Regional data cannot always be regarded as independently generated because of the presence of similarities among neighbouring regions. But present study assumes that data are geographically independent.

Although care and action have been taken to reduce the endogeneity between value of SDP of NER and SDP of rest of India in the inter-linkage model, if we could obtain data for the instrumental variables, the model would have performed better.
In the area of econometric techniques, this study investigates presence of single break in time series SDP and per capita SDP data. The multiple structural break or structural shift technique is yet to be employed for this study.
Reference:


AN EPILOGUE

This study adds to the existing body of knowledge on the dynamics of economic growth in NER of India from different perspectives. The present research work helps us to understand the trend of economic growth of NE states during the last three decades. This study statistically tested the convergence hypothesis predicted by neoclassical growth theory in the context of NER- an issue that remained completely untouched till date. We have also studied linkage among broad sectors in each state of NER. Further, the issues of inter-state (better-off and worse-off) and inter-regional (NER and rest of India) linkages have also been explored here. But as Stevenson Jr. (1952) says “If we value the pursuit of knowledge, we must be free to follow wherever that search may lead us...” While findings of the present study enriched our existing knowledge about economies of NER, they have also opened the door for further research.

Differences in state-specific fixed effects play a significant role in accounting for gaps in steady-state output with respect to a benchmark state. It emphasizes a need to understand the explanatory factors of these fixed effects. Fixed effects are supposed to reflect differences in institutional and political environment, differences in technology, in the availability of natural resources, as well as in other factors that may exert an influence on productive efficiency, and thus on growth. Therefore, a further analytic step would be to estimate separate regressions for these fixed effects, along the lines suggested by Islam (1995). Then it can be verified whether these differences in fixed effects can give rise to “convergence clubs” of distinct low- or high-growth equilibrium. The main constraining factor for such a cross-section econometric analysis is the limited number of states as in the NER.

The present study is based on the assumption that the per capita NSDP data are geographically independent. But this assumption may not hold true in the context of state economies within a country (Le Gallo at el 2003; Arbia G, R. at el 2005). Therefore, there is a scope for reformulate the convergence model in the form of spatial lag and spatial error models, and to verify the results of the present study.
This study exerts light on inter-sectoral linkage in the state economies of NER from the view point of SDP component, and found some interesting results. Future research in this area may analyze the causal link in a multivariate VAR system within each component of SDP. This is likely to improve upon our results and may even provide more sturdy conclusions.

One of the important findings of the present study is that economic inter-linkage among the state economies in NER is scanty. Research aiming at identifying factors responsible for poor growth linkage among the state economies within NER will also be interesting as these will help to prescribe specific policy to overcome this poor inter-linkage in a better manner.