

CHAPTER 2

REVIEW OF LITERATURE

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This chapter deals with the review of existing literature related to the growth and regional inequality. The review is categorized into two sections, first section includes literature related to the global context of the study and second one includes literature related to the Indian context. The literature review of this study puts a light on the different dimensions of the regional inequality.

2.1 Global Context: -

Barro and Sala-i-martin (1992) analysed the convergence hypothesis by using neoclassical growth model across the 48 contiguous US states. The study used the data on personal income and gross state product for the various periods from 1840 to 1988. The results of the study reveal that the US states are converging as the poor economies tend to grow faster than rich economies. Moreover, if region and measure of sectoral composition is held constant then the speed of convergence would be approx. 2% p.a., regardless of the time period or whether we consider gross state product (GSP) or personal income.

Goda (2013) examined the four concepts of income inequality: inter-country inequality, intra-country inequality, weighted inter-country inequality and global inequality. This study argued that the root cause behind the subprime crisis (2008 & 2009) was the increase in income inequality. The results of this paper indicate that: (a) inter-country inequality increased between 1820 and the late 1990s but thereafter it decreased. (b) If population weights are taken into account then inequality increased only the after the 1950s. (c) Global

income inequality increased significantly between 1820 and 1950, but thereafter there was no clear trend of increasing or decreasing. (d) Intra-country inequality has also an increasing trend on a global level after the 1980s.

Dabla Norris et. al. (2015) examined the trends of income inequality and opportunities at the global level. This study is based on the sample of 159 countries (advanced, emerging and developing countries) for the period 1980-2012. This study used a simple growth model (with time and country fixed effects) in which current year GDP growth depends on the initial income and the lagged GDP growth. The main findings of the study are: (a) Global inequality is high and ranges from 0.55 to 0.70 (b) Intra country inequality has increased more in advanced countries, while it remained almost stable for the group of EMDCs. (c) In advanced countries, inequality is primarily due to the increasing income share of the top 10% which is almost 9 times of the bottom 10%. On the other hand, in EMDCs inequality increased due to the shift in income from the middle class to upper class. (d) Gini coefficient of wealth is double of the income in many of the countries. (e) Inequality in access to health care is high in developing countries compared than in developed countries. (f) Inequality in education has a declining trend in EMDCs. (g) Inequality in financial services is high between the advanced countries and EMDCs.

Puente (2017) analysed the process of convergence in terms of per capita income between the different regions of Spain throughout the period from 1980 to 2015. In this study Spanish regions were also compared with the European countries to measure the magnitude of regional divergence and it was found

that the dispersion is less in Spanish region than others. In addition to this, results of the study revealed that the key factor such as labour productivity has contributed the largest to reduce regional income dispersion. Neither the labour market variables i.e.; employment and unemployment nor total factor productivity made a contribution to the reduction of regional divergence. The overall results of the study suggest that the gap between the different Spanish regions has declined over the time.

World inequality report (2018) reveals that the income disparity has increased almost in all regions of the world in recent decades, but at dissimilar speeds. It differs significantly across world regions. It is highest in the Middle East and lowest in Europe. In 2016, the share of top 10% earners was 41% in China, 47% in US-Canada, 37% in Europe, 46% in Russia, and approx. 55% in India, Brazil and Sub-Saharan Africa. At the worldwide level, since 1980 disparity has increased abruptly despite robust growth in China and India. It has increased speedily in Asia and North America, grown moderately in Europe and stabilized at very high level in the Sub-Saharan Africa, Brazil and Middle East. After 2000, inequality somehow slightly decreased between countries but within country inequality has continued to rise (World Inequality Report, 2018). Due to both privatization and increasing income inequality within country, wealth inequality also increased among individuals. This report suggests that the global inequality continuously increased, it can be reduced only by substantial progress in eradicating global poverty.

2.2 Indian Context: -

Ghosh et. al. (1998) analysed the trend of economic growth and regional disparity for the period 1960-61 to 1994-95 across the 26 states. This study found out that the value of the coefficient of variation had a slowly declining trend from 1960-61 to 1981-82, but thereafter it started to increase. In addition to this, study suggests that the poorer states received the proportionately larger amount of development fund relative to the richer states. Increasing regional inequality may be the result of lower efficiency in utilization of public capital and also of infrastructure disparity across the states.

