The primary focus of world economic attention from the second half of the 20th century has been on the ways to accelerate the growth rate of national income. Economists and politicians from all nations, rich and poor, capitalist, socialist and mixed, have worshipped at the shrine of economic growth. “Growthmanship” has become a way of life. Even governments can rise or fall if their economic growth performance ranks high or low on the global scorecard. But 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.

How inequality is generated and how it reproduces over time is really a billion dollar question. The patterns and determinants of changes in inequality are subject of perennial interest to economists and policy makers alike. Moreover, it was argued by Atkinson that ‘Inequality is what economics should be all about’. Some of the greatest economists and philosophers of two centuries ago were bold and outspoken about the injustice of extreme inequality, nationally and internationally. Yet by almost every standard, global inequality has grown substantially since that period, just as national...

Inequality has grown in most countries over the last two or three decades. So, there is a case today for more outspokenness about the ills and causes of inequality. Otherwise there will come a time when looking back at today’s world human beings will wonder about how primitive we were that we tolerated all this. It is often argued that the mechanisms, which promote economic growth, also promote economic concentration and a worsening of the relative and perhaps the absolute position of the lower income groups. So, there is a need to be more outspoken about the evils of inequality for the prosperity and the well-being of our universe, our country and our society. The present chapter is going to shed light on the various concepts and interrelations relating to inequality, growth and Convergence.

3.1 Do we really want the inequalities to be leveled off?

Inequality is a relationship of domination by an individual, group or class over another. In the true sense, inequality is in itself an awkward word, used in connection with a number of awkward social and economic problems. It always suggests a departure from some idea of equality.

The reason why income inequality exists is that people in an economy differ from each other in many ways that are relevant to their income. Difference occurs in human capital (both education and health), in where people live (different geographical regions of a country), in their ownership of physical capital, in the particular skills they have, and even in their luck. The main justification for inequality is that society is organized in a number of pyramids and different levels. Each pyramid entails different degrees of responsibility. These different degrees of responsibility further require in their turn

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different degree of capability. It seems reasonable to say that to induce people to accept
a higher degree of responsibility, they should be paid a higher reward. But that
generalization does not tell us how much higher the reward should be. Much will
depend on the ideological background from which the person comes. So each society
will have its history and ideology stretching back some length in time.¹¹

Philosophically, equality is not what most people want. They just want to be better off.
Therefore, removing inequality merely by reducing the perceived well-being of the
better off, will not achieve equality. Moreover, it is difficult to see how a world will
function if all the inequalities of income and esteem among its member are leveled out.
In the true sense, most people are prepared to accept a degree of inequality as a part of
existence in the real world. But, the question arises what is the acceptable degree of
inequality. The great philosopher Rousseau however holds a different viewpoint.
According to him,

“There is hardly any inequality in the state of nature, all the inequality which now
prevails owes its strength and growth to the development of human mind and becomes
at last permanent and legitimate by the establishment of property and laws”.¹²

It is clear by now that inequality is not merely a subject of scholarly interest, rather it
is a matter of everybody’s concern. There are inequalities between classes, between
races, between men and women and between earning of individuals. On the one side,
people try to find reason for the inequalities that exist, and on the other hand, they argue
that existing inequalities are arbitrary or contingent and there is nothing in the nature
of things that require their existence. Whether we consider inequalities in the
distribution of income and wealth, we cannot move very far without examining the
facts. The facts in each case are many and diverse. They are not directly available to
the layman equipped with the resources of common sense only. Specialists in the

Dutton & Co.
various branches of social science have put together a body of material relating to
different aspects of inequality.\textsuperscript{13}

In terms of social welfare, income inequality is undesirable for a number of reasons. Inequality can hamper further growth, poverty reduction and can lead to increased political instability. In the long run inequality could threaten the stability of development. Such an unevenness of development extracts a high social cost that can lead to economic dislocation, social tension and political unrest.\textsuperscript{14} Other reason and cost of inequality include an increasing gap between the rich and the poor, creation of imagined wants, negative impact on economic activity, an increase in crime and violence and an increase in suicides, anxiety and reduction of skills.

In spite of all the evils of inequality, it is quite sure that removal of inequality from this earth will not provide any solution; rather it will surely exaggerate the existing problem. Moreover, it is very difficult to imagine a world without inequalities in income, nor is it possible in the very nature of things. So, what required is that each society should set its own acceptable degrees of inequality and strive hard to attain it.

