CHAPTER VIII
SUMMARY, CONCLUSIONS AND POLICY RECOMMENDATIONS

8.1 Summary

Indian economy is experiencing a high rate of growth and it is anticipated to grow at a higher rate in the near future. The impressive economic growth and the economic reform policies being vigorously followed have led many to fear that the high growth might be exclusionary in nature and be characterized by jobless growth, ruthless growth, voiceless growth, rootless growth, and the futureless growth. Clearly now India is recognized as an economy with a “stunning” but “jobless growth” and a “booming economy with growing gaps” where the spectacular successes made, have not been shared by all equally. The Planning Commission has also realized that economic growth has failed to be sufficiently inclusive, particularly after the mid-1990s.

Even more than 64 years after independence, from almost two centuries of British rule, large scale poverty remains in India. According to the new World Bank's estimates on poverty based on 2005 data, India has 456 million people, 41.6 per cent of its population, living below the new international poverty line of $1.25 (PPP) per day. The World Bank further estimates that 33 per cent of the global poor now reside in India. Moreover, India also has 828 million people, or 75.6 per cent of the population living below $2 a day, compared to 72.2 per cent for Sub-Saharan Africa.

On the other hand, the Planning Commission of India uses its own criteria and has estimated that 27.5 per cent of the population was living below the poverty line in 2004–2005, down from 51.3 per cent in 1977–1978, and 36 per cent in 1993-1994. The source for this was the 61st round of the National Sample Survey (NSS) and the criterion used was monthly per capita consumption expenditure below Rs. 356.35 for rural areas and Rs. 538.60 for urban areas.

A new report prepared under the supervision of Tendulkar (2009) reveals that 37.2 per cent of the Indian population is living below the poverty line. Using cost-of-living index for measuring poverty, it finds that the number of urban poor has decreased
overtime, while in rural areas it has gone up. This new method to draw the ‘poverty line’ has resulted in an increase in the number of people living below the poverty line in India, from 27.5 per cent of the population to 37.2 per cent, that is, an increase of 10 per cent for 2004-05.

India was positioned at 132^{nd} place in the United Nations Human Development index 2007-08. It is the lowest rank for the country in over 10 years. In 1992, India was at 122^{nd} place in the same index. The situation has become worse on critical indicators of overall well-being such as the number of people who are undernourished. India has the highest number of malnourished people, at 230 million, and is 94^{th} out of 119 in the world hunger index (Planning Commission, 2007).

So, one worrying feature that needs immediate attention is the problem of poverty and inequality. This will be one of the most formidable challenges confronting India over the next decade if it is to live up to its promise. Generally, people who are unable to access even two square meals a day are considered to be the most severely deprived. It is really sad that, these kinds of people exists even in the supposedly better parts of India. It is perhaps in the nature of things that politicians should set goals for the nation that they know will not be realized and that are perhaps unrealizable. But question arises when these luring promises and targets will turn into practice.

Economic growth is regarded most often a pathway toward poverty reduction, but while in general and in the aggregate, growth goes together with poverty reduction. It is not possible to say how this relationship works out in practice for any particular country, region or community. Even if the overall growth is positive one could find that many people have escaped from poverty while many others have fallen into poverty. But question arises, what is the meaning of that growth if it is not translated into the lives of people. The growth that has taken place has served mainly to benefit the few– the richest 20 per cent of the population.

There is growing evidence that achieving both high and equitable growth is strengthening the linkage between growth and poverty reduction. This represents a major departure from the trickle-down development approach whereby economic growth benefits the more affluent in the first stages of the development process, followed by the
less well-off. It simply means that the development process will be accompanied by a rise in the inequalities since the poor benefit less proportionately from economic growth than do the non-poor. That is why, now a good number of economists are rejecting the trickle down approach and suggesting pro-growth policies for achieving the objective of growth with equity. It seems very much clear by now that economic growth that does not lead to sharp and sustained reductions in poverty may create more problems than it solves. Similarly, if rapid growth is achieved at the expense of worsening in the distribution of resources, it ultimately becomes unsustainable.