Rao et. al. (1999) examined the trends of inequalities in terms of income for the period 1960-61 to 1994-95 among the 14 major states of India. The results of the study revealed that the Indian states have tended to diverge rather than converge in terms of per capita SDP and it became sharper after reforms period. The divergence in growth rate mainly occurred due of the skewed distribution of public expenditure in favour of the more developed states in the country confirmed though indirectly, increasing the return to capital contrary to the principal of diminishing return in the neoclassical model. At the aggregate, level dispersion has increased over the time and it mainly persists in Primary Sector followed by industrial sector and not in the tertiary sector.

Ahluwalia (2000) examined the growth performance across the states in the post-reforms period 1991-92 to 1998-99 and compared it with the pre-reform period 1980-81 to 1990-91. It was found that the growth rate for the whole economy has accelerated but at the condition of dispersion. The variation in the growth rate was higher in the post-reform period compared than the pre-

reform period. The value of Gini coefficient was stable till 1986-87 but it started to increase in the late 1980s and continue to increase throughout the 1990s, it increased from 0.16 in 1986-87 to 0.23 in 1998-99. But the study argues that it is misleading to say that the richer states got richer and poorer states got poorer because all the 14 states except UP, Orissa and Bihar have narrowed the per capita income gap with the two richest states Punjab and Haryana.

Dasgupta et al., (2000) examined the inter-state inequality in terms of per capita income in India. This study covered 21 states/union territories (UTs) with the time period of 1960-61 to 1995-96. The main findings of the study suggest that the Indian states were diverging in PCSDP, but converging in shares of different sectors in the SDP. Moreover, the divergence between the states mainly occurred due to the agriculture sector and least in terms of infrastructure development.

Nagaraj et.al. (2000) examined the convergence hypothesis across the 17 major states of India for the period 1970-71 to 1993-94. The existence of conditional convergence testified by using the variables such as percentage share of agriculture in total SDP, relative price shocks etc. In this study the price component analysis and panel data estimation techniques were used for the analysis. The results of the study revealed that the dispersion reduced slightly in the 1960s because of the high agriculture growth rate in the poorer states in the advent of the green revolution. But thereafter, there was a sharp rise in disparity in the 1970s, slightly less notable increase in the 1980s and then again an even greater rise in the 1990s. Dispersion in the 1990s was 1.6 times more as compared to 1970s. Such disparities were existing due to the

many reasons; first, in the structure of production, second, in infrastructure endowments, and third in state-specific fixed effects in the growth regression.

Dholakia (2003) examined the trends of regional inequality in economic growth and human development for the period 1997-80 to 1997-2000 across all the states of India. The results of the study indicate no significant trend of increasing or decreasing the disparity in per capita income over the time. In addition to this, examined the direction of causality between economic development and human development indicators and suggest the bidirectional causality between them. Moreover, 12 out of 16 indicators associated with socio-economic development show a declining trend of regional disparity during 1981-91.

Singh et. al. (2003) made an interesting attempt to measure Regional Inequality in India. In this study a number of variables were used like; diesel consumption, petrol consumption, deposits, credit, cereal production and human development indices to measure regional disparity. This study covered 14 major states with the time period of 1981-82 to 1999-2000. To measure the regional inequality regression technique and Gini coefficient has been used. On calculating Gini ratios among the states, it was found that none of indicator indicates an increase in inequality. In addition to this, absolute divergence persisted only in case of credit and diesel expenditure and conditional divergence was existing only in case of diesel expenditure. Moreover, the overall result of the study shows that the inequality increased but not as much as suggested by SDP data; inequality in the post-reform period was not so bad and the greater strength of the economy was concentrated in the western and southern regions.

Wallack (2003) examined the structural breaks in Indian macroeconomic data by using the structural breaks classical F-test was used for the period 1958-1992. The study found out that the Indian economy experienced four times potential breaks 1967, 1974, 1980 and 1992. The structural breaks of the 1980s indicate that the reforms did increase India's growth rate but have a little impact on the rate of expansion in crucial sectors such as agriculture, manufacturing and services. Growth rate increased due to changing composition of GDP, as resources moved away from slow-growing areas to faster-growing areas of the economy, more than improvements in sectoral growth paths.

Adabar (2004) made an interesting attempt to study the issue of convergence and economic growth for the period of 1976-77 to 2000-01 by focusing on the difference in the steady state of 14 major states. To testify the convergence hypothesis dynamic fixed effects panel growth regression model was applied. The results of the study suggest that the indication of conditional convergence at the rate of 12% per 5 year span if once population growth rate, human capital and per capita investment along with the state-specific effect are controlled. This means it would take approx. six years to close the half gap between the initial level of per capita real income and its steady-state level. In addition to this, the result of conditional β -convergence is consistent with the σ -divergence, suggests that the disparities in income and growth in Indian states are driven by extensive differences in the steady states.