\textbf{3.2 Constitutional Remedies against Inequality}

Since the early nineteenth century, the increasing salience of the value of equality and movement against inequality has been visible in the Hindure form movement of Brahma Smaj, Ramakrishna Mission and Arya Smaj where the equality of social groups in the eyes of God is put forward.\textsuperscript{15}

It was also a part of pledge given to the people of India during the struggle for independence that not only equal opportunities also be given to all, but special opportunities for education, economic and cultural growth must be given to backward groups so as to enable them to catch up to those who are ahead of them.\textsuperscript{16}

\begin{flushright}
\textsuperscript{15} Ibid.
\end{flushright}
The adoption of constitution in 1950 makes a watershed in the progress towards inequality in India.

The fundamental objective of economic policy in India is to accelerate economic development of the country in the climate of social justice. The objective is not only to raise national income or per capita income but also to ensure that the benefit is equitably distributed the disparities in incomes and living standards are not widened. The preamble to the directive principle of state policy enshrined in the constitution mention that social, economic and political justice shall be secured for all the people. In a similar vein Article 38, states that the state shall promote the welfare of people by securing, as effectively as it may, a social order in which social, economic and political justice shall inform all the institution of national life. In the same way, Article 16 guaranteed equality of opportunity.

The Directive Principles, though not enforceable through court of law, are regarded as fundamental in the governance of the country. According to them, the state is to direct its policy in a manner as to secure the distribution and control of the material resources of the community to sub-serve the common good and to ensure that the operation of the economic system does not result in the concentration of wealth and means of production to common detriment. Among other things, these principles direct the state to serve the right of all to an adequate means of livelihood, assistance in case of unemployment, old age and sickness. The directive principles as laid down in the constitution of the India, envisages a society in which all have equal rights opportunities, all have a right to be provided with work and social order is established, where there is no exploitation of the economically weak by the strong and where disparities in income and wealth have been reduced to the minimum workable extent.

Sivaramayya found that the concepts of equality which find reflection in the constitution are varied and there is a collection of at least three major principles of equality namely, egalitarian, the meritarian and the proportional. The first principle seeks to give benefit to all irrespective of need or merit. The second principle is

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applicable where distribution of scarce resources and position is involved. The third and last principle is applied for individuals belonging to the disadvantaged section, who are not in a position to compete on an equal footing.  

3.3 Inequality and Economic Growth: A theoretical Framework

The early literature on the evolution of income inequality used to be dominated by the Kuznets hypothesis, suggested by Kuznets (1955) in his presidential address to the American Economic Association. Kuznets composed data from three developed countries (USA, Germany and Britain). According to this hypothesis, income tend to be distributed relatively equally in the poorest countries. As these countries begin to undergo economic growth, their income distribution becomes more unequal. This deterioration in equality is likely to be arrested and reversed again after these countries reach a certain threshold of economic growth and aggregate affluence better termed as trickle-down effect. Thus, both mature industrialized economies and pre industrial societies are postulated to have more egalitarian income distribution than countries at intermediate levels of economic growth.

The theoretical relationship between economic growth and income distribution generally turns out to be a complex one. It will be prudent to look at the theoretical models of economic growth to find out if there is any discussion on growth and income distribution. The so-called Cambridge models of Kaldor (1956) and Pasinetti (1974) have discussed the relationship between growth and distribution in the framework of equilibrium growth. Two important parameters in these models are the workers’ and the capitalists’ propensities to save. Both Kaldor and Pasinetti, insisted on the irrelevance of workers’ propensity to save. But the overall relationship between the growth of income and the extent of equality in the distribution of income between wage earners and capitalists is a negative one. Another important aspect of Cambridge growth models as well as the neoclassical growth models is that in the process of income redistribution the real rewards going to the various economic classes do not remain constant. Both in the Cambridge models and the neo-classical models one finds a

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relationship between growth and distribution only when the economy is off the steady state path. If one assumes that the economy is always on the steady state path, the rate of growth of income is determined by the exogenously given rate of growth of population with no change in income distribution as neither the factor shares nor the real returns to factors change.

Using both the cross-country and time series data, Simon Kuznets (1963) found an inverted U-shaped relation between income inequality and GNP per capita. Kuznets inverted U curve had two segments. The first segment comprises initially rising arm of curve and second segment, declining arm of the curve. The former is based on the presumption that at the early stage of development there was dualism in rural-urban, traditional-modern and agriculture and non-agriculture activities. The benefits of economic growth remain concentrated among those who were directly involved in those comparatively modern sectors and activities. But with the continuation of growth, during the later stage, dualistic forces became weaker. The spread of education, access to more remunerable income earning opportunities and increased female labour participation resulting from the spread of human capital contributed to declining wage differential and hence income inequality. All this ultimately resulted in declining right of inverted U curve.