Despite India’s recent strong growth performance, there is a growing concern that benefits of growth have been concentrated in India’s richer states, leaving the poorer states lagging behind. As India’s poorest states are also most populous, the concern is that as these states begin to share in the benefits of growth, an increasing proportion of the population will be left in poverty and that rising inequality will lead to social, political and economic difficulties.

If inequality does not change systematically only then government can stop worrying about inequality and devote all efforts to promote aggregate growth. But generally there exists a trade-off between reducing inequality and improving growth performance or a virtuous circle in which growth leads to lower inequality with lower inequality in turn leading to faster growth. Therefore, in the context of Indian economy, it would not be exaggeration to say that, indeed, economic growth has taken place but somehow development is lacking. This is really true, especially as is the case with key geographical regions especially the BIMARU (Bihar, Madya Pradesh, Rajasthan, and Uttar Pradesh) states. It follows from the aforesaid discussion that there is legitimate role for public policy in the promotion of fairness and in the pursuit of equity. Particularly, public action should aim to expand the opportunities of those who in the absence of policy interventions have the least resources, voices and capabilities.

The main objective of the present study is to analyse the links among Economic Growth, Income Inequality and Poverty. In the light of the main objective, six specific objectives have been set. The very first objective is to study the changes in the pattern of income across states. The second objective deals with examining extent and changes in
income inequality for the states under study. The estimation of relationship between income inequality and growth is the subject matter of the third objective. Fourth objective is to analyze the across states extent and changes in poverty. Fifth objective deals with examining the relationship between changes in income inequality and poverty in relation to individual States. Last, but not the least objective is to evaluate policies for promoting pro-poor growth and suggest alternative policies for promoting pro poor growth.


The scope of analysis in this study is restricted to a comparative analysis of the trends in economic growth, income inequality and poverty across fourteen major and most populous States (excluding the Himalayan states, the northeastern states, and the Union territories). The fourteen States taken up for detailed study are Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. The included states have a combined population accounting for more than 90 per cent of India’s population. Also, the area covered by these states is 2.7 millions sq km., accounting for 83 per cent of India’s total land area.

Appropriate Econometric and Statistical techniques have been used for determining the relationship between economic growth and income inequality. The list of major tools and techniques used in for the analysis are: (i) Annual average Growth rate (ii) Compound Growth rate, (iii) Coefficient of Variation, (iv) Gini Coefficient, (v) Lorenz Curve, (vi) Theil mean log Deviation Index, (vii) Theil Entropy Index, (viii) Atkinson Index, (ix) Decomposition of Gini, Atkinson and Theil index by Population subgroups, (x) oTest of Convergence, (xi) β Test of Convergence, (xii) Augmented
Dicky Fuller Unit Root Test, (xiii) Granger Causality Test, (xiv) Cross Section Time Series Regression with panel corrected Standard Errors, (xv) Test of U hypothesis, (xvi) OLS Regression- two variable case (xvii) Multiple Regression, (xviii) Regression -Time as a Trend Variable and (xix) Panel Regression- between effects model

The reference period of this study is post reform period and constructed, according to the quinquennial rounds of consumption expenditure survey of NSSO. The total study period is twelve years and ranges from 1993-94 to 2004-05, covering three large quinquennial rounds of NSSO (50th, 55th and 61st).

Our results indicate that the extent of intra state inequality across major states was low but increasing, as inferred by each measure of inequality used, with few exception. Also, the extent of intra state income inequality turns out to be more by using per capita data rather than aggregate data. Another important conclusion that emerges from the analysis is that measures of inequality have not remained stable. There have been wide fluctuations in the value of measures of inequality over the period of analysis. Taking most popular and widely used Gini coefficient as a measure of inequality, it is empirically evident that maximum increase in the value of Gini coefficient has taken place using GSDP per capita data. Doubtlessly, the value of Gini coefficient has decreased if we use GSDP and NSDP data, however this decrease is marginal.