Bhattacharya and Sakhivel (2004) focused on the aggregate and structural growth rate of SDP to measure inter-state inequality throughout the period of 1980-81 to 1999-2000 across the major 17 states of India. The results of the

study revealed that the growth rate of the domestic product has increased only marginally in the post-reform decades while the regional disparity in SDP had increased very extremely. The reason for this is the industrial rich regions are growing faster than the backward regions, as a result, the states which had higher growth rates in the 1980s continues to experience higher growth rates in 1990s. The value of the coefficient of variation of the growth rate of per capita SDP has jumped from 0.22 in the 1980s to 0.43 in 1990s, almost a two-fold increase. In addition, they found the negative relationship between the population growth rate and SDP growth rate in the 1990s and no trade-off exists between growth and inflation at the state level.

Kar and Sakhivel (2006) examined the contribution of each sector in total divergence and trends of regional inequality among 17 major states. The results of the study revealed that the Indian economy was continuously diverging throughout the period 1990-91 to 1999-2000. The rate of divergence across the sectors was uneven with the highest rate of the industrial sector followed by the agriculture and then the service sector. Although in the aggregate divergence contribution was dominated by service sector because of the significant growth of the relatively poor states followed by the industrial sector and the agriculture played a role of buffer and offsets the rate of aggregate divergence. The results of this study are also consistent with the literature on agglomeration economies that the nature of industrial development concentrates in particular locations which are developed in terms of infrastructure and other facilities; in order to take the gain of cost and competitiveness.

Shaban (2006) analysed the trend of convergence at the sectoral and aggregate level in terms of per capita income in the state of Maharashtra over the period 1993-94 to 2002-03. In this study, Theil's inequality index, Gini coefficients and Moran's I index were used to examine convergence. The main finding of the study suggests that the District-wise sectoral and total per capita incomes in the state persist σ - and β -convergence contrary to trends of divergence at the interstate level. The regional economies in Maharashtra are converging, though with a significant difference in the rates of convergence across various sectors and regions.

Ghosh (2008) tried to examine the trend of long-run growth and regional divergence in terms of per capita income across the 15 major states of India, for the period 1960-61 to 2001-02. The results of the study revealed that the divergence has increased more after reforms whereas in the pre-reform period there was no significant evidence of divergence. Moreover, the author suggests that the divergence mainly occurred due to the inter-state variations in production structure, human capital and infrastructure.

Khomiakova (2008) used two methods (a) Exploratory spatial data analysis and (b) structural divergence analysis to check the divergence after reforms period 1993-2004. In this paper, measured the divergence among 30 states in terms of per capita GSDP. The results of the exploratory spatial data analysis revealed the evidence of spatial clustering that the rich states are located near to other rich states and poor states are located near to other poor states. In addition to this, the results of the local indicator of spatial autocorrelation (LISA) advocate that the spatial dependence of per capita GSDP in India is dominated by low-low clusters throughout the whole time period of the study.

On the other hand, the results of the structural divergence analysis revealed that the aggregate divergence is dominated by the industrial sector followed by service sector while agriculture plays a role of buffer and offset the rate of aggregate divergence. In the service and industry persists positive spatial autocorrelation and negative is observed in case of agriculture throughout the period 1993-2004.

Nayyar (2008) presented the cross-sectional and panel estimation among 16 major Indian states throughout the period of 1978-79 to 2002-03. It was found out that there was no absolute convergence but once factors that affect steady-state level of income are controlled, initial poor states starts to catch up rich states. Further, there was no evidence of σ -convergence. It postulates that the Indian states were converging to increasingly divergent steady states over the time which leads to increasing inter-state disparities in the level of private and public investment and an insignificant equalizing impact of centre-state government transfers.

Jayanthakumaran (2010) analyzed the impact of economic reforms on the state level income convergence/divergence by applying stochastic and beta-convergence tests. It was found out that the halves of the states were converging to the national average during the post-break period. But many of the poorer states (Bihar, MP, Manipur, Orissa and UP) did not catch up with the rich ones during both the pre- and post-break period.