On an empirical level, the Kuznets curve was accepted through the 1970s as a strong empirical regularity.19,20 Papanek and Kyn (1986) find that the Kuznets relation is statistically significant but explains little of the variations in inequality across countries or over time. Subsequent work suggested that the relation had weakened over time.21 Li, Squire and Zou (1998) argue that the Kuznets curve works better for a cross section of countries at a point in time than for the evolution of inequality over time within countries.

Deininger and Squire\textsuperscript{22} using the data for 108 countries over the period 1960-1974 found no systematic relationship between growth and changes in aggregate inequality. According to their analysis, periods of aggregate growth were associated with increased inequality in forty three cases and with a decrease in inequality in forty five cases. Similarly, periods of economic decline were associated with increased inequality in five cases and with a more equitable distribution of income in two cases. The simple relationship between current as well as lagged income growth and the change in the Gini coefficient is insignificant for the whole sample as well as for sub samples defined in terms of country characteristics like rich or poor, equal or unequal, fast-growing or slow-growing economies, suggesting no strong relationship between growth and changes in aggregate inequality. The data set used in this study overcome many weaknesses of earlier data set as it should be based on household surveys, rather than estimates drawn from national accounts statistics. It had comprehensive coverage of all sources of income or uses of expenditure rather than covering, say, wages only; and be representative of the population at the national level, rather than dealing with only the rural or urban population, or with taxpayers. But countries in the Middle East and North Africa, and especially Sub-Saharan Africa, are not well represented in this data. The coverage of Sub-Saharan Africa and the Middle East and North Africa is also thin with in countries, with less than two observations or each country on average.

Forbes\textsuperscript{23} found positive relationship between inequality and growth. The author argued that most likely reasons for the contradiction of results are country specific, omitted variable bias, data quality issues and length of period under consideration. In order to overcome such problems, the author used fixed effect model and the sample contained 45 countries whose income inequality data was deemed to be of high quality. The author also concluded that in the long run the relationship is negative while it is positive in the short.


Deininger and Squire (1998)\textsuperscript{24} argued that inconsistency in results was basically due to the fact that income inequality data might be poor proxy for wealth inequality. They used the data on land inequality as a proxy for wealth inequality. They argued that data on land holdings are attractive for a number of reasons. First, possession of land could be a major determinant of individuals’ productive capacity and their ability to invest, especially in agrarian economies where land is a major asset. Second, in contrast to income, the measurement of which is often associated with large errors, is relatively easily ascertained and does not require assumptions regarding the mapping from income flows into stocks of assets. The available data, however, refer to the operational rather than the ownership distribution of land.

Adelman and Morris (1973)\textsuperscript{25} taking the sample of 44 less developed countries found that cross-country relationship between inequality and growth can be either U-shaped or J-shaped. Anand and Kanbur (1986)\textsuperscript{26} argued that location of the minimum point of U is very much sensitive to composition of sample and specific functional form. Such sensitivity is to be expected in the underlying relationship (either U or J shaped) in specific countries depending on their policy choice.

Sinha\textsuperscript{27} studied the relationship between the inequality and per-capita income to examine the validity of Kuznets hypothesis of economic growth (KHEG) during the period 1980-81 through 1997-98 for the Indian economy. The author found that relation between growth has been neither U-shaped nor inverted U-shaped (as postulated by Kuznets), but it is S-shaped, an extension of U-curve. Economic reforms resulted in turning point due to shift from manufacturing to service (MTS) resulting from economic restructuring including trade liberalization and globalization. The study also


concluded that reasons for increase in inequality lies in social and political restructuring taking place in Indian economy and economic reforms cannot be held responsible.

Thus the relationship between the inequality and economic growth can take any form of U shaped, inverted U-shaped (∩), J-shaped and even S-shaped depending upon sample size, methodology used, time period and regions covered.

3.4 There are both Good and Bad Inequalities for Growth

3.4.1 Case I: Inequality is harmful for Growth

It is generally recognized that the factors which determine the pace of economic growth in any country influence and are influenced by the manner in which the national income is distributed over population. In that way, relative equality or inequality of income indirectly acts upon the relative incidence of growth to the extent it influences the factors which alter per capita income over time.

Persson and Tabellini\(^{28}\) examined the question of ‘Is inequality harmful for economic growth?’ Drawing on the theories of endogenous economic growth and endogenous economic policy, they formulated a model that relates equilibrium growth to income inequality and political institutions. The authors summarized their conclusion in a simple aphorism: Inequality is harmful for growth. The reason being that it leads to policies that do not protect property rights and full private appropriation of returns from investment. This implication is strongly supported by the historical evidence of narrow cross section of countries and by the post-war evidence from a broad cross section of countries.