By using Atkinson measure and Entropy measure for determining inter state inequality; we noticed that for aggregate income data, the extent of income inequality among the states has remained by and large the same. When we measure the change in income inequality by using per capita data, results were quite opposite. We detected noticeable increase of 62 per cent and 51 per cent (based on GSDP per capita) in Atkinson index and Entropy index respectively during the study period, pointing to increase in interstate inequality.

Next, by applying beta test for convergence across fourteen major Indian states, the results indicate that there is absolutely no sign of $\beta$ convergence. States are in fact diverging with respect to their per capita state domestic product. The coefficients of the indices of initial per capita income are positive in both set of data (GSDP and NSDP), but are statistically non significant. We discovered that Indian states do not exhibit sigma
convergence also. In fact, Indian states have diverged in terms of per capita real State Domestic Product. By fitting a linear time trend over the series of Coefficient of Variation (CV), the striking result that emerged is that the trend of the CV is increasing. The \( R^2 \) value is found to be high and t- ratio for the slope coefficient is significant at 5 per cent level of significance for the period under study. Further, by carrying sigma convergence test on three broad sectors of economy (Primary, Secondary and Tertiary), we found that agriculture and allied activities have an important role to play in explaining the increasing divergence of SDPs amongst states.

The results of the rank correlation matrix point to the fact that, there is a high degree of stability in the relative position of states, in the years under examination. States having low ranking in 1993-94, continued to have more or less the same rank in 2004-05. Bihar is the only state that continued to occupy the same lowest rank over the entire period. Tamil Nadu also continued maintaining the same ranking in 2004-05 as in 1993-94, but underwent fluctuations throughout the period. The highest standard deviation is of Maharashtra amounting to 2.54 and lowest is that of Bihar amounting to zero. Orissa suffered maximum number of worst year (11) followed by Gujarat (10).

From the results of the annual rates of growth of per capita GSDP for 14 major states, we noticed that during the period from 1993-94 to 2004-05, only two states; West Bengal and Karnataka, experienced five plus growth rate i.e. 5.52 per cent and 5.47 per cent respectively. West Bengal had highest growth during the study period, notwithstanding, it got low ranking (6th) in 1993-94, 1999-00 and 2004-05. Uttar Pradesh received lowest growth rate of 1.67 per cent followed by Madhya Pradesh and Bihar which received 1.87 per cent and 2.06 per cent respectively.

We noticed that the tertiary sector, rather than the secondary sector has become the engine of growth in most of the states. Almost in all the states, the share of tertiary sector now exceeds 50 per cent of SDP. Indeed, this reflects a poor pace of industrialization in India at regional levels. The share of primary sector in state GDP has shown a declining trend for all the states. The share of secondary sector has also decreased for all states barring Tamil Nadu, West Bengal, Maharashtra and Orissa. On the other hand, the share of tertiary sector has increased for all the states. In this way,
Indian states are also experiencing restructuring of economic activity with a shift from primary sector to tertiary sector.

Next, we found evidence of non linear relationship between inequality and time. The results indicate that in case of unregistered manufacturing and service sector, second degree polynomial gives the best result. Rest of the sectors (Agriculture, Primary products, Total Manufacturing, Registered Manufacturing and Infrastructure) displays, third degree polynomial relationship. Regarding relationship between economic growth and income inequality at state level, we came to the conclusion that in case of all the three measures of inequality, second degree polynomial relationship is the best functional form for examining the relation between economic growth and income inequality.

At sectoral level, we found that in case of agriculture and unregistered manufacturing, linear relationship between inequality and growth is statistically significant. However some of the non linearities can not be ruled out. Rest of the sectors (primary product, total manufacturing, infrastructure and services) displays, significant second degree parabolic relationship.