Kar et. al. (2010) studied the convergence among Indian states by using the distributional dynamic approach. The authors study per capita income in 21 states over the period 1993-2005. The results of the study revealed the

evidence for polarization: two convergence clubs among the states. Some middle-income states moved to the relatively higher income states while others fell back to the lower-income states forming two convergence clubs over time.

Bandyopadhyay (2011) examined the convergence of growth and income across the Indian states throughout the period 1965-1997. In this paper distributional dynamic approach is used rather than only β and σ -convergence to identify the distributional characteristics of income such as polarisation and stratification. The results of the study suggest the existence of two convergence clubs, one of at 50% and another at 125% of the national average, comprising a “poor states” club and a “rich states” club respectively. In addition to this, the results reveal the tendencies of convergence in the late 1960s but thereafter income has persistently diverged from 1970s to 1990s. This paper also tried to identify the socio and economic infrastructure indicators which are responsible for the observed divergence and suggests the existence of conditional convergence but only for the lower convergence club w.r.t; infrastructure index (education, irrigation and literacy rate).

Chitke (2011) focussed on the income convergence at the sub-national level in the context of economic reforms. In addition to this, the study examined the convergence hypothesis for development inputs such as population growth, literacy and investment. In this study only σ -convergence hypothesis is analysed for both the periods, pre-liberalization (1970 to 1990) and post-liberalization (1991-2005) including 15 major states in the sample. The main finding of the study revealed the strong evidence of divergence in terms per capita income for both the periods. Other development inputs also indicate the

evidence of divergence such as population, state capital expenditure and commercial bank credit only except than the literacy rate.

Kumar and Subramanian (2012) made an interesting attempt to examine the growth performance across the Indian states for the period 2001-09 and also analysed the impact of financial crisis on the individual state's growth rate. This study reports the four main findings. First, the study suggests that this decade was the best one for the Indian macroeconomic performance: Growth increased almost for all the states except the three (Himachal Pradesh, Rajasthan and West Bengal) in 2001-09 as compared to 1993-2001. Second, the regional disparity increased more rapidly across the states for the same time period. Third, the states with the highest growth rate in 2001-07, suffered the largest deceleration during the crisis year (2008 & 2009). Finally, they didn't find any positive impact of demographic dividend on the growth of per capita income for the period 2001-09.

Cherodian and Thirlwall (2013) examined the trends of regional disparities in terms of per capita income throughout the period 1999-00 to 2010-11. To find the evidence of regional disparities, researcher estimated cross-sectional equations for conditional and unconditional convergence and sigma convergence across the 32 states/UTs. The results indicate that no evidence of unconditional convergence but somehow weak evidence of conditional convergence by controlling the population growth; male literacy; credit growth; state expenditure as a share of state GDP and the share of agriculture in state GDP. Sigma divergence also increased, except among the poorest states.

Himanshu (2015) analysed the inequality in India in terms of consumption expenditure and income. To measure consumption inequality NSSO consumption survey data was used. Inequality is measured for the period 1983-84 to 2011-12 and suggests that the Gini coefficient of consumption expenditure declined between 1983 and 1993-94 but thereafter it increased. Moreover, paper suggests that the consumption inequality is less as compared to income inequality. Regional disparity increased for both rural and urban areas. In the rural areas, it increased from 0.26 in 1993-94 to 0.28 in 2011-12. On the other hand, inequality in urban areas increased from 0.32 in 1993-94 to 0.38 in 2011-12.

Sanga and Shaban (2017) analysed the trends of income disparities at the state, sector and sub-sector level throughout the period of 1970-71 to 2013-14. To measure the regional inequality and spatial autocorrelation among the regions, Maximum likelihood estimation and Moran's I index have been used respectively. This study covered 15 major states of India. The major findings of the study suggest that the economy was diverging for an entire study period at aggregate as well as on sectoral level but the tendency of divergence was more in post-reforms period. The sectoral level divergence was dominated by the service sector followed by the secondary sector while the agriculture sector was converging. Furthermore, the results at the sub-sectoral level were very scattered in nature. The results of the study also indicate that the existence of positive spatial autocorrelation at aggregate as well as on sectoral and sub-sectoral level, which exhibits more in post-reform period than the former.

2.3 Research Gap

In earlier studies reviewed that the studies on regional inequality primarily confined the after and before the economic reforms, the present study mainly covers the time period from 1991-92 to 2016-17. In addition to the other studies, the present study has extended its approach by measuring the convergence in development expenditure in economic services and social services at the aggregate level among the states. Moreover, the study differs from the earlier studies in methodology estimation.