Perotti\(^{29}\) summarized four main arguments in the literature as to why income inequality will be harmful for growth. The first argument is that an unequal distribution of income will lead to pressure for redistribution of income through distortionary taxes and distortionary government spending, and hence growth. The second argument is that


inequality may lead to socio-political instability, which will in turn reduce investment and hence growth. According to third argument, in the presence of imperfect capital markets, inequality will reduce investment in human capital, which will in turn reduce growth. The fourth and final argument is that as inequality increases fertility is likely to rise and human capital investment fall, resulting in reducing growth.

Bad inequalities, however, not only generate higher poverty now but also impede future growth and poverty reduction. Social exclusion, discrimination, restrictions on migration, constraints on human development, lack of access to finance and insurance, corruption, and uneven influence over public actions are all sources of inequality that limit the prospects for economic advancement among certain segments of the population, thereby perpetuating poverty in the future.

Recent research has pointed to the importance of certain geographic inequalities. Living in a well-endowed area will sometimes mean that a poor household can eventually escape poverty, whereas an otherwise identical household living in a poor area experiences stagnation or even absolute decline. Such geographic poverty traps are one reason that some poor areas have often seen lower than average growth and hence stay poor.

Bad inequality also stems from disparities in human resource development. By increasing the returns to schooling, freeing up labor markets increases the incentives for work and skill acquisition. However, people with relatively little schooling, few assets, or little access to credit are less able to respond to these incentives. The disadvantages they face in these other areas mean that they are less well positioned to take advantage of the opportunities unleashed by market-oriented reforms.

**3.4.2 Case II: Inequality is good for Growth**

Good inequalities are those that reflect and reinforce the market-based incentives that are needed to foster innovation, entrepreneurship, and growth. For example, a control regime may keep inequality low by compressing the labor-market returns to schooling or the returns to other forms of investment. Reforms in such a regime can increase
inequality in a way that facilitates more rapid poverty reduction by allowing poor people to take up new economic opportunities.

Early thinking about the notion: “Is inequality good for growth” suggested that greater inequality might be good for growth. This view implied a trade-off where more growth could be brought for the price of more inequality with ambiguous effects on poor people. The conventional text book approach is that inequality is good for growth, even though incentive and growth consideration might sometimes be traded off against the goal of equity.²⁰

Some models predict that inequality is likely to be growth enhancing. According to Kaldor’s hypothesis, the marginal propensity to save of rich is higher than that of poor people. As investment rate is positively related to the saving rate and growth is positively related to investment, economies that are more unequal can be expected to grow faster. Saving which leads to the accumulation of physical capital can significantly affect economic growth. Inequality is related to the saving rate for the simple reason that saving rate tends to rise with income, i.e., the higher is a person’s income; the higher his savings rate likely to be. The total amount of saving in any country is the sum total of saving by people in all different income groups. So, the more unequal is the income, higher the fraction of total income earned by richer people—the higher will be total savings.

Observers from all parts of the political spectrum, ranging from Karl Marx to Ronald Regan, have shared the view that more inequality would lead to a higher level of capital accumulation. Even Keynes in his writings of late 19th and early 20th centuries, argued that income inequality, which put money in the hands of those least likely to spend it on consumption was an essential, through distasteful, prerequisite for economic development.³¹

Therefore, it is clear that we are faced with a dilemma. Inequality can prove both harmful and good for economic growth. On the one hand, the inequalities resulting from the manner in which society now operates are not accepted. On the other hand, we seem to be drifting blindly towards equality, which could be equally rejected as unreasonable. But, of course there is a way to come out from this dilemma and that rests on pattern of economic growth. Hopefully, the ultimate aim of economic growth should be the betterment of living condition of the people and optimum distribution of fruits of economic growth to each and all.

3.5 Effect of Income Inequality on Growth

It is really hard to tease out the effect of income inequality on economic growth. This effect may depend on a country’s stage of growth and other numerous factors. Empirical studies on income inequality have been addressing the issue of identification of factors responsible for an observed pattern and magnitude of inequality and the direction whether negative or positive effect of inequality on economic growth. However, there is as yet no consensus throughout the economic profession on the relationship between income inequality and growth. The literature has found mixed result relating to negative or positive impact of income inequality on economic growth.

The classical approach (Kaldor 1957 and Bourguignon 1981) suggests that the marginal propensity to save of the rich is higher than that of the poor. This implies that a higher degree of initial inequality will yield higher aggregate saving, capital accumulation and growth. On the other hand, modern approaches emphasized the main four channels through which income inequality lowers growth: (i) the impact of inequality on rent seeking activities that reduce the security of property rights, (ii) unequal societies are more prone to difficulties in collective action reflected in political instability, (iii) the median voter in a more unequal society is relatively poorer and faces a higher tax burden, and (iv) if the inequalities in income or assets co-exist with imperfect credit
markets, poorer people may be unable to invest in their human and physical capital resulting in adverse consequences for long run growth.\textsuperscript{32}

Galor and Moav\textsuperscript{33} argued that inequality has positive effect on capital accumulation but negative effect on human capital accumulation in the presence of credit constraint. In the early stages of development, the positive effect of inequality on aggregate saving more than offsets the negative effect of investment in human capital. On the later stages of development, however, the positive effect of inequality on saving is off-setted by the negative effect on investment.