The results, pertaining to growth interdependence among the states, point to the fact that the linkages between state economies are not generally ‘growth transmitting’. The results indicates that if we look at the significance of growth impulses emanating from a state to the other states as a whole, only two states (Karnataka and West Bengal) are found to have such an impact. On the other hand, considering the impact of growth impulses from the larger group states on the economies of the individual states, only three significant cases of Gujarat, Maharashtra and Bihar are visible. From examining the linkages of the individual state economies with each other we reached the conclusion that, all the states transmitted the growth to other states more or less except three states namely Kerala, Haryana and Rajasthan, which do not cause growth in any other state. Further, growth of two states namely, Haryana and Maharashtra is not affected by growth in any other state.

Next, we found a strong case of divergence in inequality across Indian states. Even by removing the three high inequality states of Bihar, Maharashtra and Kerala, there is no change in the net results that is there is a clear sign of divergence in rest of the
states also. The slope coefficients for panel regression are significant implying faster divergence. These coefficients are panel corrected coefficients for linear cross-sectional time series model.

From the detailed analysis of inter state consumption inequality, we can safely conclude that the level of inequality is higher in consumption of non-food items rather than food items. Further, in the case of food items as well as non-food items, the level of inequality is more in urban areas than in rural areas. Another important revelation is that, inequality in consumption of non food items turned out to be less by using Mixed Reference Period data instead of Uniform Reference Period data. Regarding Inequality in food consumption, we found that Gini ratio has decreased in rural areas of all the states during the study period, except four states, namely, Andhra Pradesh, Haryana, Kerala and Orissa. On the other hand, analysis of food Gini ratio in urban areas across states revealed that, Punjab and Gujarat are the only states in case of which inequality did not decrease even once in the two sub periods and the overall period under study. Also Punjab observed the highest compound growth of Gini ratio, i.e., 0.92 per cent per annum. Within Indian states, inequality in urban consumption of non food items is very high as for almost all the states, Gini ratio is crossing 50 percent. In Punjab, inequality in consumption of non-food items is highest, which is indicated from the value of Gini coefficient that is above 60 per cent in 2004-05 (Uniform Reference Period).

By decomposing the inequalities at all India level, we came to the conclusion that, contribution of within-state component has been quite high (approximately 90 per cent) in comparison to the between-state inequality. The within state component has increased for the whole period, but the contribution of between state component decreased in the first sub-period (from 1993-94 to 1999-00) and increased in the second sub-period (1999-00 to 2005-05). Further, the results of decomposition at the state level revealed that the between sector component of inequality has increased in all states except one in the first sub-period. However in the second sub-period, the number of these states rose to three. Another important conclusion drawn from the analysis is that within-sector inequality is quite high in comparison to between-sector inequality during the study period.
The findings concerning relation between poverty reduction and economic growth pointed out that, economic growth had favourable impact on poverty reduction during the study period. The regression coefficients of growth are all statistically significant and their negative sign indicate the inverse relation between growth and poverty. Further, high growth states had been more successful in reducing the poverty as compared with low growth states. Only exception to this is Punjab (low growth state), which was successful in reducing poverty at par with high growth states. No doubt, economic growth has reduced the poverty, but there is variation across states in poverty-growth elasticity. In case of all the states, poverty- growth elasticity is quite high, except two states namely, Madhya Pradesh and Orissa. Another important revealing fact is that Bihar considered as poor state, has poverty growth elasticity, well ahead of national average and equal to unity.

By classifying the total inequality into food and non food items, the results of poverty inequality trade off indicate that only in four states (Orissa, Kerala, Haryana and Andhra Pradesh) increase in rural food consumption inequality resulted in decrease in rural head count ratio. Urban poverty and urban food inequality trade off is seen in case of six states only, namely; Karnataka, Kerala, Andhra Pradesh, Haryana, Punjab and Gujarat. However, increase in rural non food consumption inequality is followed by decrease in rural head count ratio in all the states except five namely, Madhya Pradesh, Bihar, West Bengal, Gujarat and Andhra Pradesh. But, number of these states has come down to four (Bihar, Madhya Pradesh, Kerala and Gujarat) in case of trade off between urban non food inequality and urban poverty.