Khoo and Dennis found in a cross-country study between 1960 and 1985 that, income inequality has a negative effect on economic growth. They argued that this negative effect is due to inequality’s positive effect on fertility. Poor parents are likely to have a more children to increase the probabilities that they will receive a financial payoff from at least some of their offspring. This payoff is less important for wealthy parents who will therefore, have fewer children.\textsuperscript{34}

Aghion, Caroli and Penalosa\textsuperscript{35} analyzed the relationship between inequality and economic growth from two directions. The first part of their study examined the effect of inequality on growth, showing that when capital markets are imperfect there is not necessarily trade-off between equity and efficiency. It, therefore, provides a theoretical framework which explain two recent empirical findings, namely, the negative impact of inequality and positive effect of redistribution upon growth. The authors give three reasons for why inequality may have a direct negative effect on growth, (i) inequality reduces investment opportunities, (ii) inequality worsens borrower’s incentives, and (iii) inequality generate macro-economic volatility. In the second part they analysed several mechanisms whereby growth may increase wage inequality, both across and


within education cohorts. They argued that technical change, and in particular the implementation of ‘General Purpose Technologies’ stands as a crucial factor in explaining the recent upsurge in wage inequality.

Zweimuller\textsuperscript{36} investigated the impact of income inequality on economic growth when technical progress is driven by innovations and consumers have hierarchic preferences. When consumers have hierarchic preferences, the structure of demand is affected by the distribution of income. When demand is affected by the income distribution, inequality may be an important determinant to innovation and growth. The long run growth rate depends on the distribution of income because it affects the time path of demand faced by innovator.

Forbes\textsuperscript{37} found positive effect of income inequality on growth. She argued that country-specific effects and omitted variables are the cause of a significant negative bias in the estimation of the effect of inequality on growth. She also concluded that fixed effect estimation yields the consistent results of positive short and medium term correlation between inequality and growth.

Odedokun and Round\textsuperscript{38} investigated in the context of African countries, the effect of inequality on economic growth and channels through which inequality affects growth. They used data for 35 countries over different periods in the last four decades. Factors identified as having affected income distribution include the level of economic development attained, regional factors, size of the government budget and amount of it devoted to subsidies and transfer, phase of economic cycle and share of agriculture sector in total labour force. They also found that channels through which inequality affect growth are found to be through reduction in secondary and tertiary education, investment, reduction in political stability and increase in fertility rate.

Ghosh and Pal\textsuperscript{39} examined the effect of inequality on growth among the states in India by using state level data for the period 1960-1994. In their model, growth of the regional economy is driven by productive public investment in the provision of health and education services, financed by a linear output tax. The study found an ambiguous relationship between initial inequality and subsequent economic growth. Initial inequality in the distribution of income leads to the optimum rate of taxation (determined by the median voter) being different from the rate that maximizes the economy’s growth rate. However, the precise relationship remains ambiguous and depends on the net effect of the output tax on labour and capital income of the median voter. Further empirical estimates of the authors from the Indian states suggest that rural inequality is more important to explain growth of output per capita and there is negative relationship between the two.

Iradian\textsuperscript{40} challenged the belief that income inequality has a negative effect on growth and confirm the validity of Kuznets curve. The author examined the empirical relationship between inequality and growth and analysed the impact of growth, inequality and government spending on poverty reduction by assembling panel dataset on income and poverty for 82 countries during the period 1965-2003. Credit market imperfection in low and medium-income countries were identified as the likely reason for the positive link between inequality and growth over the short to medium term. The author also argued that in the long run inequality may have an adverse impact on growth.

Weil \textsuperscript{41} identified four different channels through which inequality has been hypothesized to affect economic growth for both good and ill. These four channels are (i) effect on accumulation of physical capital (+ve impact on growth) (ii) effect of accumulation of human capital (-ve impact on growth) (iii) socio-political unrest in


response to income inequality (-ve impact on growth) and (iv) government redistribution policy (+ve impact on growth).

In short, like the theoretical literature, the empirical results are not unanimous on the existence of a causal link from inequality to growth.

3.6 Effect of Growth on Inequality

The starting point for the effect of growth on inequality is the Kuznets hypothesis. This hypothesis suggests that the distribution of income would deteriorate over the initial stages of growth as an economy transforms from rural to urban and from agriculture to industrial. Subsequently, inequality would decrease as the labour force in the industrial sector expands and that of agriculture sector falls (World Bank 2007).

Kurian\(^{42}\) holds the view that the very nature of inequality is dependent upon pattern of growth. Growth can reduce poverty and inequality; growth can increase inequality and reduce poverty and growth can increase both inequality and poverty.

These diverse patterns are possible because growth is not a uniform numerical addition. It is a process of change that not only affects the volume of output but also the composition of that output, the manner of production, relative values of specific goods, the participation of different sectors of the population in productive activities and the purchasing power of different sections of society.

The modernization school tends to emphasize the relative differences as a key determinant of difference in the degree to which income is distributed equally within nations. According to the thoughts of modernization school, rapid economic growth is unlikely to provide solution to the severe problem of inequality in the third world; it is actually likely to compound this problem, at least initially.\(^{43}\)

Recent research on economic growth, focuses particularly on innovation as a source of economic growth, and the spread of technology as an important determinant for the


extent of inequality between countries. Research in this area suggests that multinational corporations contribute positively to the international diffusion of technology, but only under the precondition that the receiving country has a certain minimum standard in terms of education, technology and a certain “absorptive capacity”.44

3.7 Evidence of Cross Country differentials in Income Inequality and Economic Growth

Gupta and Singh45 examined the measurement of extent of income inequality and changes in income inequality across countries, factor responsible for the income inequality and identification of the shape of Kuznets curve. Whole study was for the two time periods (one for the 1960s and the other for 1970s) for the 27 selected countries. The study concluded that income inequality varies widely among countries in the world. The countries with comparatively low-income inequality are Korea, Netherlands, Sweden, U.K. and Yugoslavia. Brazil and Mexico witnessed rather high degree of income inequality, while it was moderate in Argentina. However, nothing unambiguously can be stated about the other countries in the sample of 27 countries. The findings of authors also supported the Kuznets hypothesis of inverted U-shaped curve between income inequality and the per capita income.

Chan46 summarized and compared empirically several leading alternative explanations of a cross-country differences in income inequality among a sample of 63 less developed countries (LDCs). The author found substantial evidence relating the stock of foreign capital and rate of economic growth to income distribution in the manner predicted by the newer dependency school and the modernization school, respectively. The study revealed that trade dependency, state strength and regime democracy alone are unable to account for very much of the cross- LDCs variance in income distribution.

Further, the size of country’s armed forces is negatively related to the income share of the wealthy and positively related to that of the poor.

Castello and Domenech\textsuperscript{47} provided new measure of human capital inequality and examined their influence on the economic growth process by using data set which includes 108 countries from 1980 to 2000, classified into seven different groups. To construct the indicators of human capital, the authors, distributed school levels by quintiles and calculated human capital Gini coefficient. The study obtained two main findings using new indicators relating to human capital. Firstly, the variability of human capital inequality indicators is greater across countries than within each country. Secondly, the cross country and pool regression suggest that there is a negative effect of human capital inequality on economic growth, whereas the negative effect of income inequality on economic growth is not robust.

Knowles\textsuperscript{48} found evidence of a significant negative correlation between consistently measured inequality of expenditure data and economic growth for a sample of 27 developing countries. The author argued that almost all the recent empirical work on the relationship between income inequality and economic growth has used inequality data that are not consistently measured. So, these studies need to be interpreted with a great deal of caution, as they measure inequality in an inconsistent manner.

Edward\textsuperscript{49} analyzed the global consumption distribution to study the interactions of poverty, inequality and growth at the global level. The author used data for 147 countries covering the period 1993 to 2001. The findings of this study indicate that world Gini rise from 0.652 in 1993 to 0.657 in 2001. On poverty count, this analysis broadly confirms the World Bank’s finding that overall the number of people living in $1$-a-day poverty fell from around 1.2 billion in 1993 to around 1.1 billion in 2001. At the $2$-a-day level, there was no significant change in the global poverty. The author


concluded that growth did help the poor; but it was much better for the rich. The analysis suggests that relying on growth to reduce poverty is rather insufficient and direct state intervention seems more effective.

So debate on whether global inequality has risen or fallen in recent times may be unresolved, the amount of inequality is staggering. The hiatus between the richest and the poorest people is becoming large and large.

3.8 Inter-State differentials in Growth performance: Evidence from India

India accounts for a meager 2.4 per cent of the world surface area yet it sustain a whopping 16.7 per cent of the world population, a little over 1 billion people residing in 29 states and 6 union territories. The variation across these states and territories is enormous in regard to physical geography, culture and economic condition. Some states have achieved rapid economic growth in recent years, while others have languished.