While checking the effectiveness of policies in reducing inequality through between effects model of panel regression, we discovered that, out of six policy variables, three policies carry a negative sign namely, human capital, financial depth and financial aid. It implies therefore that increase in human capital, financial depth and financial aid leads to lower inter state inequality. On the other hand, less macro economic Stability (higher cost of living) led to higher inequality. More transfer of resources in terms of regional inequality leads to more inequality as well. Spending on the part of government on Public infrastructure has also led to generate more inter state inequality. Another
important observation is that the value of R Squared-within is too low. However value of R squared-between is satisfactory (0.528).

By taking Poverty as a dependent variable and eight policy variables as regressors, the results indicate that out of these policies, four policies have remained effective (sharing negative sign with poverty) in bringing down the level of head count ratio. Increase in human capital, financial aid, public infrastructure and regional policy (greater transfer of resources) has undoubtedly reduced the level of poverty. However t - values of the coefficients of these policies variables are slightly low. On the other hand, increased cost of living (macro economic stability) has increased the head count ratio. Increased in financial depth and government burden has led to more poverty than before.

The results regarding effectiveness of policies in raising the level of growth points to the fact that out of six, only three policies have remained effective in raising the level of growth. Increased macro economic stability, increase in public infrastructure and increase in human capital have resulted in more growth. Another important conclusion drawn is that value of the coefficient of public infrastructure is highest. Consequently, the investment in infrastructure is very crucial in raising the level of growth.

As regard public policy, there remain disagreements over policies that are entirely focused on the poor and policies that attempt to enhance growth more generally. Some policies have a large effect on growth and may not be particularly pro-poor; others do not have such a large effect on growth but are very pro poor. The best policies are those that have a large effect on both. In addition, at times it is critical to implement a package of policies as individual policies alone may not be enough. Here more work is clearly needed as the current wish list for pro poor growth is very long and some kind of sequencing, prioritizing, and packaging is critical.

In short poverty as well as regional inequality in India has to be fought and reduced at any cost for the future progress of India as an economic and world superpower.
8.2 Policy Implications of the Study

There is a legitimate role for public policy in the promotion of growth and in the pursuit of equity. Particularly, public action should aim to expand the opportunities of those who in the absence of policy interventions have the least resources, voices and capabilities (World Bank, 2006a). There is also a clear consensus that government policies need to target inequality, with a particular emphasis on ensuring that the poor have better access to vital economic assets such as land, human capital (education and health), finance, and natural capital (World Bank, 2000a).

8.2.1 Policy Implications which follows from the thesis itself

Our empirical results concerning effectiveness of policies in reducing inequality produces some suggestion to the government which must be taken into consideration while framing pro poor policies.

I. More efforts should be made to increase human capital, as increase in human capital has led to the decrease in interstate inequality.

II. Another two policies namely, financial depth and financial aid have also made a contribution in reducing inter state inequality. More reforms in both of these policies can further help to reduce the interstate inequality on large basis.

III. Regional policy must be reviewed because more transfer of resources in terms of regional inequality has led to more inequality. Political factor in framing regional policies should not be given any weight age.

IV. Further public infrastructure policy is also not producing the desired results but increasing the gaps between developed and lagged regions. So public action must review the functioning of this policy.

V. As increased cost of living has increased the head count ratio (poverty), so public policy should aim at increasing the level of macro economic stability to ensure rapid poverty reduction.

VI. States which had low ranking in 1993-94, continued to have more or less the same rank in 2004-05. Therefore, public policy should be structured in such a manner
to ensure each state is growing and growth in one state is not at the cost of growth in other state.