Mathur\textsuperscript{50} investigated the pattern of spatial economic condition in India from the period spanning 1950-51 to 1975-76. The study find that there is 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 sector had displayed U-shaped behaviour of 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. This explains the overall U-shaped pattern of regional inequality. The author also revealed that the future course of disparities in the tertiary sector is likely to depend more and more on secondary sector. With a rising level of development, the proportion of national income accruing from the secondary sector is expected to increase.

Alhuwalia assessed the economic performance of 14 major states in post reform period by using CSO data. The author calculated Gini coefficient, a measure of inequality by taking the entire population of 14 major states and assuming that all individuals within states have a gross income equal to per capita SDP. The study revealed that while inter-state inequality has clearly increased, the common perception that the rich states got richer and the poor states got poorer is not entirely accurate. As Punjab and Haryana were the two richest of 14 states in 1990-91, the growth rates of per capita SDP of these two states in the 1990s were not only lower than in the 1980s, but in both cases actually fell below the national average. On the other hand, Maharashtra and Gujarat, which were just below Punjab and Haryana, in terms of per capita income accelerated very significantly in the 1990s and grew at rates much higher than the national average. But three of the poorest states- Bihar, Uttar Pradesh and Orrisa, which together account for over a third of the population of the country, did fare very poorly in 1990s.

Shand and Bhide (2000) pointed to some regularities in the growth at the state level during the period spanning 1970s to 1990s. A common feature that was observed by the authors is the decrease in the share of agriculture in overall output for 15 major states considered in the study. Moreover, the rise in industry and service sector has not been sustained across all of the major states. The pattern also suggested more rapid growth of service than industry. The authors revealed that in terms of pattern of growth performance across states, Haryana, Punjab and Maharashtra, achieved the higher growth rates during the 1970s. In the 1980s, Rajasthan, Haryana and Maharashtra were the top three performers with Gujarat and Tamil Nadu close behind. In the period of 1991-92 and 1994-95, the top performers were Maharashtra, Kerala and Gujarat, with West Bengal close behind. In this way, new states emerged among the high performers in the 1980s and 1990s although Gujarat and Maharashtra appeared more often in this category.

Bhattacharya and Sakthivel\textsuperscript{53} analysed the growth and disparity of major states in the pre and post reform decade by examining their growth rates of aggregate and sectoral domestic product. The authors used the CSO data for pre reform period (1980-81 to 1989-90) and the post reform period (1990-91 to 1999-2000). They also assessed the relationship between SDP growth and population growth. The results indicated that while the growth rates of gross domestic product has improved only marginally in the post reform decade, regional disparity in state domestic product has widened much more drastically. Industrial states are now growing much faster than backward states and there is no evidence of convergence of growth rates among states. The study demonstrated that there is now an inverse relationship between population growth and SDP growth. This has serious implication for employment and for the political economy of India.

Purified (2006)\textsuperscript{54} examined, why the poorer states have fallen further behind richer states and certain states performed better than others over the past 30 years. The study revealed that (i) the gap in real per capita income between rich and poor states has widened over time; (ii) rich and fast growing states have generally been more effective in reducing poverty, (iii) poor and slow growing states have achieved very little success in generating private sector jobs; (iv) labour and capital flows appear to do little to close the gap in income between poor and rich states; and (v) lastly, the poor states experienced the greatest volatility in economic growth.

3.9 Possibility of Convergence or Divergence: Evidences from Indian States

There is a rich literature using regional data to test whether growth in regions within India has converged or diverged over time. Bajpai and Sachs\textsuperscript{55} made an attempt to examine the tendency towards convergence of income levels among the 19 states of India over the period 1961-71, 1972-82 and 1983-93. The author finds convergence of


per capita income levels only during the first sub-period, i.e. 1961-71. For the remaining two sub-periods, 1972-82 and 1983-93, they find evidence for per capita income levels to be diverging. According to the authors, the main reason for the convergence during the period 1961-71 was primarily due to impressive growth in the agriculture sector as a result of the green revolution. During the 1970s, the slowing down of the industrial growth and the emergence of a city based pattern of industrial development strategy characterized by planning and state-led industrialization failed to reduce regional disparities in any meaningful manner. The authors argued that with the launching of economic reforms in 1991 it may be reasonable to expect some states to ahead rapidly.

Rao, S. and Kalirajan\textsuperscript{56} showed that the pattern of economic growth in India since mid-1960s did not confirm to the predictions of neo-classical growth theory. Per capita income across states over the last three and a half decade displayed divergence and further dispersion had been much sharper in the initial stages of liberalization. The determinant of difference in growth rates among states also confirmed the divergence. The states with high initial levels of income grew faster than those with lower income, leading to divergence in per capita income over time. The authors also revealed that pattern of private investment is a major determinant of economic growth and divergence in income levels has been mainly caused by allocation of private investment, which in turn has been influenced by the inequitable spread of infrastructure.

Jha\textsuperscript{57} inquired about how the economic growth has affected the levels of inequality and poverty in the Indian economy. To know about any long run convergence in states’s performance with respect to growth, inequality and poverty, the author carried out test of convergence by using Kendall’s index of rank concordance. The result indicates that the rank concordance index across states does not usually show convergence, however, there is conditional convergence in terms of levels in inequality and poverty across states. At the other end, the coefficient of variation does not show any tendency to fall


over time. The surprising thing is that, coefficient of variation of rural head-count ratio seems to be rising over time, indicating greater dispersion in rural poverty across states.

Sinha and Sinha\textsuperscript{58} analysed the convergence of per capita income across states in India. The authors find that results from India regarding convergence are in contrast with results from developed countries and other selected developing countries. In India neither beta convergence nor conditional beta convergence holds. Four states are clearly ahead of the rest: Gujarat, Haryana, Maharashtra and Punjab. These states had an advantage over the other states from the start of race. On the other hand West Bengal did start out with a similar advantage but is gradually pulling back with other states. But more concern is about Bihar. It is in a class of its own. The pattern from rest of the states showed that there is some tendency for the states that started at a lower level, growing at a rate higher than the states that started at a higher level.

Sachs, Bajpai and Ramiah\textsuperscript{59} analyzed the differential economic performance of India’s 14 major states for the period covering 1980-98. They used two measures of convergence ($\beta$ convergence and $\sigma$ convergence) for the purpose of analysis and divide the states into two groups based on GSDP per capita and examined convergence within these two sub group of high and low income states. The results indicate that by both standards of convergence, India demonstrated overall divergence during the period 1980-98, as well as during both the pre-reform and post-reform sub periods from 1980-90 and 1992-98. The divergence was most notable within the poorer groups of states. The author expected that India’s growth will continue to be urban led favouring those states where urbanization is already high due to coastal access or to relatively high productivity of agriculture. There is little to ensure that growth will equalize across regions.


Bandyopadhyay\textsuperscript{60} examined the convergence of growth and income with reference to the Indian states using an empirical model of dynamically evolving distribution. This model revealed ‘twin peak’ dynamics, or polarization across the Indian states over 1965-98. The results indicate that there exist strong polarization tendencies and income exhibit twin peaked dynamics. In fact, there exists two-convergence club, a high-income club at around 125 per cent of the national average and another at 60 per cent of the national average. Moreover, the author observed some tendencies of convergence over the period 1965-70, which gradually dissipate over the following decade of the 1970s, 1980s and the 1990s. The observed polarization is strongly explained by some macroeconomic and infrastructural indicators of which fiscal deficit, capital expenditure and education are found to explain some of the observed dynamics.

Adabar\textsuperscript{61} makes an attempt to examine the issue of convergence and economic growth by focusing on the difference in the steady state of 14 major states of India from 1976-77 to 2000-01. The study used data-set of investment (saving) rate, population growth rate, human capital and initial level of per capita income in the theoretical line of neo-classical growth model to observe convergence. The study revealed that absolute divergence is consistent with conditional convergence in the context of India. Once per capita investment, population growth rate and human capital along with state specific effects are controlled for, then, there has been evidence of conditional convergence at the rate of 12 per cent for five year period. These variables alone explain around 93 per cent variation in the growth rate of per capita real income across 14 major states from 1976-2000.

3.10 Conclusion

The early literature on the conceptual, theoretical and empirical relationship between economic growth and income distribution is dominated by the Kuznets hypothesis. After that many economists had carried out empirical analysis on Kuznets hypothesis


and other aspects of economic growth and income distribution. In present chapter different issues have been discussed regarding the conceptual and theoretical background of economic growth and income inequality and also on interrelation between them. Some evidences have also been presented regarding their simultaneous relationship with one another, which have been carried out by the eminent economists at global level and national level. In present chapter some studies have also been taken into account regarding the convergence/divergence in terms of growth rates and income level of different countries/states within a country/regions. The above theoretical and empirical overview regarding the economic growth and income distribution was necessary for proper understanding of different conceptual, methodological and theoretical issues of economic growth and income inequality. To see how the trends and patterns of income distribution have behaved in India over the period of time secondary data from various sources have been used in the next chapter which presents an empirical analysis of growth and patterns of income distribution across Indian states during the reference period (1993-94 to 2012-13) of present study.