VII. The share of primary sector has decreased for more of states under study. No doubt it is a sign of economic progress, but in a country like India, where agriculture is the main occupation, land for cultivation is a major asset and major part of population is still living in villages and small towns; decline in primary sector share is not a good sign. Public policy should check that growth in secondary sector and tertiary sector should not hamper the growth in primary sector.

VIII. As seen in one of the major findings that the growth of agricultural prosperous states has came to halt. Public policy must identify the factors responsible for it.

IX. Undoubtedly there has been increase in inter state income inequality during the study period. Public policies should be designed in such a way to reduce the inter state income inequality and strive for balanced growth.

X. Measures of inequality have not remained stable; there have been wide fluctuations in the value of measures of inequality during the period of analysis. Public policies should frame some long term policies to lessen the year to year fluctuations in inter state inequality as well as lessening the inter state income inequality.

XI. By applying the convergence test (β convergence and σ convergence), we noticed that states are diverging in terms of per capita income (in absolute sense), and also diverging in inequality (in relative sense). Time is not far when this divergence will approach to alarming rates if proper public action is not taken against it. Public policy must keep this divergence in acceptable limits through watching the functioning of states.

XII. Inequality in consumption of food items among states bears serious implications. However, increase in inequality in consumption of non food item can be some how accepted but inequality in food consumption is not tolerable at all. Public policies should ascertain the factors responsible for it.
XIII. Further, we have seen rural urban variation in consumption of food as well as non food items. This rural urban dichotomy should be addressed by framing long term policies and short term goals to achieve the same.

XIV. As the contribution of within-state component has been quite high (approximately 90 per cent) in comparison to the between-state inequality; Public policies should ascertain the main factors responsible for these striking results.

XV. Public action should take necessary measures to lessen variation across states in poverty-growth elasticity, which is quite high. If growth in a particular state in not accompanied by the reduction in poverty then it must be checked that who are the real gainers of growth?

**8.2.2 General Policy Implications**

I. Public policies need to influence both the process of generation and distribution of income in such a way as to benefit the poor. It needs to be emphasized that the importance of growth should not be forgotten. A strategy which focuses primarily on reducing inequality, through redistribution of assets or incomes, but ignores or sacrifices growth is unlikely to lead to a sustained process of poverty reduction.

II. We should have to control corruption only then we can talk about remaining things. Independent accountability institutions will also have to be set up to detect and punish the worst examples of corruption. The development of an appropriate legal and fiscal framework will be essential for providing a suitable enabling environment for the emergence of a strong movement of non governmental organizations. Simultaneously, a free and vibrant press can contribute to greater transparency and accountability in the system.

III. The process of governance should be improved in such a way that public policy fundamentally protects the general public interest rather than being a hostage to vested interests.
8.3 Limitations and future Agenda of Research

The study possesses certain limitations too. The very first limitation is regarding sample size. The whole study rests on the analyzing the major states and thereby excludes the union territory and northeastern states. The other limitation is concerned with the authenticity of data used, as the whole data used comes from secondary sources, so the limitations of this secondary data bear implications in the entire thesis. Particularly, many questions are raised by economists from time to time about the NSSO data and its technicalities regarding survey period, mixed reference and uniform reference period. A problem remains with the 55th round of the quinquennial series, in which only data with “365 days” reference period was collected for the I-type categories for five items of non-food expenditure. This controversial 55th round had led independent researchers to challenge official claims of large poverty reduction. Therefore, the 55th Round is not directly comparable to the 50th Round, due to changes in questionnaire design. Unlike the 55th round, the 61st round is fully comparable to the 50th (1993-94) and earlier NSS rounds, making possible comparable estimates of poverty.

Last but not the least, this present study has raised many questions than it solves. Therefore, the future agenda of research will be on, identifying, quantifying and analyzing the factors responsible for current state of poverty as well income inequality.